



# SHRI SITARAMBHAI NARANJI PATEL INSTITUTE OF TECHNOLOGY,

MANAGED BY VIDYABHARTI TRUST, UMRAXH - BARDOLI

APPROVED BY AICTE, NEW DELHI AND AFFILIATED TO GTU, AHMEDABAD.

## NBA SAR (2019 - 2023)



Vidyabharti Campus, At & Po. Baben, Ta: Bardoli, Dist: Surat, Gujarat, India, Pin: 394601

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**SELF ASSESSMENT REPORT (SAR)**  
**UNDERGRADUATE ENGINEERING PROGRAM**

**Submitted by**  
**DEPARTMENT OF MECHANICAL ENGINEERING**



**SHRI SITARAMBHAI NARANJI PATEL INSTITUTE OF  
TECHNOLOGY, MANAGED BY VIDYABHARTI TRUST,  
UMRAKH - BARDOLI**

**Submitted to**  
**NATIONAL BOARD OF ACCREDITATION**



**(2019-2023)**

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## PART A: Institutional Information

### 1. Name and Address of the Institution:

Shri Sitarambhai Naranji Patel Institute of Technology,  
Managed By Vidyabharti Trust, UmraKh, Bardoli.

**Shri Sitarambhai Naranji Patel Institute of Technology,**  
**Managed By Vidyabharti Trust,**  
Vidya Bharti Campus Bardoli - Mota Road,  
UmraKh, Ta. Bardoli,  
Dist. Surat, 394345  
State: Gujarat.

### 2. Name and Address of the Affiliating University:

**Gujarat Technological University,**  
Nr. Vishwakarma Government Engineering College,  
Nr. Visat Three Roads, Visat - Gandhinagar Highway,  
Chandkheda, Ahmedabad – 382424 - Gujarat

### 3. Year of establishment of the Institution: 2008

### 4. Type of the Institution: Affiliated

- |  |   |
|--|---|
| <input type="checkbox"/> University        | <input type="checkbox"/> Autonomous                   |
| <input type="checkbox"/> Deemed University | <input checked="" type="checkbox"/> <b>Affiliated</b> |
| <input type="checkbox"/> Government Aid    |   |

### 5. Ownership Status: Trust

- |   |  |
|---|--|
| <input type="checkbox"/> Central Government | <input checked="" type="checkbox"/> <b>Trust</b>   |
| <input type="checkbox"/> State Government   | <input type="checkbox"/> Society                   |
| <input type="checkbox"/> Government Aided   | <input type="checkbox"/> Section 25 Company        |
| <input type="checkbox"/> Self-financing     | <input type="checkbox"/> Any Other(Please Specify) |



**6. Other Academic Institutions of the Trust/Society/Company etc., if any:**

Name of the Institution(s)	Year of Establishment	Programs of Study	Location
Bhulabhai Vanmalibhai Patel Institute of Technology	1996	Diploma	UmraKh
Shree Naranjibhai Lalbhai Patel College of	2004	Pharmacy	UmraKh
Smt. Parvatiben Naranjibhai Patel College of Education, UmraKh	2007	B. Ed.	UmraKh
Vidhyabharti Trust College of Business, Computer- Science and Research	2009	BBA, BCA	UmraKh
VidyaBharti Trust College of Master in Computer Application	2018	MBA, MCA, M. Sc. (IT)	UmraKh
Vidhyabharti Trust college of Applied Science and Nursing, UmraKh	2022	B. Sc. (Nursing), GNM	UmraKh

**7. Details of all the programs being offered by the institution under consideration:**

Sr. No.	Program Name	Name of the Department	Year of Start	Initial Intake	Increase in intake, if any	Year of increase	Current Intake	AICTE Approval	Accreditation Status*
1.	Mechanical Engineering (UG)	Mechanical Engineering	2008	60	Yes	120 Seats From 2010-11 Till 2021-22	60 (Decreased in 2022-23)	2008	Applying First Time
2.	Production Engineering (PG)	Production Engineering	2014	24	No	-	24	2014	Eligible but not Applied

**8. Programs to be considered for Accreditation vide this application:**

Sr. No.	Level	Program Name	Discipline
1.	Under Graduate	Mechanical Engineering	Engineering & Technology

**9. Total number of employees in the institution:**

**A. Regular Employees (Faculty and Staff):**

Items		2022-23 (CAY)		2021-22 (CAYm1)		2020-21 (CAYm2)		2019-20 (CAYm3)	
		Min	Max	Min	Max	Min	Max	Min	Max
Faculty in Engineering	M	47	50	46	54	45	49	50	52
	F	12	18	8	9	9	11	12	14
Faculty in Maths, Science & Humanities	M	2	4	5	5	6	6	6	6
	F	2	10	2	4	3	4	3	4
Non-teaching staff	M	21	25	19	20	20	20	20	23
	F	11	13	4	6	4	4	1	3

**B. Contractual Staff Employees (Faculty and Staff): (Not covered in Table A):**

Items		2022-23 (CAY)		2021-22 (CAYm1)		2020-21 (CAYm2)		2019-20 (CAYm3)	
		Min	Max	Min	Max	Min	Max	Min	Max
Faculty in Engineering	M	8	13	13	19	14	30	27	28
	F	5	15	9	21	14	18	18	23
Faculty in Maths, Science & Humanities	M	3	3	2	2	0	3	1	2
	F	4	4	0	4	1	1	2	2
Non-teaching staff	M	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0

**10. Total number of Engineering Students:**

**Engineering and Technology- UG Shift-1**

Item	2022-23 (CAY)	2021-22 (CAYm1)	2020-21 (CAYm2)	2019-20 (CAYm3)
Total no. of boys	1674	1654	1560	1569
Total no. of girls	623	568	464	419
Total no. of students	2297	2222	2024	1988

**Engineering and Technology- PG Shift-1**

Item	2022-23 (CAY)	2021-22 (CAYm1)	2020-21 (CAYm2)	2019-20 (CAYm3)
Total no. of boys	44	60	75	56
Total no. of girls	7	12	12	4
Total no. of students	51	72	87	60

“To be recognized as a peer technical and research institution by facilitating transformation of students into ethical citizens and competent technocrats to meet the growing technological and socio-economic needs.”

**12. Mission of the Institution:**

1. To provide high quality, innovative and competitive learning experience through creative balance of academic and extracurricular programs in collaboration with other academic and research institutions as well as government bodies.
2. Enable students to develop skills to solve complex technological problems of current era through industry - academia interaction and mould themselves as future leaders.
3. To synergize the students, staff, society and industries by developing competency, employability, entrepreneurship and research skills.
4. To promote new ideas, research and consultancy services for industrial and societal needs.

**13. Contact information of the Head of the Institution and NBA coordinator, if designated:**

**Head of the Institution:**

Name:	Dr. Piyush Shantiswaroop Jain
Designation:	Principal
Mobile No.:	9925897065
Email ID:	drpiyushsjain@gmail.com

**NBA coordinator, if designated:**

Name:	Prof. Neetu B. Yadav
Designation:	Assistant Professor
Mobile No.:	9408335218
Email ID:	neetu.yadav@snpitrc.ac.in

## PART B: Criteria Summary

Name of the program: **Mechanical Engineering**

Criteria No.	Criteria	Mark / Weightage
<b>Program Level Criteria</b>		
1.	Vision, Mission and Program Educational Objectives	60
2.	Program Curriculum and Teaching – Learning Processes	120
3.	Course Outcomes and Program Outcomes	120
4.	Students' Performance	150
5.	Faculty Information and Contributions	200
6.	Facilities and Technical Support	80
7.	Continuous Improvement	50
<b>Institute level Criteria</b>		
8.	First Year Academics	50
9.	Student Support Systems	50
10.	Governance, Institutional Support and Financial Resources	120
<b>Total</b>		<b>1000</b>



<b>CRITERION 1</b>	<b>Vision, Mission and Program Educational Objectives</b>	<b>60</b>
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## **1. Vision, Mission and Program Educational Objectives (60)**

### **1.1 State the Vision and Mission of the Department and Institute (5)**

#### **Institute Vision**

“To be recognized as a peer technical and research institution by facilitating transformation of students into ethical citizens and competent technocrats to meet the growing technological and socio-economic needs.”

#### **Institute Mission**

1. To provide high quality, innovative and competitive learning experience through creative balance of academic and extracurricular programs in collaboration with other academic and research institutions as well as government bodies.
2. Enable students to develop skills to solve complex technological problems of current era through industry-academia interaction and mould themselves as future leaders.
3. To synergize the students, staff, society and industries by developing competency, employability, entrepreneurship and research skills.
4. To promote new ideas, research and consultancy services for industrial and societal needs.

#### **Department Vision**

“To be a centre of quality technical education in the field of mechanical engineering leading to competent technocrats with ethical values through state-of-the-art teaching and research methodology.”

#### **Department Mission**

1. To impart undergraduates quality technical education along with sound technical communication skill.
2. To provide quality infrastructure, tools and teaching-learning environment.
3. To inculcate qualities of leadership, teamwork and entrepreneurship with professionalism and ethical values.
4. Bridge students with industries and research organisations so as to increase placements/higher studies preferences amongst the graduates.

### **Justification for the appropriateness and consistency of the Department Vision and Mission with that of the Institute**

Feedback from stakeholders was taken to check the correlation, consistency, and appropriateness of the Department's Vision with the Institute's Vision. The feedback was taken in terms of mapping between the statements of Institute Vision and Department Vision, as shown in Table 1.1(1). If the consistency was found to be more than 90%, then it was rated as 3, that is, highly consistent by the stakeholders. This statement of the Vision was considered more appropriate and consistent.

Similarly, feedback from stakeholders was taken to check the correlation, consistency and appropriateness of the Department's Mission with the Institute's Mission. Table 1.1(2) shows a summary of the ratings provided by the stakeholders regarding the appropriateness and consistency of the present Mission of the Institute with the current Mission of the Department. The co-relation levels during mapping were considered as 3 for substantial relation, 2 for medium-level relation, and 1 for having lower relation.

Table 1.1(1) Mapping of Institute Vision with Department Vision

<b>Institute Vision</b>  <b>Department Vision</b>	To be recognized as a peer technical and research institution by facilitating the transformation of students into ethical citizens and competent technocrats to meet the growing technological and socio-economic needs.
To be a centre of quality technical education in the field of mechanical engineering leading to competent technocrats with ethical values through state-of-the-art teaching and research methodology.	3

<div> <div>Institute Mission</div> <div>Department Mission</div> </div>	To provide high quality, innovative and competitive learning experience through creative balance of academic and extracurricular programs in collaboration with other academic and research institutions as well as government bodies.	Enable students to develop skills to solve complex technological problems of current era through industry-academia interaction and mould themselves as future leaders.	To synergize the students, staff, society and industries by developing competency, employability, entrepreneurship and research skills.	To promote new ideas, research and consultancy services for industrial and societal needs.
To impart undergraduates quality technical education along with sound technical communication skill.	3	3	3	3
To provide quality infrastructure, tools and teaching-learning environment.	3	3	2	3
To inculcate qualities of leadership, teamwork and entrepreneurship with professionalism and ethical values.	2	2	3	2
Bridge students with industries & research organizations so as to increase placements/higher studies preferences amongst the graduates.	3	3	2	2

## **1.2 State the Program Educational Objectives (PEOs) (5)**

The following are the Program Educational Objectives (PEOs) of the Mechanical Engineering Department:

1. **Knowledge** - Our graduates will have the qualities of an engineer with strong knowledge of fundamentals and application in the field of Mechanical Engineering.
2. **Research Expertise** - Our graduates will have knowledge of design, Modern tools, and research techniques to meet societal as well as global technological challenges.
3. **Learning** - Our graduates will have the qualities of pragmatism and life-long learning in the context of advancement in technology.
4. **Professionalism** - Our graduates will be able to serve their best for the nation.

## **1.3 Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders (10)**

The Institute's Vision and Mission were disseminated on the Institute website ([www.snplitrc.ac.in](http://www.snplitrc.ac.in)). The Vision, Mission, and PEOs of the Mechanical Engineering Department were disseminated on the Institute website (<https://www.snplitrc.ac.in/MechanicalEngineering.aspx>). All stakeholders and future students could assess these websites.

Apart from the Institute website Vision, Mission, and PEOs of the Department are published and disseminated at the following locations.

- HOD office
- Notice Boards
- Laboratories
- College Library
- Department Brochure
- College Magazine
- Course Files
- Lab Manuals
- Classrooms
- Faculty Cabin
- Building Corridor



### A. Adequacy in respect of publication and dissemination

The Vision, Mission, and PEOs are published through the methods shown in Table 1.3(1).

Table 1.3(1) Publishing of Vision, Mission, and PEOs to Stakeholders

Sr. No.	Stakeholders	Publishing Process	Mode of Communication
1	Students	Induction Day	College website, Student mentor interaction, Student induction program, Student awareness through seminar/workshop.
		Semester Reopening day	
		Department Events	
		Students Counselling Meeting	
2	Parents	First-Year Induction Day	College website, Parent's feedback forms, Meeting with Mentor, Class coordinator, and HOD
		Parent's Teachers Meet	
3	Alumni	Alumni Meet	College website, E-mail signatures, feedback forms
		Guest Lecture	
4	Industry experts	MoU Meeting	College website, E-mail signatures
		Guest Lecture	
5	Department level	Notice board, HoD chamber.	Display in Department notice board and HOD chamber
		Faculty Cabin, Laboratories	Display in Faculty Cabin, Laboratories

### B. Process of dissemination and extent awareness among stakeholders

The dissemination was done and awareness was made amongst the stakeholders through the means shown in Table 1.3(2).

Table 1.3(2) Dissemination of Vision, Mission, and PEOs to Stakeholders

Sr. No.	Stakeholders	Dissemination Process	Mode of Communication
1	Academic experts	Seminar	Department event Organizer e-mail signature, College Website
		Workshop	
		Guest Lectures	
	Faculty members	Department Meeting	

2		Management Meeting With Faculty	HOD faculty weekly meeting, Faculty management meeting
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**C. Extent of awareness of Vision, Mission and PEOs amongst stakeholders**

1. Vision, Mission, and PEOs are informed to students of each year and explained their importance and objectives to be achieved.
2. Vision, Mission, and PEOs are informed to faculty by frequent departmental meetings.
3. Vision, Mission, and PEOs are circulated to all faculty members through feedback forms for their opinion about the formation and review.
4. Vision, Mission, and PEOs are circulated and informed to a few parents during the orientation program and when they visit the college.
5. Vision, Mission, and PEOs are circulated to industry experts and alumni through feedback forms for their opinion about the formation and review.
6. Vision, Mission, and PEOs are circulated and informed to the governing body and institute members.

**1.4 State the process of defining Vision and Mission of the Department and PEOs of the program (25)**

An effective process implementation was carried out, ensuring the active participation of stakeholders and proper documentary evidence while defining the Department's Vision, Mission, and PEOs. The Vision and Mission of the Department were framed based on the Institute's Vision and Mission by involving different stakeholders such as faculty, industry experts, academic experts, alumni, students, and parents.

1. **Industrial Experts/Employers** participated in this process to bridge the curriculum and industries.
2. **Alumni** participated in this process to bridge the gap between academics and present needs.
3. **Students** participated with the view of their requirement for various national and state-level technical programs and other competitive exams conducted by the state government, central government, and other private agencies, etc.
4. **Parents** participated based on their expectations regarding employment, quality of education, and personality development of students.

5. **Faculties** of the department participated in formulating and consolidating the views presented by other stakeholders and organising them, including their own views.

**A. Description of the process of defining Vision and Mission of the Department**

The following process is conducted to define the Vision and Mission of the Department:

1. Department has formed the “Department Academic Advisory Committee (DAAC)” including the head of department and senior faculties.
2. SWOT analysis was performed by the DAAC, including internal and external stakeholders.
3. SWOT parameters were identified by DAAC and IQAC.
4. Based on the Institute's Vision and Mission as well as SWOT analysis, stakeholders were requested to propose the statements of Vision and Mission.
5. Proposed statements were analyzed by DAAC and IQAC
6. Based on the proposed statements, statements of Vision and Mission were drafted by DAAC and IQAC.
7. Feedback on these drafted statements was taken from the stakeholders for their appropriateness and consistency.
8. Feedback on this drafted Vision and Mission was analyzed by DAAC and IQAC.
9. If appropriateness and consistency were not determined, the statements were modified and provided to stakeholders for feedback.
10. The trials from point 7 to point 9 were performed unless the appropriateness and consistency were determined in the statements.
11. The appropriate and consistent statements of Vision and Mission were finalised and defined.

The flow chart of the process for defining the Vision and Mission of the Department is shown in Fig. 1.4(1).

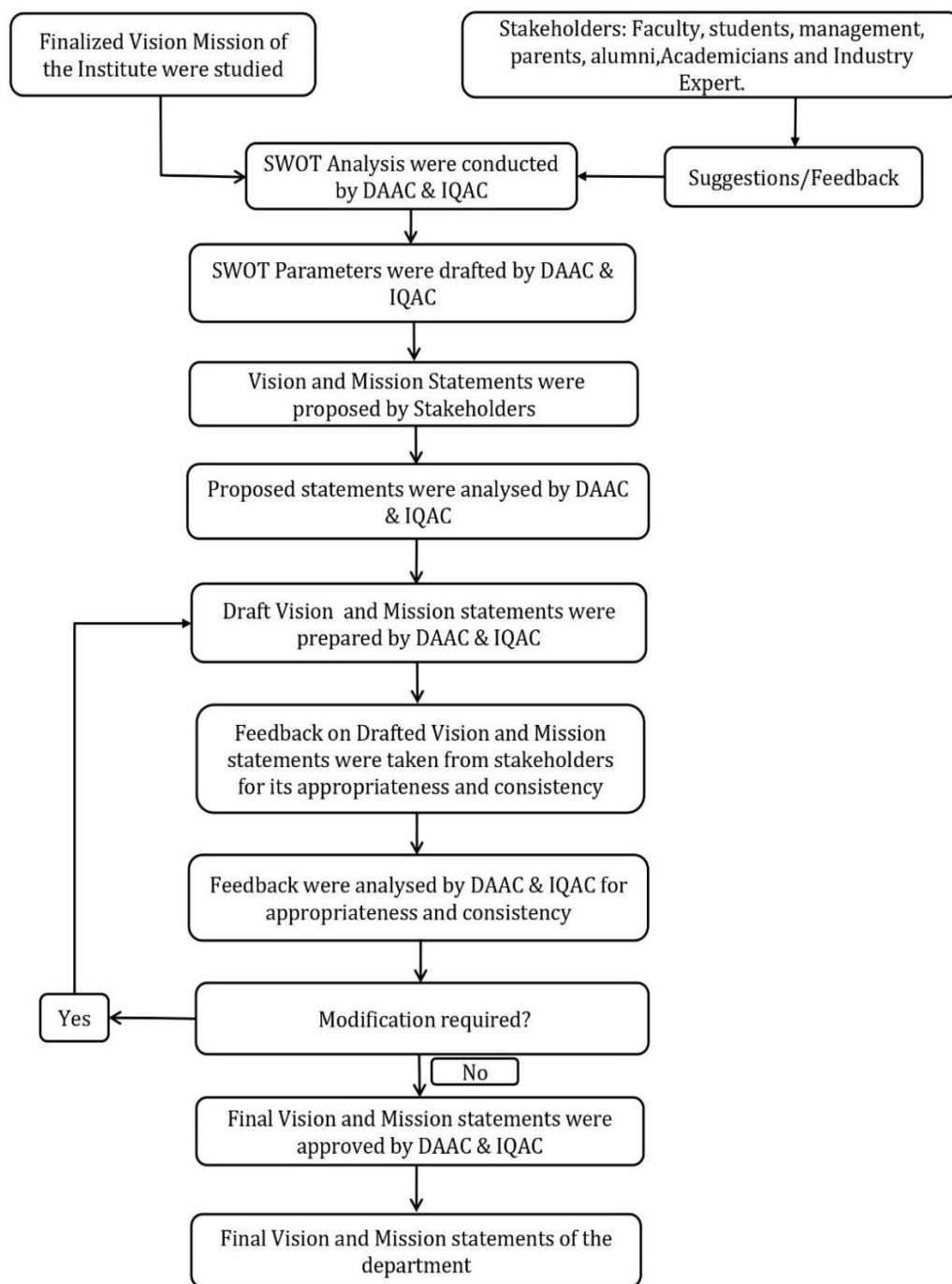


Fig. 1.4(1) Flow chart of the process for defining the Vision and Mission of the Department

## B. Description of the process of defining PEOs of the department

The following process is conducted to define the PEOs of the Department:

1. Based on the Vision and Mission of the Institute as well as the department, views for the Program Educational Objectives (PEOs) were taken from the stakeholders.
2. Proposed statements were analysed by DAAC and IQAC.
3. Statements of PEOs were drafted by DAAC and IQAC.



4. Feedback on this drafted statement was taken from the stakeholders in terms of its appropriateness and consistency.
  5. These feedback were analysed by DAAC and IQAC.
  6. If any statement modification is required for its appropriateness and consistency, then the step from point 3 to point 5 is repeated.
  7. The appropriate and consistent statements of PEOs were finalised and defined.
- The flow chart of the process for defining PEOs of the department is shown in Fig. 1.4(2).

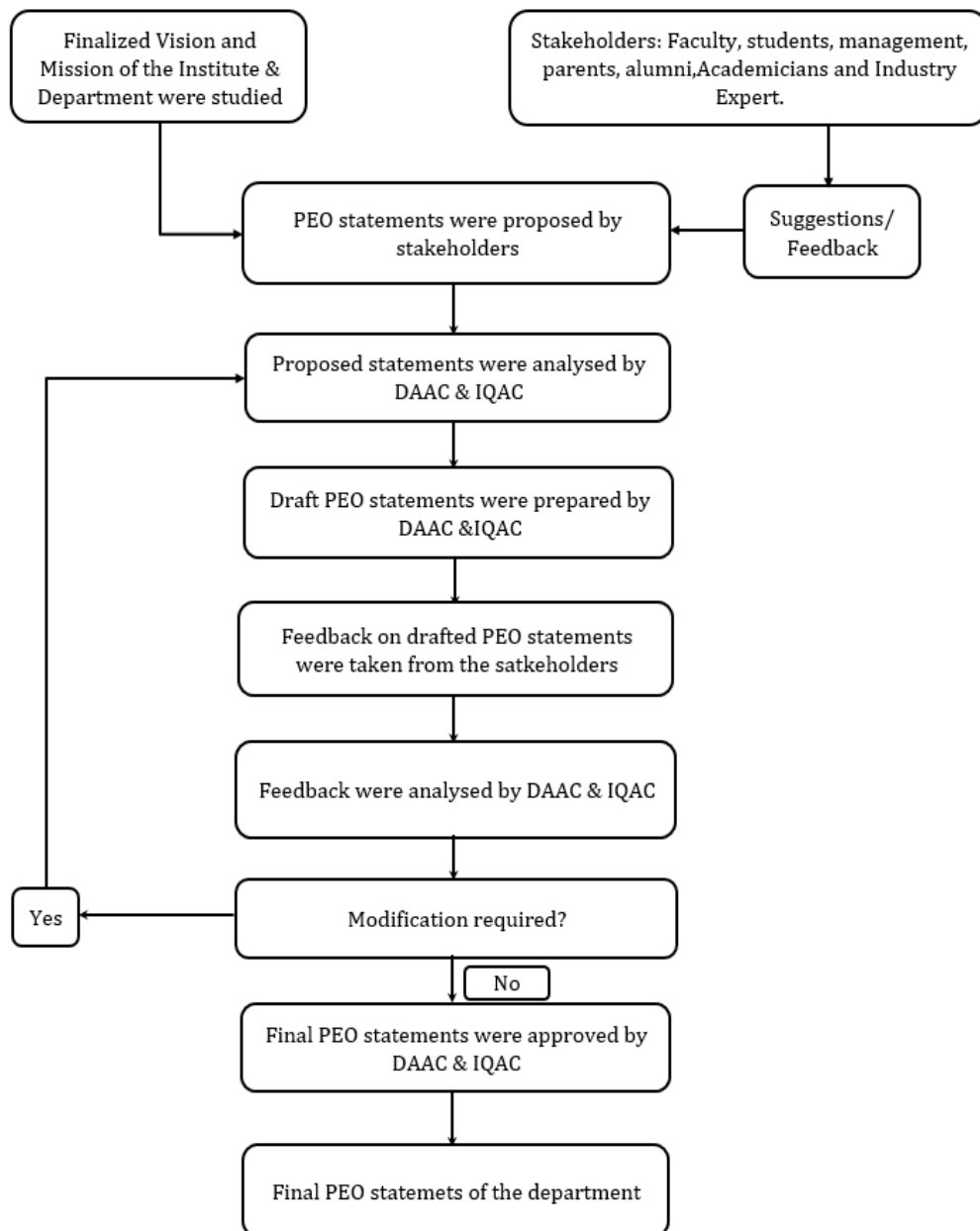


Fig. 1.4 (2) Flow chart of the process for defining Program Educational Objectives (PEOs)

### 1.5 Establishment of consistency of PEOs with Mission statements (15)

The consistency of PEOs with the Mission of the Department is arrived at based on the mapping given below. Table 1.5(1) shows the PEOs' consistency with the department's Mission. The justification for the consistency is explained in Table 1.5(2).

Table 1.5(1) Consistency of PEOs with the Mission of the Department

<div>Department Mission</div> <div>PEOs</div>	To impart undergraduates quality technical education along with sound technical communication skill.	To provide quality infrastructure, tools and teaching-learning environment.	To inculcate qualities of leadership, teamwork and entrepreneurship with professionalism and ethical values.	Bridge students with industries & research organizations so as to increase placements/higher studies preferences amongst the graduates.
<b>Knowledge</b> - Our graduates will have qualities of an engineer with strong knowledge of fundamentals & application in the field of mechanical engineering.	3	2	2	2
<b>Research Expertise</b> - Our graduates will have knowledge of design, Modern tools and research techniques to meet societal as well as global technological challenges.	3	3	-	2
<b>Learning</b> - Our graduates will have the qualities of pragmatism and life-long learning in context of advancement in technology.	1	2	2	3
<b>Professionalism</b> - Our graduates will be able to serve their best for the nation.	3	-	3	2

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

Table 1.5(2) Justification of the consistency of PEOs with the Mission of the Department

PEO Statements	M1	M2	M3	M4	Justification
<b>Knowledge</b> - Our graduates will have qualities of an engineer with strong knowledge of fundamentals & application in the field of mechanical engineering.	3	2	2	2	<b>M1:</b> Quality technical education would make the graduates strong in fundamentals and application.
					<b>M-2:</b> Good infrastructure and equipment would assist graduates in establishing a solid mechanical engineering foundation.
					<b>M3:</b> As a part of the curriculum and project, along with engineering fundamentals, students would develop the qualities to be better professionals.

					<b>M4:</b> Through internship, training, and visits, graduates would enhance their knowledge of fundamentals and application.
<b>Research Expertise</b> - Our graduates will have knowledge of design, Modern tools, and research techniques to meet societal as well as global technological challenges.	<b>3</b>	<b>3</b>	<b>-</b>	<b>2</b>	<b>M1:</b> Through quality technical education, graduates would be made aware of modern tools and techniques for problem-solving.
					<b>M-2:</b> Graduates would get good practical exposure which would develop their abilities to meet technological challenges
					<b>M4:</b> Through internship, training, and visits, graduates would be acquainted with modern tools and equipment used in industries.
<b>Learning</b> - Our graduates will have the qualities of pragmatism and life-long learning in context of advancement in technology.	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>M1:</b> With the knowledge of developing technologies, graduates would be trained to stay updated with recent technologies.
					<b>M-2:</b> Students would have practical exposure and would be able to co-relate it with theoretical aspects.
					<b>M3:</b> Through the approach of leadership and teamwork, graduates would attain the quality of practical decision-making with knowledge of recent technology.
					<b>M4:</b> Through the industrial environment, graduates would learn to solve problems practically. The academic theoretical and industrial practical approaches would be helpful for graduates in research and industries.
<b>Professionalism</b> - Our graduates will be able to serve their best for the nation.	<b>3</b>	<b>-</b>	<b>3</b>	<b>2</b>	<b>M1:</b> Quality technical education may be the platform to contribute to the nation.
					<b>M-3:</b> Good qualities and ethical values can be considered a necessity for engineers of developing nations.
					<b>M4:</b> Graduates through their ethical professional careers, can serve best for the nation.

**2. Program Curriculum and Teaching - Learning Processes (120)****2.1 Program Curriculum (20)****2.1.1 State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I. Also mention the identified curricular gaps, if any (10)****2.1.1 (A) Process used to identify extent of compliance of the university curriculum for attaining the program outcomes and program specific outcomes.**

Mechanical Engineering Department, S. N. PATEL INSTITUTE OF TECHNOLOGY & RC, UMRAXH is affiliated to Gujarat Technological University (GTU), Ahmedabad. The program curriculum is as per the scheme and syllabus of the university. Each syllabus contains course title, course code, the semester in which it is offered, teaching and examination scheme, detailed content, percentage weightage of each topic, distribution of marks for each cognitive level, course outcomes, list of experiments and reference books. The program curriculum is designed by well-experienced teachers to satisfy the current needs of engineering industry, market needs and hence balance in all aspects of professional career development is maintained by offering appropriate distribution in core & elective courses. Various courses offered by the GTU can be categorized as follows.

- Humanities and Social Sciences
- Basic Science Courses
- Engineering Science Courses
- Professional Core Courses
- Professional Elective Courses
- Open Elective Courses
- Project Work

The university grading for each course offered in the department is based on four components which are as follows:

- 1) Theory Progressive Assessment (Includes Mid Semester Examination) (TH PA)
- 2) Practical Progressive Assessment (PR PA)
- 3) Practical End Semester Examination (PR ESE)
- 4) Theory End Semester Examination (TH ESE)



Evaluation of components (1), (2) and (3) up-to the 4<sup>th</sup> semester are completely carried out by the department itself. External evaluation is done for component (2) in subsequent semesters. The continuous evaluation process suggested by the Gujarat Technological University (GTU) is followed by the department for the assessment of the components under the purview. An external evaluation of component (4) is carried out for all the semesters by affiliating University (GTU). Evaluation of all the components extent to decide the attainment of COs and further to the POs and PSOs.

Following process is used to identify the extent of compliance of university curriculum for attaining the POs and PSOs.

- Identify/List down Course Outcomes for each courses given by the affiliated university (GTU, Ahmedabad). COs mentioned in the curriculum is adopted.
- The COs were discussed and approved in the meetings of Department Academic Advisory Committee (DAAC).
- The mapping of COs and POs are done. The probable curricular gaps are also identified on the basis of discussion among faculty members, Head of Department, alumni and industry expert.
- It was also decided whether the department academic committee need to focus beyond the syllabus topics, to introduce additional electives and laboratory experiments etc. to improve the level. The curricular gap if any; is discussed in the DAAC meeting and the content beyond the syllabus is delivered to the students through tutorial, extra classes or expert talks to bridge the curricular gap.

Moreover, the following process is also followed.

1. The affiliating university (GTU) declares its academic calendar before the commencement of the new term (summer/winter). The institute also prepares its academic calendar for mid-semester tests, mid semester remedial tests, end-semester exams and practical exams. Course wise assignments are given by respective course coordinators. Every course coordinator is preparing course file which includes details like academic calendar (schedule), time table of the faculty and copy of laboratory timetable, course syllabus, lesson planning, assignments, evaluation reports, exam papers etc.
2. Assignments of each course are given to the students at the beginning of the semester. These assignments consist of all the filtered and most likely questions from past question papers of the University.
3. The laboratory classes are arranged and experiments are performed taught to the students

as prescribed by the university curriculum. The laboratory manuals are prepared as per curriculum of university.

4. The institute has developed mentoring system in which a faculty is assigned 20 to 30 students for continuous monitoring their progress and reports.
5. Expert lectures are arranged by inviting eminent speakers from an industry and/or reputed institutions to impart the professional knowledge in order to make the students competent in the field of Mechanical Engineering.

**Curriculum revised in 2018-19 by GTU.**

- Gujarat Technological University has revised the syllabus of Bachelor of Engineering in line with recommendations of AICTE New Delhi, from the academic year 2018-19. AICTE has introduced induction program in the curriculum to equip the students with soft skills and get them acquainted with the culture of institution and human values. Every student must undergo this induction program of two weeks after joining the institute and before the commencement of classes.
- As per the guidelines of AICTE, it is mandatory for the students to have 12 weeks internships in an industry of their choice before completion of under graduate course in engineering. It will help students to understand real practice followed by the industry.
- AICTE Model Curriculum has suggested that Basic Science courses and Engineering Science courses; including workshop, drawing, basics of electrical/ mechanical/ computer etc. will give a strong foundation to the study of engineering. Professional core courses will provide the knowledge to understand the fundamentals of the specific branch of engineering. Professional six elective courses will develop the relevant specialization in respective branch of engineering. Open Elective subjects of other technical and/or emerging branches will provide the knowledge of other branches. Therefore, student will have flexibility to venture into projects of other branches if required in future. Non-technical subjects like Courses on Constitution of India and Environment Science/Engg. have also been included in the curriculum which will results in holistic development of students after graduation. Project work, seminar and internship in industry or elsewhere will enable the student to get a feel of the work environment and also provide him/her with an opportunity to apply the knowledge he/ she has gathered for practical purpose at a specific industry.
- The university curriculum is framed to address the needs of the students, and to teach and assess so that the students can achieve higher levels in cognitive domain as they progress for next academic semester.

- Meeting with DAAC and subject experts had been conducted to review the syllabus provided by university and to identify the educational gap if any.

#### **Curriculum revised in 2018-19 by GTU.**

- Gujarat Technological University has revised the syllabus of Bachelor of Engineering in line with recommendations of AICTE New Delhi, from the academic year 2018-19. AICTE has introduced induction program in the curriculum to equip the students with soft skills and get them acquainted with the culture of institution and human values. A student has to undergo this induction program for two weeks after joining the institute and before the commencement of classes.
- As per the guidelines of AICTE, it is mandatory for the students to have 12 weeks internships in an industry of their choice before completion of under graduate course in engineering. It will help students to understand real practice followed by industry.
- AICTE Model Curriculum has suggested that Basic Science courses and Engineering Science courses including workshop, drawing, basics of electrical/ mechanical/ computer etc. will give a strong foundation for the study of engineering. Professional core courses will provide the knowledge to understand the fundamentals of the specific branch of engineering. Professional six elective courses will develop the relevant specialization in respective branch of engineering. Open Elective subjects of other technical and /or emerging branches will provide the knowledge of other branches. Therefore, student will have flexibility to venture into projects of other branches if required in future. Non-technical subjects such as; Courses on Constitution of India and Environment Science/Eng. have also been included in the curriculum which will results in holistic development of students after graduation. Project work, seminar and internship in industry or elsewhere will enable the student to get a feel of the work environment and also provide him/her with an opportunity to apply the knowledge he/ she has gathered for practical purpose at a specific industry.
- The university curriculum is framed to address the needs of the students, and to teach and assess so that the students can achieve higher levels in cognitive domain as they progress for next academic semester.
- Meeting with DAAC and subject experts had been conducted to review the syllabus provided by university and to identify the educational gap if any.

**Structure of the curriculum:** The structure of the curriculum for B.E. Mechanical Engineering Program is presented in table 2.1.1 (1) and Semester wise Credits & Contact hours are presented in table 2.1.1 (2).

Table 2.1.1 (1) Structure of the Curriculum (revised in 2018-19 by GTU)

<b>B.E. Mechanical - Semester-I</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theory</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credit</b>
<b>3110003</b>	Programming for Problem Solving	3	0	2	4
<b>3110004</b>	Basic Civil Engineering	3	0	2	4
<b>3110011</b>	Physics	3	0	2	4
<b>3110012</b>	Workshop/ Manufacturing Practices	0	0	4	2
<b>3110014</b>	Mathematics - 1	3	2	0	5
<b>3110017</b>	Induction Program	0	0	0	0
<b>Total:</b>		<b>12</b>	<b>2</b>	<b>10</b>	<b>19</b>
<b>B.E. Mechanical - Semester-II</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theory</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credit</b>
<b>3110002</b>	English	2	0	2	3
<b>3110005</b>	Basic Electrical Engineering	3	0	2	4
<b>3110006</b>	Basic Mechanical Engineering	3	0	2	4
<b>3110007</b>	Environmental Sciences	2	2	0	0
<b>3110013</b>	Engineering Graphics & Design	2	0	4	4
<b>3110015</b>	Mathematics - 2	3	2	0	5
<b>Total:</b>		<b>15</b>	<b>4</b>	<b>10</b>	<b>20</b>
<b>B.E. Mechanical - Semester-III</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theory</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credit</b>
<b>3130004</b>	Effective Technical Communication	2	0	2	3
<b>3130005</b>	Complex Variables and Partial Differential Equations	3	2	0	5
<b>3130007</b>	Indian Constitution	2	0	0	0
<b>3130008</b>	Design Engineering - I A	0	0	2	1
<b>3131904</b>	Material Science and Metallurgy	3	0	2	4
<b>3131905</b>	Engineering Thermodynamics	4	0	2	5
<b>3131906</b>	Kinematics and Theory of Machines	4	0	2	5
<b>Total:</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>23</b>
<b>B.E. Mechanical - Semester-IV</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theory</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credit</b>
<b>3140005</b>	Design Engineering 1 B	0	0	2	1

<b>3141901</b>	Mechanical Measurement and Metrology	4	0	2	5
<b>3141906</b>	Fluid Mechanics and Hydraulics Machines	4	0	2	5
<b>3141907</b>	Fundamentals of Machine Design	4	0	2	5
<b>3141908</b>	Manufacturing Processes	3	0	2	4
<b>3141909</b>	Organizational Behavior	3	0	0	3
<b>Total:</b>		<b>18</b>	<b>0</b>	<b>10</b>	<b>23</b>
<b>B.E. Mechanical - Semester-V</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practic al</b>	<b>Cred it</b>
<b>3150001</b>	Design Engineering - II A	0	0	2	1
<b>3150004</b>	Elective- Contributor Personality Development Program	2	0	0	2
<b>3150005</b>	Elective- Integrated Personality Development Course	2	0	0	2
<b>3151908</b>	Open Elective – I Control Engineering	3	0	0	3
<b>3151909</b>	Heat Transfer	4	0	2	5
<b>3151910</b>	Operation Research	3	0	0	3
<b>3151911</b>	Dynamics of Machinery	4	0	2	5
<b>3151912</b>	Manufacturing Technology	3	0	2	4
<b>3151913</b>	Open Elective – I Oil Hydraulics and Pneumatics	3	0	0	3
<b>Total:</b>		<b>19</b>	<b>0</b>	<b>8</b>	<b>23</b>
<b>B.E. Mechanical - Semester-VI</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practic al</b>	<b>Cred it</b>
<b>3160001</b>	Design Engineering II B	0	0	2	1
<b>3160002</b>	Elective- Contributor Personality Development Program	2	0	0	2
<b>3160003</b>	Elective- Integrated Personality Development Course	2	0	0	2
<b>3161903</b>	Professional Elective – I Computer Aided Design	3	0	2	4
<b>3161907</b>	Professional Elective – I Basics of Industrial Engineering	3	0	2	4
<b>3161910</b>	Applied Thermodynamics	4	0	2	5
<b>3161911</b>	Professional Elective – I Design of Heat exchangers	3	0	2	4
<b>3161912</b>	Professional Elective – I Gas Dynamics	3	0	2	4

<b>3161913</b>	Professional Elective – I Industrial Safety and Maintenance Engineering	3	0	2	4
<b>3161914</b>	Professional Elective – II Renewable Energy Engineering	3	0	2	4
<b>3161915</b>	Professional Elective – II Computational Fluid Dynamics	3	0	2	4
<b>3161916</b>	Professional Elective – II Product Development and Entrepreneurship	3	0	2	4
<b>3161917</b>	Professional Elective – II Computer Aided Manufacturing	3	0	2	4
<b>3161918</b>	Professional Elective – II Tribology and Terotechnology	3	0	2	4
<b>3161919</b>	Professional Elective – III Energy Conservation and Management	3	0	2	4
<b>3161920</b>	Professional Elective – III Automobile Engineering	3	0	2	4
<b>3161921</b>	Professional Elective – III Machine Tool Design	3	0	2	4
<b>3161922</b>	Professional Elective – III Advanced Manufacturing Processes	3	0	2	4
<b>3161923</b>	Professional Elective – III Nondestructive Testing	3	0	2	4
<b>3161924</b>	Open elective – II Entrepreneurship and E-business	3	0	0	3
<b>3161925</b>	Open elective – II Cyber Laws and Ethics	3	0	0	3
<b>3161926</b>	Open elective – II Industry 4.0	3	0	0	3
<b>Total:</b>		<b>18</b>	<b>0</b>	<b>10</b>	<b>23</b>
<b>B.E. Mechanical - Semester-VII</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practic al</b>	<b>Cred it</b>
<b>3170001</b>	Summer Internship	0	0	0	2
<b>3171506</b>	Professional Elective – VI Project Management	3	0	2	4
<b>3171910</b>	Power plant Engineering	3	0	0	3
<b>3171911</b>	Professional Elective – V Advanced Heat Transfer	3	0	2	4
<b>3171917</b>	Design of Machine elements	3	0	2	4
<b>3171918</b>	Professional Elective – IV Refrigeration and Air conditioning	3	0	2	4

<b>3171919</b>	Professional Elective – IV Cryogenics Engineering	3	0	2	<b>4</b>
<b>3171920</b>	Professional Elective – IV Finite Element Methods	3	0	2	<b>4</b>
<b>3171921</b>	Professional Elective – IV Metal forming analysis	3	0	2	<b>4</b>
<b>3171922</b>	Professional Elective – IV Automation in Manufacturing	3	0	2	<b>4</b>
<b>3171923</b>	Professional Elective – V Internal Combustion Engine	3	0	2	<b>4</b>
<b>3171924</b>	Professional Elective – V Principles of Combustion	3	0	2	<b>4</b>
<b>3171925</b>	Professional Elective – V Advanced Machine Design	3	0	2	<b>4</b>
<b>3171926</b>	Professional Elective – V Rapid Prototyping	3	0	2	<b>4</b>
<b>3171927</b>	Professional Elective – VI Turbo Machines	3	0	2	<b>4</b>
<b>3171928</b>	Professional Elective – VI Design of Material Handling Equipment	3	0	2	<b>4</b>
<b>3171929</b>	Professional Elective – VI Quality and Reliability Engineering	3	0	2	<b>4</b>
<b>3171930</b>	Open Elective – III Industrial Internet of Things	3	0	0	<b>3</b>
<b>3171931</b>	Open Elective – III Nanotechnology and surface Engineering	3	0	0	<b>3</b>
<b>Total:</b>		<b>18</b>	<b>0</b>	<b>8</b>	<b>24</b>
<b>B.E. Mechanical - Semester-VIII</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practic al</b>	<b>Cred it</b>
<b>3181901</b>	Internship/Project	0	0	24	<b>12</b>
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>24</b>	<b>12</b>

Table 2.1.1(2) B.E. Mechanical Engineering Semester Wise Credits & Contact hours

<b>Semeste r</b>	<b>Sem I</b>	<b>Sem II</b>	<b>Sem III</b>	<b>Sem IV</b>	<b>Sem V</b>	<b>Sem VI</b>	<b>Sem VII</b>	<b>Sem VIII</b>	<b>Total</b>
<b>Credit</b>	19	20	23	23	23	23	24	12	<b>167</b>
<b>Contact Hours</b>	24	29	30	28	27	28	26	24	<b>216</b>
<b>% of Credits</b>	<b>11.37 %</b>	<b>11.97 %</b>	<b>13.77 %</b>	<b>13.77 %</b>	<b>13.77 %</b>	<b>13.77 %</b>	<b>14.37 %</b>	<b>07.18 %</b>	<b>100 %</b>

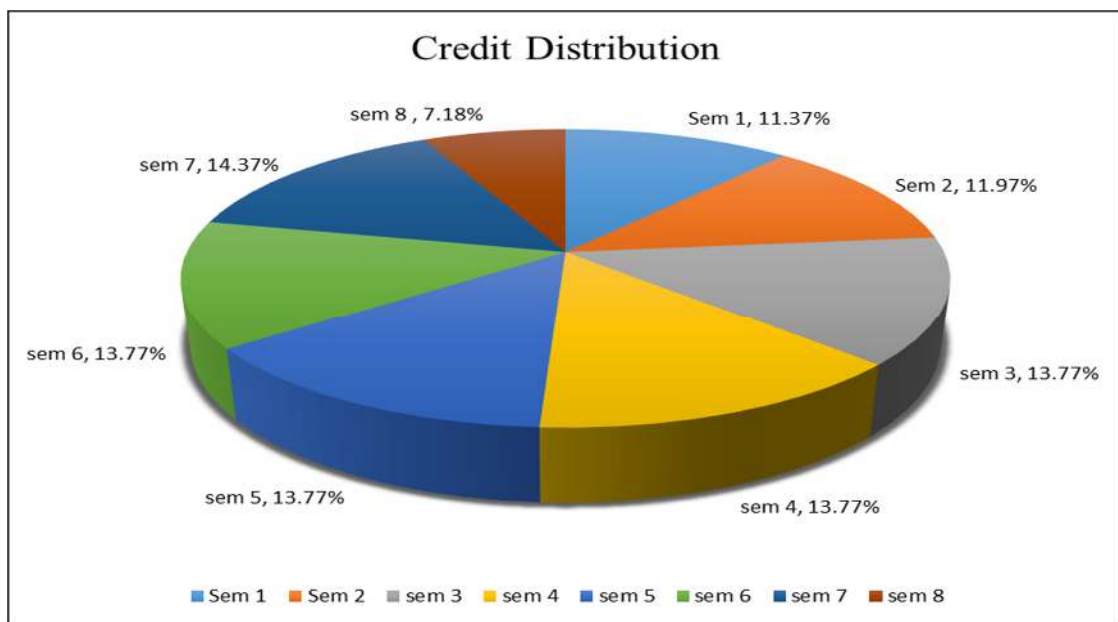


Figure 2.1.1 (1) Credit Distribution semester wise (w.e.f 2018-19)

### Components of the Curriculum

The curriculum comprises of courses related to Basic Sciences, Engineering Sciences, Humanities and Social Sciences, Program core, Professional electives, Open electives, Personality development (Elective) and Projects. The component wise weightage of the curriculum, course component-wise number of contact hours is shown in Table 2.1.1(3) and Figure 2.1.1(2)

Table 2.1.1(3) Curriculum Content Percentage of the Total Number of Credits  
(w.e.f 2018-19)

Course Component	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII	Total Number of Credit	Curriculum Content (% of total number of credits)
<b>Basic Science</b>	9	5	5	5	-	-	-	-	24	<b>14.37%</b>
<b>Engineering Science</b>	10	12	4	-	-	-	-	-	26	<b>15.57%</b>
<b>Humanities and Social Science</b>	-	3	3	3	3	-	-	-	12	<b>7.18%</b>
<b>Program Core</b>	-	-	10	14	14	5	7	-	50	<b>29.94%</b>



<b>Professional Elective</b>	-	-	-	-	-	12	12	-	24	<b>14.37%</b>
<b>Open Elective</b>	-	-	-	-	3	3	3	-	9	<b>5.39%</b>
<b>Personality development (Elective)</b>	-	-	-	-	2	2	-	-	4	<b>2.40%</b>
<b>Projects</b>	-	-	1	1	1	1	2	12	18	<b>10.78%</b>
<b>Total Credit</b>	<b>19</b>	<b>20</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>24</b>	<b>12</b>	<b>167</b>	<b>100.00%</b>

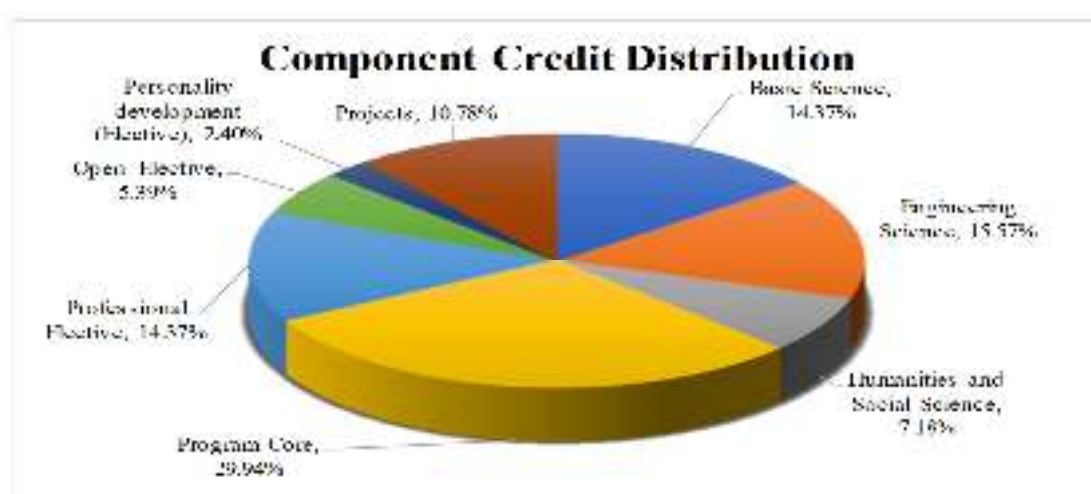


Figure 2.1.1(2) Component wise weightage of the curriculum (w.e.f 2018-19)

Table 2.1.1(4) Structure of the curriculum (w.e.f 2013-14)

<b>B.E. Mechanical - Semester-I</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theory</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credit</b>
<b>2110002</b>	Communication Skills	2	0	2	<b>4</b>
<b>2110003</b>	Computer Programming and Utilization	3	1	2	<b>6</b>
<b>2110005</b>	Elements of Electrical Engineering	4	0	2	<b>6</b>
<b>2110006</b>	Elements of Mechanical Engineering	4	0	2	<b>6</b>
<b>2110007</b>	Environmental Studies	3	0	0	<b>3</b>
<b>2110014</b>	Calculus	3	2	0	<b>5</b>
<b>Total:</b>		<b>19</b>	<b>3</b>	<b>8</b>	<b>30</b>
<b>B.E. Mechanical - Semester-II</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo</b>	<b>Tutori</b>	<b>Practic</b>	<b>Credi</b>

		<b>ry</b>	<b>al</b>	<b>al</b>	<b>t</b>
<b>2110013</b>	Engineering Graphics	2	0	4	<b>6</b>
<b>2110011</b>	Physics	3	0	2	<b>5</b>
<b>2110012</b>	Workshop	0	0	4	<b>4</b>
<b>2110004</b>	Elements of Civil Engineering	4	0	2	<b>6</b>
<b>2110015</b>	Vector Calculus & Linear Algebra	3	2	0	<b>5</b>
<b>2990001</b>	Contributor Personality Development	4	0	0	<b>4</b>
<b>Total:</b>		<b>16</b>	<b>2</b>	<b>12</b>	<b>30</b>
<b>B.E. Mechanical - Semester-III</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practic al</b>	<b>Credi t</b>
<b>2130002</b>	Advance Engineering Mathematics	3	3	2	<b>0</b>
<b>2130003</b>	Mechanics of Solids	4	4	0	<b>2</b>
<b>2130005</b>	Design Engineering - I-A	0	0	0	<b>3</b>
<b>2131903</b>	Manufacturing Process-I	3	3	0	<b>2</b>
<b>2131904</b>	Material Science & Metallurgy	3	3	0	<b>2</b>
<b>2131905</b>	Engineering Thermodynamics	4	4	1	<b>0</b>
<b>2131906</b>	Kinematics of Machines	3	3	1	<b>0</b>
<b>Total:</b>		<b>20</b>	<b>4</b>	<b>9</b>	<b>33</b>
<b>B.E. Mechanical - Semester-IV</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practica l</b>	<b>Credi t</b>
<b>2140002</b>	Design Engineering - I B	0	0	0	<b>3</b>
<b>2140003</b>	Engineering Economics and Management	3	3	0	<b>0</b>
<b>2141901</b>	Mechanical Measurement & Metrology	3	3	0	<b>2</b>
<b>2141905</b>	Complex Variables and Numerical Methods	3	3	2	<b>0</b>
<b>2141906</b>	Fluid Mechanics	4	4	0	<b>2</b>
<b>2141907</b>	Machine Design & Industrial Drafting	4	4	0	<b>2</b>
<b>2141908</b>	Manufacturing Processes -II	3	3	0	<b>2</b>
<b>2140002</b>	Design Engineering - I B	0	0	0	<b>3</b>
<b>Total:</b>		<b>20</b>	<b>2</b>	<b>11</b>	<b>33</b>
<b>B.E. Mechanical - Semester-V</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practica l</b>	<b>Credi t</b>

<b>2150001</b>	Design Engineering - II A	0	0	0	<b>3</b>
<b>2150002</b>	Institute Elective - Cyber Security	0	0	1	<b>2</b>
<b>2150003</b>	Institute Elective – Disaster Management	3	3	0	<b>0</b>
<b>2151902</b>	Theory of Machines	3	3	0	<b>2</b>
<b>2151903</b>	Fluid Power Engineering	3	3	0	<b>2</b>
<b>2151907</b>	Design of Machine Elements	3	3	0	<b>2</b>
<b>2151908</b>	Control Engineering	3	3	0	<b>2</b>
<b>2151909</b>	Heat Transfer	3	3	0	<b>2</b>
	<b>Total:</b>	<b>15</b>	<b>1</b>	<b>15</b>	<b>31</b>
<b>B.E. Mechanical - Semester-VI</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theory</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credit</b>
<b>2160001</b>	Design Engineering - II B	0	0	3	<b>3</b>
<b>2161901</b>	Dynamics of Machinery	3	0	2	<b>5</b>
<b>2161902</b>	Internal Combustion Engines	3	0	2	<b>5</b>
<b>2161903</b>	Computer Aided Design	3	0	2	<b>5</b>
<b>2161907</b>	Industrial Engineering	3	0	2	<b>5</b>
<b>2161908</b>	Refrigeration and Air Conditioning	3	0	2	<b>5</b>
<b>2161909</b>	Production Technology	3	0	2	<b>5</b>
	<b>Total:</b>	<b>18</b>	<b>0</b>	<b>15</b>	<b>33</b>
<b>B.E. Mechanical - Semester-VII</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theory</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Credit</b>
<b>2170001</b>	Project - I	0	0	4	<b>4</b>
<b>2170203</b>	Departmental Elective-II: Vehicle Dynamics	3	0	2	<b>5</b>
<b>2171901</b>	Operation Research	3	2	0	<b>5</b>
<b>2171903</b>	Computer Aided Manufacturing	3	0	2	<b>5</b>
<b>2171909</b>	Machine Design	3	2	0	<b>5</b>
<b>2171910</b>	Power Plant Engineering	4	0	2	<b>6</b>
<b>2171911</b>	Departmental Elective-II: Advance Heat Transfer	3	0	2	<b>5</b>
<b>2171912</b>	Departmental Elective-II: Oil Hydraulics and Pneumatics	3	0	2	<b>5</b>
<b>2171913</b>	Departmental Elective-II: Metal Forming Analysis	3	0	2	<b>5</b>
<b>2171914</b>	Departmental Elective-II: Gas Dynamics	3	0	2	<b>5</b>

<b>2171916</b>	Departmental Elective-II: Applied Mechanics of Solids	3	0	2	<b>5</b>
<b>Total:</b>		<b>16</b>	<b>4</b>	<b>10</b>	<b>30</b>
<b>B.E. Mechanical - Semester-VIII</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>Teaching Scheme (Hours)</b>			
		<b>Theo ry</b>	<b>Tutori al</b>	<b>Practica l</b>	<b>Credi t</b>
<b>2181909</b>	Project – II	0	0	16	<b>16</b>
<b>2181910</b>	Renewable Energy Engineering	4	0	0	<b>4</b>
<b>2181911</b>	Departmental Elective II: Finite Elements Method	3	0	2	<b>5</b>
<b>2181912</b>	Departmental Elective II: Optimization	3	2	0	<b>5</b>
<b>2181913</b>	Departmental Elective II: Product Design and Value Engineering	3	2	0	<b>5</b>
<b>2181914</b>	Departmental Elective II: Rapid Prototyping	3	0	2	<b>5</b>
<b>2181915</b>	Departmental Elective II: Automobile Engineering	3	0	2	<b>5</b>
<b>2181916</b>	Departmental Elective II: Energy Conservation and Management	3	2	0	<b>5</b>
<b>2181917</b>	Departmental Elective II: Cryogenic Engineering	3	0	2	<b>5</b>
<b>2181918</b>	Departmental Elective II: Principles of Combustion Engineering	3	0	2	<b>5</b>
<b>2181919</b>	Departmental Elective II: Robotics	3	0	2	<b>5</b>
<b>2181920</b>	Departmental Elective II: Quality Engineering	3	2	0	<b>5</b>
<b>2181921</b>	Departmental Elective II: Design for Manufacturing and Assembly	3	2	0	<b>5</b>
<b>2181922</b>	Departmental Elective II: Automation	3	0	2	<b>5</b>
<b>2181923</b>	Departmental Elective II: Entrepreneurship	3	2	0	<b>5</b>
<b>2181924</b>	Departmental Elective II: Design of Heat Exchanger	3	0	2	<b>5</b>
<b>2181925</b>	Departmental Elective II: Computational Fluid	3	0	2	<b>5</b>

	Dynamics				
<b>2181926</b>	Departmental Elective II: Tribology	3	0	2	<b>5</b>
<b>Total:</b>		<b>7</b>	<b>2</b>	<b>16</b>	<b>25</b>

Table 2.1.1(5) B.E. Mechanical Engineering Semester Wise Credits & Contact hours

Semester	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII	Total
<b>Credit</b>	30	30	33	33	31	33	30	25	<b>245</b>
<b>Contact Hours</b>	30	30	33	33	31	33	30	25	<b>245</b>
<b>% of Credits</b>	<b>12.45 %</b>	<b>12.45 %</b>	<b>13.45 %</b>	<b>13.45 %</b>	<b>12.65 %</b>	<b>13.45 %</b>	<b>12.45 %</b>	<b>10.20 %</b>	<b>100 %</b>

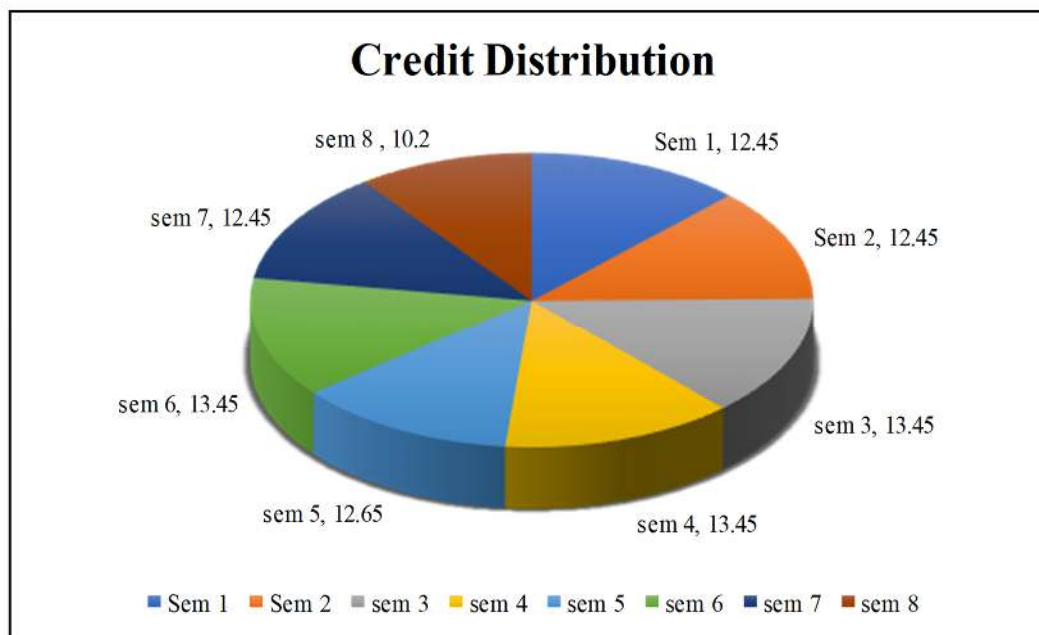


Figure 2.1.1(3) Credit Distribution semester wise (w.e.f 2013-14)

### Components of the Curriculum

The curriculum comprises of courses related to Basic sciences, Engineering sciences, Humanities and social sciences, Program core, Program electives, Institute electives, Projects and Design engineering. The component wise weightage of the curriculum, course component-wise number of contact hours are indicated in Table 2.1.1(6) and Figure 2.1.1(4).

Table 2.1.1(6) Curriculum Content Percentage of the Total Number of Credits (w.e.f 2013-14)

Course Component	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII	Total Number of Credit	Curriculum Content (% of total number of credits)
<b>Basic Science</b>	5	10	5	10	-	-	-	-	30	<b>12.24%</b>
<b>Engineering Science</b>	18	16	11	-	5	-	-	-	50	<b>20.40%</b>
<b>Humanities and Social Science</b>	7	4	-	3	-	-	-	-	14	<b>5.71%</b>
<b>Program Core</b>	-	-	14	17	20	30	21	4	106	<b>43.26%</b>
<b>Program Elective</b>	-	-	-	-	-	-	5	5	10	<b>4.08%</b>
<b>Institute Elective</b>	-	-	-	-	3	-	-	-	3	<b>1.22%</b>
<b>Projects</b>	-	-	-	-	-	-	4	16	20	<b>8.16%</b>
<b>Design Engineering</b>	-	-	3	3	3	3	-	-	12	<b>4.89%</b>
<b>Total Credit</b>	<b>30</b>	<b>30</b>	<b>33</b>	<b>33</b>	<b>31</b>	<b>30</b>	<b>30</b>	<b>25</b>	<b>245</b>	<b>100.00%</b>

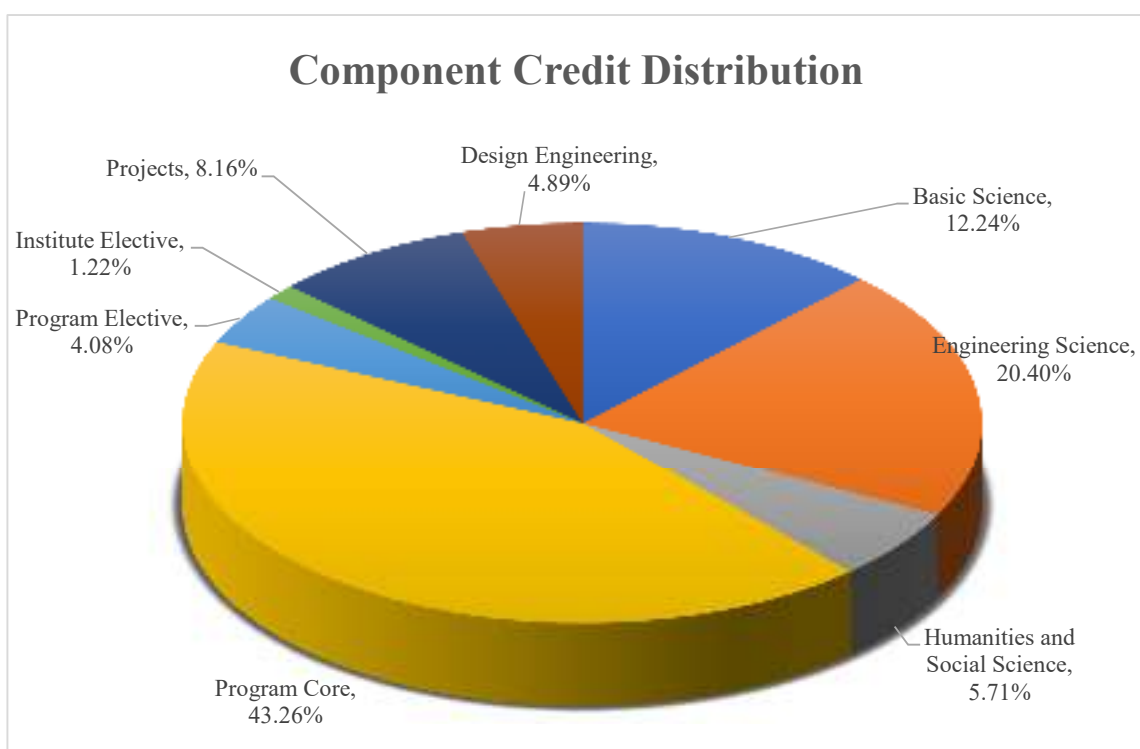


Figure 2.1.1(4) Component wise weightage of the curriculum (w.e.f 2013-14)

#### 2.1.1 (B) List the curricular gaps for the attainment of defined POs & PSOs

- GTU had revised its program curriculum in 2013-14 by taking feedback from all stakeholders such as industry, Alumni, Institutes, course faculty.
- In syllabus framing process technological changes, human values, ever changing demand of industries, NBA terminology & future advancement are taken into consideration by GTU.
- GTU has introduced new syllabus in 2018-19 which is in line with model curriculum offered by AICTE, New Delhi. The revision process of curriculum takes care of the gap present in previous curriculum & tries to minimize the gap in the new syllabus. However, with emerging technological changes, it is very difficult to satisfy all needs of industry through this curriculum.
- Course coordinator does a thorough study of curriculum given by Gujarat Technological University.

- The feedback from alumni and/or industry experts are taken to identify the educational gap after discussing the present curriculum and need of industry.

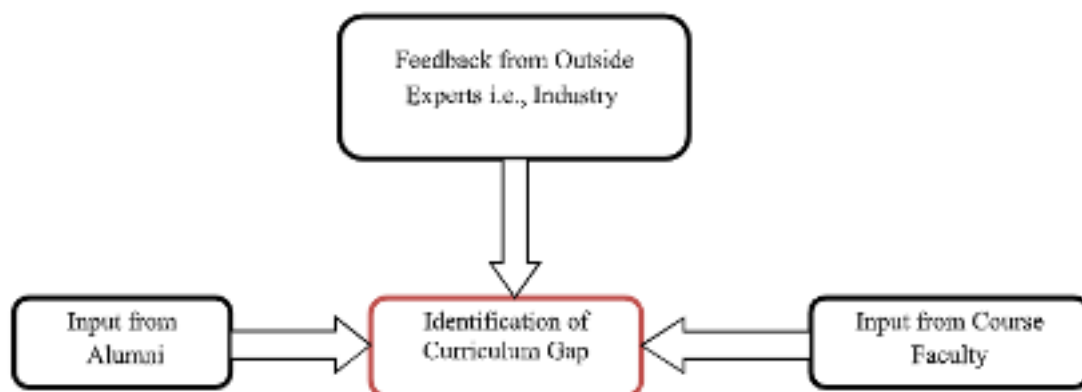


Figure 2.1.1(5) Gap Identification process

- For better understanding of the subjects and enhancing knowledge beyond the syllabus, the institute conducted guest lecturers, webinar/seminar, workshop and industry visit for delivering the contents beyond the syllabus for knowledge enhancement of the students in order to attain POs.
- The identified curriculum gap are presented in Table 2.1.1(7).

Table 2.1.1(7) List the Curricular Gaps

Year: 2022-23(CAY)			
Sr. No.	Subject Code	Subject Name	Identified Gap
1	3171931	Nanotechnology And Surface Engineering	Recent Advances in Material and Application in Nanotechnology
2	3161903	Computer Aided Design	Sheet Metal And Surface Modelling
3	3161917	Computer Aided Manufacturing	Demonstration of Espirit CAM
Year: 2021-22 (CAYm1)			
Sr. No.	Subject Code	Subject Name	Identified Gap



1	3171931	Nanotechnology And Surface Engineering	Recent Advances in Material, Application and Synthesis in Nanotechnology
2	3171923	Internal Combustion Engine	Advance Engine Technology Such as HCCI & GDI
<b>Year: 2020-21 (CAYm2)</b>			
<b>Sr. No.</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>Identified Gap</b>
1	3151912	Manufacturing Technology	To Study About Advance Welding Technique Such as Friction Stir Welding.
2	3151909	Heat Transfer	Design of Industrial Heat Exchanger
<b>Year: 2019-20 (CAYm3)</b>			
<b>Sr. No.</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>Identified Gap</b>
1	3131904	Material Science and Metallurgy	Demonstration of Practical Applications of NDT Methods
2	3131904	Material Science and Metallurgy	Application Of Natural Fibre Reinforced Composites
3	2161902	Internal Combustion Engine	Optical Diagnostics in I. C. Engine
4	2171913	Metal Forming Analysis	Recent Metal Forming Process - Incremental Sheet Metal Forming
<b>Year: 2018-19 (CAYm4)</b>			
<b>Sr. No.</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>Identified Gap</b>
1	2171903	Computer Aided Manufacturing	Role of Automation in Manufacturing: Vertical Machining Centre
2	2141908	Manufacturing Process-II	Application Of Casting Process at Industry Level
3	2161908	Refrigeration & Air Conditioning	To use Solar Energy for Refrigeration and Air Conditioning System

### **2.1.2 State the delivery details of the content beyond the syllabus for the attainment of POs and PSOs (10)**

#### **Delivery details of content beyond syllabus**

The following tools and methods are used to deliver content beyond the university curriculum for attaining the program outcomes.

- Industrial visit / Industrial training
- Extra lecture by internal / external faculty
- Video lectures

Department organizes various activities i.e., industrial visits/ Industrial training, extra lectures and video lectures to accomplish curriculum gaps identified as shown in table 2.1.2(1). It also includes the action taken for the fulfillment of curriculum gaps.

#### **Mapping of content beyond syllabus with POs & PSOs**

Table 2.1.2(1) show the content beyond the syllabus, the action taken for the fulfillment of curriculum gaps and mapping with POs and PSOs.

Table 2.1.2(1) Actions taken for fulfillment of gaps

<b>Gaps Identification with Appropriate Action Taken (2022-23) CAY</b>						
<b>Sr. No.</b>	<b>Gap</b>	<b>Action Taken</b>	<b>Date-Month-Year</b>	<b>Resource Person with Designation</b>	<b>% of Students</b>	<b>Relevance to POs, PSOs</b>
<b>1</b>	Recent Advances in Material and Application in Nanotechnology	Expert Lecture	05/09/2022	Dr Shakil Kagzi Associated Professor SNPIT&RC	85	PO1, PO2, PO5, PO6, PO7, PO12
<b>2</b>	Sheet Metal And Surface Modelling	Expert Lecture	13/03/2023	Mr Mitul Patel Sr. CAD Engineer Sopan Mr Keyur Chawada Marketing Executive Sopan	78	PO1, PO2, PO3, PO5, PO6, PO9, PSO1, PSO2
<b>3</b>	Demonstration of Espirit CAM	Expert Lecture	13/03/2023	Mr Mitul Patel Sr. Cad Engineer Sopan Mr Keyur Chawada Marketing Executive Sopan	78	PO1, PO2, PO3,PO5, PO6, PO9, PSO1, PSO2

Gaps Identification with Appropriate Action Taken (2021-22) CAYm1						
Sr. No.	Gap	Action Taken	Date-Month-Year	Resource Person with Designation	% of Students	Relevance to POs, PSOs
1	Recent Advances in Material, Application and Synthesis in Nanotechnology	Online STTP	6-09-2021 to 10-09- 2021	Dr. A. A. Shaikh, Professor, SVNIT Dr. Jignasa Gohel, Professor,SVNIT Dr. S. K. Sundar, Professor,SVNIT Dr. Rishi Kant, Professor,IIT Kanpur Dr. Ajay Sidpara, Professor, IIT Kharagpur Dr. Dashrath Patel, Professor, GTU Pharmacy Dr. Sanjay Srivastava, Professor, GEC Valsad	95	PO1, PO2, PO5, PO6, PO7, PO12
2	Advance Engine Technology Such as HCCI & GDI	Extra Lecture	08/09/2021	Dr. Chetan P. Patel, Associate Professor, SNPIT & RC	74	PO1, PO2. PO3. PO4, PO6, PO9, PO12, PSO1, PSO2

Gaps Identification with Appropriate Action Taken (2020-21) CAYm2						
Sr. No.	Gap	Action Taken	Date-Month-Year	Resource Person with Designation	% of Students	Relevance to POs, PSOs
1	To study about advance welding technique such a like friction Stir welding.	Webinar	05-06-2020	Dr. Shailesh Pandya Assistant Professor SVNIT Surat	85	PO1, PO2, PO4, PO5, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
2	Design of Industrial Heat Exchanger	Extra Lecture	11-09-2020	Dr. Chetan P. Patel, Associate Professor SNPIT & RC	70	PO1, PO2. PO3. PO4, PO6, PO9, PO12, PSO1, PSO2
Gaps Identification with Appropriate Action Taken (2019-20) CAYm3						
Sr.No.	Gap	Action Taken	Date Month-Year	Resource Person with Designation	% of Students	Relevance to POs, PSOs
1	Demonstration of Practical Applications of NDT Methods	Workshop	12-02 -2020 to 13-02-2020	Mr. Amit Kulkarni Construction Manager, L & T Mr. Hemant Desai Managing Director, Desai Industrial Inspection Services	65	PO1, PO4, PO5, PO9, PO12, PSO1, PSO2
2	Application of Natural Fibre Reinforced Composites	GUJCOST Workshop	17- 06-2019 to 22-06 2019	Dr. A. A. Shaikh, Professor, SVNIT Dr. Piyush Gohil, Associate Professor, M. S. University, Vadodara Dr. Vijaykumar Chaudhary, Professor	65	PO1, PO2, PO3, PO4, PO6, PO11, PO12, PSO1, PSO2

				and Head, CHARUSAT, Changa.		
3	Optical Diagnostics in I. C. Engine	Extra Lecture	10/03/2020	Dr. Chetan P. Patel, Associate Professor SNPIT & RC	60	PO1, PO2, PO6, PO7, PO9, PO12, PSO1, PSO2
4	Recent Metal Forming Process - Incremental Sheet Metal Forming	Extra Lecture & Demonstration of VMC	03/03/2020	Dr. Shakil A Kagzi Associate Professor, SNPIT & RC	60	PO1, PO2, PO4, PO5, PO12
<b>Gaps Identification with Appropriate Action Taken (2018-19) CAYm4</b>						
Sr. No.	Gap	Action Taken	Date Month-Year	Resource Person with Designation	% of Students	Relevance to POs, PSOs
1	Role of Automation in Manufacturing: Vertical Machining Centre	GUJCOST Workshop	25-03-2019 to 30-03-2019	Dr. D. I. Lalwani, Associate Professor Mr. Chintan Panchal, Technical Expert	70	PO1, PO2, PO3, PO4, PO5, PO8, PO10, PO12, PSO1, PSO2
2	Application of Casting Process at Industry Level	Industrial Visit “Jay Metal Tech”, Surat	18-01-2019	Mr. Dishant Plant Incharge, JMT Casting, Sachin	60	PO1, PO2, PO4, PO5, PO6, PO9, PO12
3	To Use Solar Energy for Refrigeration and Air Conditioning System	Extra Lecture	12-03-2019	Prof. Hiren B Tamboli, Assistant Professor	78	PO1, PO2, PO3, PO6, PO7, PO12, PSO1, PSO2

## **2.2 Teaching - Learning Processes (100)**

### **2.2.1 Describe processes followed to improve quality of Teaching & Learning (25)**

#### **2.2.1 (A) Adherence to academic calendar (University Academic Calendar):**

The academic calendar is declared by Gujarat Technological University, Ahmedabad before the commencement of the academic term. The institute prepares its own academic calendar based on the university calendar.

- Academic calendar and timetable are distributed at the beginning of the semester to all the students as well as faculties.
- Academic calendar is displayed at institute website and department notice board.
- The lectures and the laboratories are conducted regularly as per the timetable. The mid semester examination, remedial examination, term work and other events are conducted as per the academic calendar.
- It also includes probable numbers of visits & expert lectures, seminars to be arranged during particular academic term.

#### **2.2.1 (B) Use of various instructional methods and pedagogical initiatives**

Each and every faculty uses the various instructional methods and pedagogical initiatives.

- **Active learning in class room teaching:** Classroom teaching involves engaging students in a classroom as per time table and faculty use the traditional instruction way using chalk and green board facility. Moreover, faculty also uses computer / laptop to present the course content using power point slides. LCD projector is also used to show the videos related to topics of courses, available on NPTEL as well as on YouTube. The students are engaged continuously either through discussions, questions-answer session based on the content delivered. This instructional methodology helps to keep the students focused during the entire lecture.
- **Laboratory experiments:** Laboratory plans are prepared for each laboratory course. This plan includes number of experiments as prescribed in the curriculum. Laboratory manuals are prepared for all the experiments as per the prescribed syllabus of university. The observations, analysis and conclusion of the experiments are interpreted by the students.
- **Assignments/Tutorial:** The students are given assignments by faculty for particular course. The questions of assignments are mapped with the Cos of particular course. Students are encouraged to solve and submit the assignments and discuss the solution with the respective faculty for particular course.



Figure 2.2.1(1) A Sample photo of active class room teaching



Figure 2.2.1(2) A Sample photo of laboratory experiments

- **Expert lectures:** Experts from the industry / reputed institutions are invited to share their knowledge, experience and modern techniques to aware the students about present trend and requirement in Mechanical Engineering in order to reduce the curriculum gap as well as to impart the content beyond the curriculum.
- **Industry visits:** The students are encouraged to visit the different industrial area like GIDC area, Workshops, Manufacturing plants, organizations, etc. and asked to collect the data and co-relate with theoretical knowledge.





Figure 2.2.1(3) A Sample photo of expert lecture



Figure 2.2.1(4) A Sample photo of industry visit.

- **Library facilities:** The institute has a well-organized library. Students are encouraged to browse the rich collection of text books, reference books, technical journals and magazines.



Figure 2.2.1(5) A Sample photo of library facilities.

- **Internet facility:** High speed Wi-Fi network surrounds campus and allow student to access it any time. Students can access E-books through internet as well can watch and study NPTEL courses for effective learning. This approach develops self-learning and lifelong learning skill in students.
- **Design thinking to optimize student learning (Design Engineering course included in Sem. 3 to 6):** The aim of design engineering course is to develop creative and interactive practical approach in students. Students work in a group of 3-5, together build on an idea or a project. During four semesters (Sem-3 to Sem-6), the students complete their project passing through various stages from ideation to product development. This approach improves the level of confidence in students.
- **Induction program for first year students:** Induction Program is introduced in first year to bridge the gap between school & college. It is divided in 3 phases i.e., Initial Phase, Regular Phase and Closing Phase & covered in first two weeks before commencement of Semester - I.

#### 2.2.1 (C) Methodologies to support weak students and encourage bright students Policy for academically weak students

- The academically weak and bright students are identified based on their academic performance in mid semester examination. The students who get failed in mid semester examination were identified as weak students. The monitoring and identification of weak students is done by mentor.

- Academic performance of the weak students is reported to Head of the Department and remedial actions are taken.
- Make up classes are arranged to cope-up the difficulty of weak students in a particular course by the concerned faculty.
- The mentoring process provides a platform to weak students for sharing their issues related to academics. The mentor meets the student every week to help him/her and give guidance academically and personally. Weak students are encouraged to meet the course faculty members to solve their doubts.

**Encouraging bright students: Following strategy had been attempted by Faculty members to boost up the performance of bright students:**

- Bright students (top three students) are identified based on previous examination results in which they have successfully passed. The institute encourages bright students by providing them necessary guidance to take part in various technical events such as Techfest. These students are also encouraged to participate in Student Start-up and Innovation Policy (SSIP) to present their project in order to showcase their innovative ideas.
- Institute motivates the topper students by offering certificate / trophy.

**2.2.1 (D) Quality of Class Room Teaching**

- The classrooms are spacious, airy and adequate in size as per AICTE norms.
- For quality teaching, faculty members prepare lesson plan and deliver lectures to cover the syllabus in stipulated term period.
- Seminar hall equipped with projector, computer and internet facility is used for expert lecture, seminar and workshop and also to show videos and PPTs to students.
- Apart from conventional chalk and talk method, faculties also deliver the course topic with the help of charts and models.
- Students are motivated to present their own topic with 5 min talk during class hours. Classroom ambience is made interactive.

**2.2.1 (E) Conduct of Experiments (Observation in Lab)**

- Experiments are conducted in laboratory as per the syllabus of Gujarat Technological University, Ahmedabad.
- Laboratories are fully equipped and well maintained.
- The aim and objectives of experiments are explained by concerned course faculty.

- Laboratory manual explaining the details of the experiment is available with the course faculty and is supplied to the students during the laboratory hours.
- Observation and necessary data are recorded in lab-manual and checked & verified by course faculty.
- A criterion for assessing the students is based on participation in performing the experiment, file preparation, in-time submission and attendance in the laboratory.

#### **2.2.1 (F) Continuous Assessment in the Laboratory**

- The manual or experiment file of each student is periodically evaluated during the lab session.
- Viva questions are asked to check the understanding level of the students and marks are given based on level of understanding of each experiment.

#### **2.2.1 (G) Student Feed Back of Teaching Learning Process and Action**

- The feedback forms are collected from the students at the end of each semester which is helpful in determining the effectiveness of teaching learning process.
- The feedback forms received from the students are analysed by Head of Department.
- The Head of Department and Principal give constructive comments to improve the quality of teaching and learning process based on analysis of feedback forms received from the students.

The following actions are taken with respect to the analysis of feedback forms.

##### **Action Taken:**

- The faculty with excellent feedback are encouraged by appreciation.
- The faculty with feedback below the set level is advised to give an orientation class in the presence of Principal, HOD and other senior course faculty members giving guidelines for improvement.
- They are also suggested to refer more books.

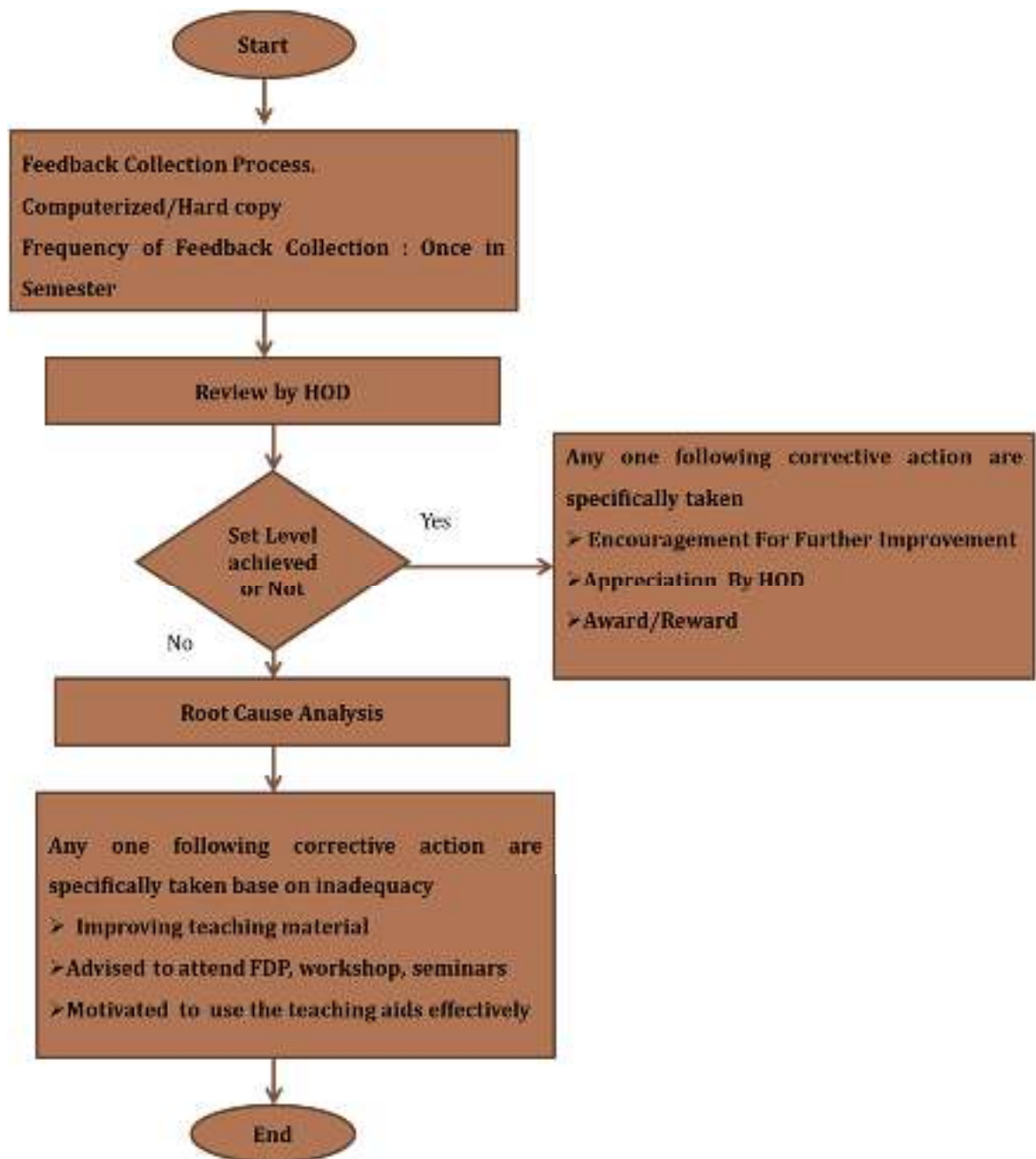




Figure 2.2.1(6) Process of student feedback and action taken





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Subject Feedback

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### Student Feedback Form on Subject and Faculty

Kindly rate for following criteria on a scale of 1-5. Your genuine responses will be helpful for the continuous quality improvement.

Excellent: 5, Very Good: 4, Good: 3, Satisfactory: 2, Not Satisfactory: 1

Enrollment No: 170400110001

Name: Mr. Praduman Bhusarwala

Department: Mechanical Engineering

Academic Year: 2022 - 2023

Semester: Semester III

Subject: Basic Civil Engineering (41100002)

☐ Anonymous

	Subject Teacher 1	Subject Teacher 2	Subject Teacher 3
	Dr. Anil N.	Dr. Anil N.	Dr. Anil N.
1. Teacher has covered entire syllabus as per approved curriculum of the College	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
2. Has the Teacher explained the topics in depth?	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
3. Effectiveness of Teacher in terms of theory/practical: (a) inclusion of current/advance content (b) communication skills (c) use of teaching aids	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
4. Pace at which contents were covered	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
5. Motivation and engagement for students to learn	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
6. Support for the development of students' skill: (a) Practical demonstration, videos, web-links etc. (b) Hands-on training	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
7. Clarity of explanations of students	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
8. Feedback provided on Students' progress	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
9. Willingness to offer help and advice to students	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
10. Degree of feedback, tips, comments, suggestions etc.	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
11. Teacher is punctual at the time of starting time & ending time for lectures, lab works and tutorials etc.	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
12. Teacher provides course and lecture outline at the semester beginning	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
13. Teacher is friendly with the student helpful and satisfactory	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
14. Teacher is supporting weak students and encouraging bright students	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
15. The course materials and question bank, assignments, Group Engineering (GE) and Project Management & Research system provided are helpful in learning the course	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
16. Teacher is performing continuous assessment in theory and practical tests along with DE and PMMS activities evaluation	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
17. Overall evaluation process (theory class/project) is well planned, well developed, fair and unbiased	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
18. Teacher is approachable to students for Academic/personal advice	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>
19. Interaction of industry and institute was performed for the course	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>	<span style="border: 1px solid #ccc; padding: 2px;">0</span>

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Figure 2.2.1 (7) A sample of student feedback form



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INSTITUTE OF TECHNOLOGY AND RESEARCH CENTRE, UMRACH

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Vinayakarni Campus, At. Umrakh, Tal. Dahanu, Dist. Basse 394 345  
Ph. 02223-224551, 225551 • Fax 02223-224551, 225551  
Email : admin@snpitrc.ac.in, vsk@snpitrc.ac.in, vsk@snpitrc.ac.in  
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**Shri Sitarambhai Naranji Patel Institute of Technology and  
Research Centre, Umrakh**

**Students Feedback Form on Subject**

Name: Ahir Pinal Gunvanthai  
Department: Mechanical Engineering  
Subject: DE - II A(2150001)  
Subject Teacher: Prof. Piyush Savaj

Enrolment No: 170490119001  
Semester: Semester 05

2019 - 2020

Kindly rate for following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement.

Excellent = 5, Very Good = 4, Good = 3, Satisfactory = 2, Not Satisfactory = 1

	Scale
01. Teacher has covered entire syllabus considering all course outcomes (COs) as prescribed by University / College.	2
02. Has the Teacher covered relevant topics beyond syllabus	2
Effectiveness of Teacher in terms of theory/practical:	
03. (a) Technical content/course content	2
(b) Communication skills	
(c) Use of teaching aids	
04. Pace on which contents were covered	4
05. Motivation and inspiration for students to learn	4
Support for the development of Students' skill:	
06. i) Practical demonstration, videos, web-links etc.	3
ii) Hands on training	
07. Clarity of expectations of students	3
08. Feedback provided on Students' progress	3
09. Willingness to offer help and advice to students	3
10. Recap of last lecture, Quizzes, projects, discussion etc.	4
11. Teacher is Punctual (in terms of starting time & ending time for lectures, Lab classes and Tutorials Classes)	5
12. Teacher provides course and lecture outline at the semester beginning	2
13. Teacher interaction with the student helpful and satisfactory	2
14. Teacher is supporting weak students and encouraging bright students	2
15. The course materials and question bank, assignments, Design Engineering (DE) and Project Management & Monitoring system (PMMS) activities provided are helpful in learning the course	3
16. Teacher is performing continuous assessment in theory and practical hours along with DE and PMMS activities evaluation.	2
17. Internal evaluation process (Test/Quiz/DE/Project) is well prompt, well designed, fair and unbiased	5
18. Teacher is approachable to students for Academic/personal advice	4
19. Interaction of industry and institute was performed for the course	



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Figure 2.2.1 (8) Student feedback form on course

## 2.2.2 Quality of internal semester Question papers, Assignments and Evaluation (20)

### 2.2.2 (A) Process for internal semester question paper setting and evaluation and effective process implementation

- Question papers for University Semester Exams are prepared by the university itself. However, question papers of mid semester are prepared by course faculty at institute level based on course outcomes (COs) along with the Blooms Taxonomy.
- After the declaration of the mid-semester exam schedule, the respective course coordinator displays the syllabus of the mid-semester exam on the notice board.
- The question papers are verified by DAAC ensuring the quality of paper.
- If any suggestions received from DAAC, then question paper is revised after including the suggestions and finalized.
- The examinations are conducted as per the schedule and the answer sheets are assessed by the concerned course teacher.
- The solutions of the question papers are discussed in the classroom after completion of mid-semester exams

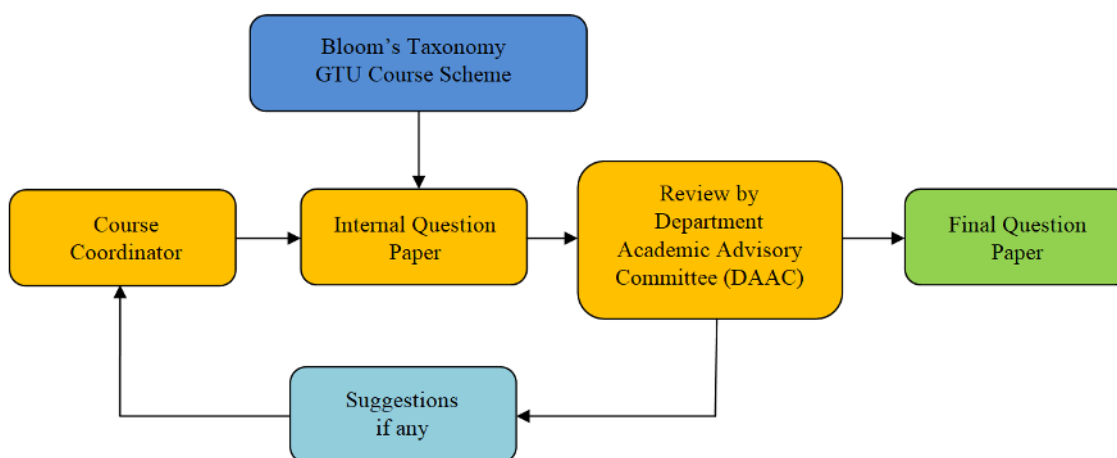


Figure 2.2.2 (1) Process of Internal Semester Question Paper Setting

### 2.2.2 (B) Process to ensure questions from outcomes/learning levels perspective

- Based on the course outcomes defined in the syllabus by the university, question papers of internal mid semester examinations are prepared and mapped with COs.
- The Mid Semester Exam question papers are also reviewed by DAAC to ensure the quality of questions, distribution of the marks as per weightage given by university, coverage of the syllabus and mapping with COs, etc.



### **2.2.2 (C) Evidence of COs coverage in class test/mid-term tests**

- Mid semester question papers have been designed for all the courses considering the COs mentioned in each course.
- Course teachers ensure that questions asked in question paper mapped with respective course COs.
- Questions answered by the students in the mid semester test are evaluated such that it confirms the mapping of COs with respective courses.

### **2.2.2 (D) Quality of assignment and its relevance to COs**

- Assignments are prepared by the course teacher after referring the past few question papers of the University end semester exams such that COs of particular course are fulfilled.
- Assignments are then given to the students based on course content covered in the classroom.
- Students have to submit these assignments in the form of tutorial work, power point presentation, etc. which is assessed by the course faculty later.
- Self-learning assignments are also given to the students which the students can solve by multiple sources such as reference books, NPTEL videos and literature available on internet. This activity ensures the self-learning of students and the fulfillment of POs and COs.
- Assessment of assignment is done by the course faculty and returned to the students with comments.

### **2.2.3 Quality of student projects (25)**

The projects mainly consist of some aspects such as application of technical knowledge, environment, safety, ethics, cost, feasibility, etc. which can address the POs and PSOs. The quality of student projects is ensured and achieved through the introduction of two major courses during the under graduate study as an inclusive part of syllabus. These courses are

1. Industry Defined Projects (IDPs) or User Defined projects (UDPs) during 7 and 8 Semesters.
2. As per the new curriculum of University, the final year students are given the choice either to select UDP/IDP or Internship.

### **2.2.3 (A) Identification of projects and allocation methodology to faculty members**

#### **Industry Defined Projects (IDP) and User Defined Projects (UDP):**

- The students can take up the Industry Defined Project (IDP)/ User Defined Project (UDP) in their 7<sup>th</sup> & 8<sup>th</sup> semester course work, titled “Project-I” and “Project-II” respectively.
- Students have to study the problems faced by industry / society and try to find out the solution. Following process is observed to identify projects and its allocation:
- The title of IDP/UDP is finalized by student group in consultation with guide.
- Registration of each individual project is done on GTU Project Monitoring & Mentoring System (PMMS) portal. (<http://pmms.gtu.ac.in/>)
- Each IDP group is assigned a course domain faculty member as an Internal Guide and an expert from the Industry as Industry Guide for the guidance and evaluation of project work.
- If students want to pursue UDP, then a course domain faculty member is assigned as Guide.
- The continuous monitoring of the project activities and progress is observed by respective guide during weekly project hours as well as through GTU Project Monitoring and Management System (PMMS) portal.
- Students are provided with brief idea of various fields for selecting the project ideas. The faculties encourage the students to carry out projects and support them with all necessary resources.
- Students are allowed to form group which consists of minimum 2 members or maximum 5 members. If the students are not able to frame the group, then the project coordinator will help them to frame the group.
- Students have the option to choose the areas in which they are interested to carry out the projects. The different areas which are identified by the project coordinator are thermal engineering, manufacturing engineering, material science & engineering, machine design etc.
- The groups of students are given the choice to give their preferences for the selection of project guide. The guides are allocated to the groups based on the area of interest and their previous semester result by project coordinator and Head of Department.

- The compiled list showing names and enrolment numbers of students in a group, project title, allotted project guide is displayed on department notice board.
- Students can choose/come out with a problem for the execution of the project. If they are not able to identify the problem, then the faculty member gives a problem to the students for execution of the project work.
- The students are also encouraged to choose industrial defined problems. The students are informed well before and motivated to apply for Student Startup and Innovation Policy (SSIP) scheme of Government of Gujarat to get the grant for the development of research ideas/product and to get the intellectual right if applicable.

### **2.2.3 (B) Types and relevance of the projects and their contribution towards attainment of POs and PSOs**

- Projects suggested to the students are classified such that broad area of various application related to the department are covered.
- At the same time outcomes achieved from the projects are concurrent with POs and PSOs.
- Various domains like application of particular technology, study projects, product formation, review of particular standards and policies etc. are constituted in overall project classification.
- An outcome of many projects leads to development in many areas like environmental safety, ethics in planning and designing, economical design and implementation, cost effective in the transportation and hydraulics systems.
- In IDP/UDP and Design Engineering, human centric project work is carried out based on different criteria like technological, aesthetic, ergonomics, environmental, socio-economic aspects, society beneficiary- oriented solution formation and cost-based design engineering thinking. This will help to attain various POs. The List of projects are listed in Table 2.2.3 (1), 2.2.3 (2) & 2.2.3 (3).

Table 2.2.3 (1) List of Student Projects CAYm1 (2021-22)

Sr. No	Project Name	Domain	Student Name	Enrollment No.	Guide Name	PO/PSO Mapped
1	Investigations on the influence of Phase change material for the building cooling applications	Thermal	Sarthak Sanjaybhai Chauhan	170490119015	Dr. Niravkumar M. Patel	PO1, PO3, PO8, PO9 PO10, PO11, PO12. PSO1, PSO2
			Ashish Kanubhai Prajapati	180490119036		
			Ravi Prajapati	180490119037		
			Rupapara Sujeet Kishorbhai	180490119039		
2	Parametric analysis of Gasification system using Biomass residue	Thermal	Krunal Sanjivbhai Patel	170490119050	Prof. Mayankkumar B. Parmar	PO1, PO3, PO8, PO9 PO10, PO11, PO12, PSO1, PSO2
			Hardik Manishkumar Kania	190493119008		
			Tailor Darshan Rajeshbhai	190493119018		
			Patil Parth Sunilbhai	190493119055		
3	Design and Development of Gasification System for Biomass	Thermal	Kele Sagar Anilbhai	160490119028	Prof. Priyank P. Dave	PO1, PO3, PO8, PO9 PO10, PO11, PO12, PSO1, PSO2
			Rajnishkumar Harendra Singh	170490119078		
			Timbadiya Karankumar Prafulbhai	190493119019		
			Tank Viraj Harsukhbhai	190493119061		
4	Experimental setup to Enhance characteristics of PCM in Building Application	Thermal	Tailor Anshulkumar Hemantbhai	170490119081	Prof. Rikesh B. Prajapati	PO1, PO3, PO8, PO9 PO10, PO11, PO12, PSO1, PSO2
			Godavale Hardikkumar Manojbhai	180490119020		
			Sonu R Sharma	180490119043		

			Solanki Karankumar Ketanbhai	180490119044		
<b>5</b>	Design and Analysis of Swing Operated Water Pump	Design & Fluid	Asamaniwala Nevil Jayeshkumar	190493119003	Prof. Rinkesh B. Patel	PO1, PO3, PO8, PO9 PO10, PO11, PO12, PSO1, PSO2
			Neel H. Naik	190493119009		
			Naik Punit Pradipbhai	190493119010		
			Patel Rohan Bipinbhai	190493119051		

Table 2.2.3 (2) List of Student Projects CAYm2 (2020-21)

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
<b>1</b>	Low-cost ventilator with dual patient monitoring	Design	Rana Valay Mukeshbhai	170490119066	Dr. Chetan Patel	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Khairnar Prakash Gyaneshvar	170490119035		
			Sonvane Hitesh Sunilbhai	170490119080		
			Gamit Jaymeetkumar Jitendrabhai	170490119023		
			Deshmukh Mayur Anilbhai	170490119020		
			Chaudhari Mitulkumar Ajitbhai	150490119013		
<b>2</b>	Power generation using vehicle suspension system	Internal combustion engine	Patel Divyesh D.	170490119047	Dr. Chetan Patel	PO1, PO2, PO3, PO4, PO5, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patel Vishal R.	170490119057		
			Patel Prince M.	170490119054		
			Pipaliya Hemil M.	170490119060		
			Patel Anant S.	170490119045		
			Chaudhari Roshankumar Rustambhai	130490119016		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
3	Tribological behaviour of composite Material	Material Science	Gavit Tejal Ajit	170490119030	Prof. Hiten Mistry	PO1, PO2, PO3, PO4, PO5, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Vora Hardikkumar Kantilal	170490119085		
			Rajwadi Roshankumar Pareshbhai	170490119062		
			Gamit Hemalkumar Ranchhodhbhai	170490119022		
			Chaudhari Ohangkumar Ganeshbhai	170490119007		
			Chaudhari Aniket Kumar Dilip Bhai	170493119005		
4	Eco-friendly road cleaner machine	Design	Patel Avnik Vipulbhai	170490119046	Dr. Chetan Patel	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Sakhiya Kishankumar Nareshbhai	170490119071		
			Rana Karan Kanchanbhai	170490119065		
			Patrawala Hasan Juzer Patrawala	170490119064		
			Rana Harshil Bharatbhai	170490119059		
5	Design and development of atmospheric water Generator	Design & Production	Jadav Vinayak Dattatreya	180493119023	Dr. Chetan Patel	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Yadav Subhashkumar Rajendrakumar	180493119058		
			Luhar Yash Santoshbhai	180493119026		
			Sawant Nilesh Laxmanbhai	180493119051		
			Parmar Prashantsinh Yogendrasinh	180493119033		
			Chaudhari Yogeshbhai	180493119009		

Ishvarbhai						
Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
6	Fourwheel steering Mechanism	Design	Asti Harsh Dipak	170490119002	Prof. Hitesh Tailor	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Chaudhari Tejas Nansingbhai	170490119012		
			Vishwakumari Deepakbhai Gamit	170490119028		
			Mahyavanshi Mohini Dilipbhai	170490119039		
			Rana Dharmesh Hiralal	170490119063		
			Rathod Yagnesh Bihkubhai	160490119056		
7	360 flexible Drilling Machine	Production	Prajapati Vikas Hiralal	170490119061	Prof. Hiten Mistry	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patel Pratikbhai Rajeshbhai	170490119053		
			Patelvimalkumar Arvindbhai	170490119056		
			Pathan Shahidkhan Soheli Khan	170490119058		
			Raul Harpalsinh Jaypalsinh	170490119069		
			Mistry Rajan Prakashbhai	150490119046		
8	Dew Point Temperature Measurement Device	Thermal	Rathod Ankitbhai Arunbhai	170490119067	Prof. Chirag Chaudhary	PO1, PO2, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Maisuriya Shivang Manojbhai	170490119041		
			Maturkar Priyesh Dineshbhai	170490119042		
			Maisuriya Meet Dharmeshbhai	170490119040		
			Chaudhari Sagarkumar Rajendrakumar	170490119011		
			Saiyad Faizan Mohammadibrahim	170490119070		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
9	Power Generation by Waste Water	Thermal	Gamit Pranavkumar Jayantibhai	170490119024	Prof. Chirag Chaudhary	PO1, PO2, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Gamit Ashishkumar Anilbhai	170490119021		
			Chaudhari Milankumar Jayeshbhai	170490119006		
			Chaudhari Harshitkumar Arjunbhai	170490119005		
			Chaudhari Pranavkumar Satishbhai	170490119008		
10	Vertical Centrifugal Casting	Production	Patel Harshkumar Sureshbhai	170490119049	Prof. Hiten Mistry	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Chauhan Ankur Babubhai	170490119014		
			Sawle Tushar Sharadbhai	170490119072		
			Shekhawat Manish Meghsingh	170490119076		
			Chaudhari Rutvij Bhupendrabhai	170490119010		
			Desai Vikas Rajeshbhai	150490119020		
11	Gym Energy Regeneration System	Energy	Lad Harshkumar N.	170490119038	Prof. Hitesh Tailor	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Vartak Bhavik G.	160490119067		
			Kharve Tushar R.	170490119036		
			Ahir Pinal G.	170490119001		
			Desai Jayraj M	140494119001		



Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
12	Rice Transplantation Machine	Design	Amrutkar Sandip Vijaybhai	180493119001	Prof. Rinkesh Patel	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Borad Nirmal Maheshbhai	180493119002		
			Patil Arjun Ravindra	180493119045		
			Patil Keyur Rakeshbhai	180493119046		
			Shah Omprakash Ashok	180493119052		
13	Fertiliser Drill	Production	Mistry Arpan Shashikant	180493119029	Prof. Rinkesh Patel	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Mistry Ashish Shashikant	180493119030		
			Parmar Hemsinh Kanaiyalal	180493119032		
			Mahyavanshi Ayush Rameshbhai	180493119028		
			Sahu Subhashchandra Champakalal	180493119050		
			Gamit Harishkumar Jagdishbhai	180493119015		
14	Design and Development of automatic plastering machine	Design	Pathan Nomankhan N.	180493119044	Prof. Vishal Dhimmar	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patel Rupeshkumar D.	180493119042		
			Pathan Mohmadfaizan M.	180493119043		
			Trivedi Athrva Nileshbhai	180493119055		
			Chaudhari Bhaveshbhai Mahendrabhai	180493119011		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
15	Experimental analysis of composite E glass epoxy monoleaf spring	Manufacturing	Chaudhari Zinalkumar Narendrabhai	180493119010	Prof. Rinkesh Patel	PO1, PO2, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Chaudhari Nisheetkumar Vijaybhai	180493119006		
			Machhi Akshaykumar Bhagubhai	180493119027		
			Chaudhari Himanshukumar Vinaybhai	180493119003		
			Chaudhari Krunal Sukhabhai	180493119004		
16	Experimental analysis of friction stir welding	Production	Lad Harshilkumar Nitinbhai	170490119037	Prof. Hiten Mistry	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Gond Abhay Chandra	170490119032		
			Shah Prashant Dharmeshbhai	170490119074		
			Singh Tarkeshwarnath Umesh	170490119079		
			Chauhan Jenishkumar Rakeshbhai	170493119013		
			Parekh Ansh Daxesh	170493119042		
17	Design and development of compressed air engine	Design& Internal combustion engine	Patel Ronak Arunbhai	180493119041	Prof. Chirag Chaudhary	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Rathva Kalpesh Ramesh	180493119049		
			Pavar Mehulkumar Surendrabhai	180493119047		
			Patel Milindkumar Dipakbhai	180493119038		
			Jadav Nilaybhai Dilipbhai	180493119022		
			Patel Kamalkumar Arvindbhai	170493119049		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
18	Foot step power generation	Production	Vasava Rajubhai Sutabhai	180493119057	Prof. Hitesh Tailor	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Rathva Jashvantbhai Bhavsingbhai	180493119048		
			Patel Jayendrabhai Sajanbhau	180493119036		
			Patel Rinkesh Mukundbhai	180493119040		
			Patel Devendrabhai Balubhai	180493119035		
19	Electromagnetic braking system	Design	Gamit Akashkumar Pragneshbhai	180493119012	Prof. Hiten Mistry	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Gamitjigarbhai Jagubhai	180493119016		
			Gamit Ankitkumar Jigneshbhai	180493119014		
			Gamit Pareshkumar Rajeshbhai	180493119018		
			Gamit Akeshkumar Darjibhai	180493119013		
20	Parameter optimization in gravity die casting for improving the mechanical properties of LM9 aluminium alloy	Production	Patel Harshkumar Rajeshbhai	140490119077	Prof. Chirag Chaudhary	PO1, PO2, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Chaudhary Vijubhai Gachhabhai	170490119013		
			Gamit Sandipkumar Bharatbhai	170490119026		
			Chaudhari Ravichandra Bhikhubhai	160490119013		
			Ahir Rishabh Jagdishbhai	140490119002		

Table 2.2.3 (3) List of Student Projects CAYm3 (2019-20)

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
1	Experimental Analysis on Heat Transfer Improvement Using Nanofluid in Radiator	Thermal engineering	Panchal Harshkumar Alkeshbhai	160490119040	Prof. Anil Patel	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Khatrri Yashkumar Harshadbhai	160490119030		
			Chaudhari Tarkikkumar Umeshbhai	160490119014		
			Rana Ronitkumar Girishbhai	160490119055		
			Shaikh Faiz Ahmed Gulamnabi	160490119060		
2	Experimental & Numerical Investigation of Commercial Aluminium Alloy on Under Water Friction Stir Welding Using Bobbin Type Tool	Production	Bhavnagariya Brijesh Vallabhbhai	170493119002	Prof. Hiten Mistry	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Dave Meet Tusharbhai	170493119017		
			Modi Paritosh Santoshbhai	170493119039		
			Patel Bhavikkumar Ashokbhai	170493119047		
			Patel Rajkumar Satishbhai	170493119051		
3	Evaluation of Thermal Aspects of Phase Change Material for Building Application	Thermal engineering	Javiya Vatsal Babubhai	160490119026	Prof. Harshal Shukla	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Agarwal Sauravkumar Jagdishprasad	160490119003		
			Ashok Kumar Hariram	160490119008		
			Dholiya Vinas Virjibhai	160490119018		
			Agarwal Abhishek Sushil	160490119026		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
4	Design Analysis of Development of Trolley Type Agricultural Pesticide Sprayer	Design & Fluid	Amankumar Narsingh Verma	160490119005	Prof. Piyush Savaj	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Prajapati Rinkeshkumar Harishbhai	160490119054		
			Sureja Harsh Mahendrabhai	160490119065		
			Telore Akshay Ganesh	160490119066		
			Yadav Bipin Madan	160490119071		
5	Design & Development of Banana Pseudostem Cutter Machine Using Hydraulic Cylinder.	Production	Ahire Kailas Ghanshyam	170493119001	Prof. Milan Patel	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Gandhi Jenish Paresbhai	170493119027		
			Patil Vishal Murlidhar	170493119055		
			Patil Rushikesh Vijay	160490119051		
			Pawar Gopal Sanjay	160490119053		
6	Experiment Analysis of Solar Heat Pump For Building Applications	Thermal engineering	Kurwade Fenil Chandrashekhar	170493119032	Prof. Harshal Shukla	PO1, PO2, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Laliwala Yakshesh Vinodbhai	170493119034		
			Parekh Utsav Bharatbhai	170493119043		
			Salvi Sanket Sandeepbhai	170493119058		
			Sharma Datt Hiteshkumar	170493119062		
7	Analysis of Unglazed Transpired Collector Based on Exergy	Thermal engineering	Contractor Utsav Mukesh Bahi	170493119014	Prof. Harshal Shukla	PO1, PO2, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Danej Rohan Naresh Bhai	170493119016		
			Mannade Vishwanath Asharam	170493119037		
			Trivedi Abhishek Rameshkumar	170493119065		
			Vaghela Het Anilbhai	170493119066		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
8	Experimental Modification of V8 Solenoid Engine	Internal combustion Engine	Samip Patel	170493119059	Prof. Hiten Mistry	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patel Sunny Rajesh	170493119054		
			Prajapati Prinkeshkumar Bharatbbhai	170493119056		
			Panchal Rinish	170493119041		
			Rathod Shrutik Mahendra	170493119063		
9	Detachable Device for Shopping Cart Trolley	Production	Patil Rahul Ramkrushna	160490119050	Prof. Misal Gandhi	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patil Sagar Lotan	160490119052		
			Salunkhe Mayur Bhaskar	160490119058		
			Verma Anish Sudama	160490119070		
			Yogeshkumar Sharma	160490119072		
10	Performance Analysis of VCR System Using Thermoelectric Cooling System	Thermal engineering	Bhoi Mayank Prakashbhai	170493119003	Prof. Anil Patel	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Chaudhari Adityabhai Amarsingbhai	170493119004		
			Chaudhari Arpitkumar Subhashbhai	170493119006		
			Chaudhari Kalpeshbhai Bipinbhai	170493119008		
			Chaudhari Mrugesh Sureshbhai	170493119010		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
11	Performance Evolution of Domestic Refrigerator Using LPG Cylinder	Thermal engineering	Gamit Jaydeepkumar Rameshbhai	160490119022	Prof. Chirag Chaudhary	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Chaudhari Nishantkumar Reniabhai	160490119012		
			Chaudhari Krupalkumar Nareshbhai	160490119010		
			Maisuriya Julenkumar Jitendra	160490119036		
			Solanki Himilkumar Pravinbhai	160490119062		
12	Development Of Heat Recovery System in Refrigeration	Thermal engineering	Maharaul Rohansinh Virbhadrasinh	170493119035	Prof. Priyank Dave	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Machhi Shivam Rameshbhai	160490119033		
			Mahyavanshi Nileshkumar Girishbhai	160490119034		
			Mahyavanshi Princekumar Dineshbhai	160490119035		
			Gupta Krishna	160490119025		
13	Design And Development of Belt Type Oil Skimmer	Design	Lad Abhi Ketankumar	160494119004	Prof. Chirag Chaudhary	PO1, PO2, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Lad Jasmin Jitendrabhai	170493119033		
			Maisuriya Raj Bipinchandra	170493119036		
			Patel Sharang Kumar Maheshbhai	170493119052		
			Prajapati Swapnilkumar Ashokbhai	170493119057		

Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
14	Design And Development of Eco Wave Power Generation System	Thermal engineering	Faldu Sagar Kumar Jagdish Bhai	170493119020	Prof. Priyank Dave	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Gamit Timothibhai Meenabhai	170493119026		
			Gelani Dhananjay Dineshbhai	170493119029		
			Mehta Rahulkumar Gaurangbhai	170493119038		
15	Design And Development of Biogas Generator	Energy	Dudharejia Nikhil Jayeshbhai	170493119019	Prof. Hitesh Tailor	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Jardosh Shreyas Vireshkumar	170493119030		
			Kantriwala Jenish Avinash	170493119031		
			Parmar Aniket Dipakkumar	170493119044		
			Tailor Harshkumar Vijaykumar	170493119064		
16	Vertical Axis Wind Turbine with Savonius And Darrious Combine Blade	Fluid	Joshi Neel Jigneshkumar	160490119027	Prof. Rinkesh Patel	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Chaudhari Mayur Umedbhai	160490119011		
			Deepak Kundaram Sanjay	160490119016		
			Chaudhari Kishan Chhitubhai	160490119009		
			Patel Bhavin Bharatbhai	160490119042		
17	CO2 Laser Beam Machining of Thermoplastic Material PMMA (Acrylic)	Manufacturing	Chaudhari Rahulkumar Babubhai	150490119015	Prof. Arif Varsi	PO1, PO2, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patel Sanket Yogeshbhai	150490119097		
			Diyora Nikunj Pravinbhai	160490119020		
			Khunt Ravi Bhartbhai	160490119031		
			Kothiya Nikulkumar Pravinbhai	160490119032		



Sr. No.	Project Name	Domain	Name of Students	PEN	Guide Name	PO/PSO Mapped
18	Development of Compressed Air Engine	I C Engine	Chaudhary Karan Bhai Hashmukhbhai	170493119012	Prof. Misal Gandhi	PO1, PO2, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Dabhi Mayurkumar Somabhai	170493119015		
			Parmar Monikkumar K.	170493119045		
			Patel Hiralbhai Jayantibhai	170493119048		
			Vankhede Chirag Kishorbhai	170493119067		
19	Investigation on The Effect of The Vibrations on Mechanical Properties Of Mild Steel Welded Joint Using GTAW	Production	Pancholi Kishan Dineshbhai	150490119050	Prof. Hiten Mistry	PO1, PO2, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patel Dhruv Vinodbhai	150490119021		
			Icecreamwala Arish C.	150490119029		
			Tailor Parth Jayeshbhai	150490119052		
20	Design And Development Grating Machine For Coconut	Production	Patel Sahilkumar Sanjaybhai	160490119048	Prof. Ripal Patel	PO1, PO2, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Patel Dhruv Shaileshbhai	150490119056		
			Chaudhari Shivkumar Hemantbhai	150490119016		
			Vashi Krunalkumar D.	160490119069		
21	Designing Of Machine For Rolling And Bending Simultaneously	Production	Darshit	140490119022	Dr. Shakil Kagzi	PO1, PO2, PO3, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2
			Lad Dipen Shashikantbhai	150490119036		
			Chaudhari Nirmalkumar Hashmukhbhai	160493119003		
			Gamit Mitulbhai	140490119029		
			Dhandhukiya Sagar Govindbhai	160490119017		

### 2.2.3 (C) Process for monitoring and evaluation

- The institute level project monitoring system is developed in such a way that the students meet their respective guide once in a week and they report and discuss their progress with the project guide. Project guide will assess each student in team based on leadership, communication, problem solving ability, regularity, etc., and guide them to work in right direction to achieve their objectives.
- Progress on the project is continuously monitored by the allocated guide.
- For the Design Engineering projects, AEIOU-model is frequently used as framework for monitoring, guiding and structuring observational research. This framework creates taxonomy of observations under the themes of Activities, Environments, Interactions, Objects and Users.
- For the final year projects of IDP/UDP, a very unique monitoring system is established online by Gujarat Technological University known as 'Project Monitoring & Mentoring System (PMMS)' to keep the track of project progress. portal: (<http://pmms.gtu.ac.in/>)
- This Portal insists for the well-defined objectives, aims, methodology and abstracts. Weekly reports are to be submitted by each group online on portal, monitored by internal guide.

#### PMMS Tasks for Semester 7 & 8:

Semester 7	Semester 8
1. Student registration	1. Student registration
2. Team formation	2. Team formation
3. Periodic Progress Report (PPR)	3. Periodic Progress Report (PPR)
4. Patent Search & Analysis Report (PSAR) generation activity	4. Business Model Canvas (BMC) and its report upload
5. Design Engineering – Canvas activity	5. Patent Drafting Exercise (PDE)
6. Final project report upload.	6. Final project report upload.
7. Uploading the plagiarism search report	7. Uploading of the plagiarism search report
8. Completion Certificate generation	8. Completion Certificate generation

Figure 2.2.3 (1) Students' task on PMMS Portal monitored by guide

### 2.2.3 (D) Process to assess individual and team performance Internal Evaluation

- Project progress review seminars are conducted by the department in presence of the respective guide, project coordinator and head of department.
- The performance of the individual team member of the project is assessed at the time of presentation by considering the following criterions:
  - Dress up
  - Communication skill
  - Presentation skill
  - Evaluation of individual work
  - Overall contribution for the project accomplishment
- The performance of the project team is assessed by considering the following criteria's:
  - Knowledge of the team members and their contribution towards the project
  - Coordination in project work
  - Time management
- A presentation followed by viva voce is also carried out during internal evaluation and at the end of semester in front of the external examiner appointed by GTU. Following Table 2.2.3 (4) is the Rubrics for evaluation of individual and Team for projects

Table 2.2.3 (4) Rubrics for project evaluation

Rubrics for Project based learning					Marks Distribution					
Internal Evaluation: Semester VII					2	3	5	5	5	20
S r. N o.	Projec t Group ID	Proj ect Title	PE N	Name	Dr ess Up	Title and Content Relevan ce	Presentat ion Skill	Sur vey	Problem Stateme nt clarity and Domain Analysis	Tota l Mar ks

### External Evaluation

- The external exam is scheduled by the university at the end of the semester.
- The report is evaluated by an internal and external examiner appointed by the Gujarat Technological University.
- Students have to give a presentation on the project in front of an external and internal examiner.

- The external examiners conduct viva-voce of the students. The students need to defend the project work carried out by them.
- Based on viva-voce and presentation, the marks are awarded to the students.

### 2.2.3 (E) Quality of completed projects/working prototypes

- Quality of completed projects/working prototypes are initially assessed by the project coordinator and Head of Department.
- Institute organized 'Project Fair' as per university guidelines. During this event, the senior faculties of the department along with Head of Department and Principal evaluate the quality of projects in all aspects such as scientific and technical approach adopted by students, application of project and its usefulness to the society, cost effectiveness, timely completion of project, etc. Based on their reviews, the best three projects are announced as a part of result.
- The zone level, state level and national level competitions of innovative projects are organized by various institutions of GTU. The students are encouraged by internal guides to participate in such competitions.
- Some of the quality projects are nominated for Student Start-up and Innovation Policy (SSIP) scheme of state government as mentioned in Table 2.2.3 (5) & 2.2.3 (6). These projects are funded under the SSIP scheme of Government of Gujarat to support the innovative ideas of students towards better execution of working prototype or project.

Table 2.2.3 (5) List of SSIP approved project

Sr. No.	Academic Year	Title of project	Name of Students	Guide	Grant received
1	2019-20	Design & Development of Banana Pseudostem Cutter Machine Using Hydraulic Cylinder.	Ahire Kailas Ghanshyam Gandhi Jenish Pareshbhai Patil Vishal Murlidhar Patil Rushikesh Vijay Pawar Gopal Sanjay	Prof. Mila n R. Patel	₹1,00,196/-

Table 2.2.3 (6) Details of projects applied for SSIP

Sr. No.	Academic Year	Title of project	Name of Students	Guide
1	2019-20	Design & Development of Banana Pseudostem Cutter Machine Using Hydraulic Cylinder.	Ahire Kailas Ghanshyam Gandhi Jenish Pareshbhai Patil Vishal Murlidhar Patil Rushikesh Vijay Pawar Gopal Sanjay	<b>Prof. Milan R. Patel</b>
2	2019-20	Experimental & Numerical Investigation of Commercial Aluminum Alloy on Under Water Friction Stir Welding Using Bobbin Type Tool	Bhavnagariya Brijesh V. Dave Meet T. Modi Paritosh S. Patel Bhavikkumar A. Patel Rajkumar S.	<b>Prof. Hiten J. Mistry</b>
3	2019-20	Experimental Analysis on Heat Transfer Improvement Using Nanofluid in Radiator	Panchal Harshkumar A. Khatri Yashkumar H. Chaudhari Tarkikkumar U. Rana Ronitkumar G. Shaikh Faiz Ahmed Gulamnabi	<b>Prof. Anil J. Patel</b>
4	2019-20	<b>Evaluation of Thermal Aspects of Phase Change Material for Building Application</b>	<b>Javiya Vatsal B. Agarwal Sauravkumar J. Ashok Kumar H. Dholiya Vinas V. Agarwal Abhishek Sushil</b>	<b>Prof. Harshal T. Shukla</b>

### 2.2.3 (F) Evidences of papers published/ awards received by projects

- The internal guides help the students to publish their work in national/international conference and journal or apply for SSIP, if applicable. The projects awarded by SSIP are listed in 2.2.3 (5).
- Based on scrutiny done by academic expert as per the guideline of project fair, best projects are selected among the total project participated in project fair for award decided by the institute in table. 2.2.3 (7) & 2.2.3 (8).

Table 2.2.3 (7) Best Projects in Project Fair CAYm2 (2020-21)

Sr. No	Title of project	Name of Students	Guide	Achievements
1	Four-Wheel Steering Mechanism	Asti Harsh Dipak Chaudhari Tejas N. Vishwakumari D. Gamit Mahyavanshi Mohini D. Rana Dharmesh Hiralal Rathod Yagnesh B.	Prof. Hitesh Tailor	1 <sup>st</sup> Rank in Project Fair
2	Design and Development of Automatic Plastering Machine	Pathan Nomankhan N. Patel Rupeshkumar D. Pathan Mohmad Faizan M. Trivedi Athrva Nileshbhai Chaudhari Bhaveshbhai M.	Prof. Vishal Dhimmar	2 <sup>nd</sup> Rank in Project Fair

Table 2.2.3 (8) Best Three Projects in Project Fair CAYm3 (2019–20)

Sr. No	Title of project	Name of Students	Guide	Achievements
1	Experimental Analysis on Heat Transfer Improvement Using Nanofluid in Radiator	Khatri Yashkumar Harshadbhai Chaudhari Tarkikkumar Umeshbhai Rana Ronitkumar Girishbhai Shaikh Faiz Ahmed Gulamnabi	Prof. Anil J. Patel	1 <sup>st</sup> Rank in Project Fair
2	Experimental & Numerical Investigation of Commercial Aluminum Alloy on Under Water Friction Stir Welding Using Bobbin Type Tool	Dave Meet Tusharbai Modi Paritosh Santoshbhai Patel Bhavikkumar Ashokbhai Patel Rajkumar Satishbhai	Prof. Hiten J. Mistry	2 <sup>nd</sup> Rank in Project Fair
3	Design & Development of Banana Pseudostem Cutter Machine Using Hydraulic Cylinder.	Ahire Kailas Ghanshyam Gandhi Jenish Pareshbhai Patil Vishal Murlidhar Patil Rushikesh Vijay Pawar Gopal Sanjay	Prof. Milan R. Patel	3 <sup>rd</sup> Rank in Project Fair & Applied for Patent

## 2.2.4 Initiative related to industry interaction (15)

### 2.2.4 (A) Industry Supported laboratories

Institute does not have industry supported laboratories

### 2.2.4 (B) Industry Involvement in the Program Design and Partial Delivery of Any Regular Courses for Students

- The program curriculum is designed by Board of Studies of Gujarat Technological University hence department does not involve industry experts directly in program design.
- The department has taken various initiatives as a part of industry involvement. Department is actively engaged with various industrial sectors in different area of expertise. Industry institute interaction is not only limited to core Mechanical Engineering related industry but also with the industry which helps in soft skill development, communication skill development as well as guidance for higher studies of the students. Following table 2.2.4 (2) illustrate the action taken in this regard.
- Department has signed MoU (Table 2.2.4 (1)) for the purpose of Industry Institute Interaction in mutually beneficial areas like student projects, innovation, research, expert talks, subject sharing, industrial visits, Industrial training etc.

Table 2.2.4 (1.a) MOU Details

Sr. No.	Name of Industry/ Name of Organizations	Date of MoU	Resource Person
1	Make3d.in, Surat	14-10-2021	Mr. Tejas Diyora
2	Mechman Solution, Baroda	17-03-2022	Mr. Sagar Brahmbhatt
3	Rayzon Green Engineers, Karjan	29-04-2022	Mr. Sandip Trivedi

The following students got placed by Rayzon Solar Energy.

Table 2.2.4 (1.b) List of students got placed by Rayzon Green Energy

Sr. No.	Name of the Student	Enrollment No.	Name of the Firm	Documents
1	CHAITANYA DILIPBHAI CHAUDHARI	190490119011	RAYZON GREEN ENERGY, KIM.	EMAIL FROM INDUSTRY
2	BHAUTIK JORUBHAI KHASIYA	190490119022	RAYZON GREEN	EMAIL FROM INDUSTRY

			ENERGY, KIM.	
<b>3</b>	PRANAV PRAKASHBHAI PATEL	190490119042	RAYZON GREEN ENERGY, KIM.	EMAIL FROM INDUSTRY
<b>4</b>	ABHISHEK ANOJBHAI SINGH	190490119046	RAYZON GREEN ENERGY, KIM.	EMAIL FROM INDUSTRY

Table 2.2.4 (2) Industry involvement in institute programme

<b>Sr . No.</b>	<b>Academ ic Year</b>	<b>Date</b>	<b>Title</b>	<b>Resource person</b>	<b>Relevance to POs and PSOs</b>
<b>1</b>	2019-20	09-08- 2019	Getting Ready for professional Life	Mr. Niravkumar Bhatt	<b>PO8, PO9, PO10, PO11, PO12, PSO2</b>
<b>2</b>	2019-20	04-04- 2019 to 06-04- 2019	Entrepreneurship Awareness Camp	Mr. Pancham Baraiya	<b>PO8, PO9, PO10, PO11, PO12, PSO2</b>
<b>3</b>	2020-21	05-06- 2020	Webinar under SSIP Cell	Mr. Pancham Baraiya	<b>PO5, PO6, PO8, PO9, PO10, PO11, PO12</b>
<b>4</b>	2020-21	23-03- 2021 to 27-03- 2021	Training & Recruitment Awareness Webinar Series	Mr. Hasamukh Duhad Mr. Chetan Bhimani Mr. Hemant Shah Mr. Abhay Shah	<b>PO5, PO6, PO8, PO9, PO10, PO11, PO12</b>
<b>5</b>	2021-22	09-07- 2021	Webinar Career Opportunities	Mr. Mukesh Vasava	<b>PO6, PO8, PO9, PO10, PO11, PO12</b>
<b>6</b>	2020-21	17-06- 2020	Design Thinking Methodology for Innovation in Engineering	Mr. Rohit Swarup Founder Director Mr. Karmjitsinh Bihola Sr. Manager	<b>PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO10, PO11, PO12, PSO1, PSO2</b>
<b>7</b>	2020-21	20-02- 2021	Career Opportunities in Mechanical Engineering	Mr. Chirag Baxi	<b>PO1, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 PSO1, PSO2</b>



8	2020-21	29-05-21	Startup & Innovation Awareness and opportunities	Mr. Parth Sejpal	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO10, PO11, PO12 PSO1, PSO2
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#### 2.2.4 (C) Impact Analysis of Industry-Institute Interaction and Actions Taken Thereof

- The industry - Institute Interaction is highly essential to run for longer period
- The students are prepared by inculcating the various skills required by the industry, thereby contributing to the economic and social development at large.
- Feedback is obtained from the students after the industrial visit and its impact on the performance of the student is analyzed.
- Industrial visits expose the students to workplace realities, challenges, culture, thereby ensuring that on completion of their program, the students are industry-ready.
- Students gain the basic needed skills for the development of real-world projects.
- Industrial visits of students along with the faculty members help to bridge the gap between theoretical concepts and practical implications of the same.
- It enables the student and faculty to analyze the gap in the knowledge being imparted at the university.
- The student can identify emerging job opportunities and corresponding skill sets required.
- Students gain insight into managerial approaches and the importance of teamwork.
- Students who wish to pursue higher education can choose their future area of specialization in a more focused manner.
- The student understands the aspect of safety standards adopted in the industry.

The students were benefited with the events under institute industry interaction program. The following is the details of the students who impacted by such kind of workshop/ expert lectures/ industry visits, etc.

- (1) **Entrepreneurship Awareness Camp** was organized during 2019-20. The students were highly motivated after attending this awareness camp. On the impact of this, our two students of batch 2016-17 become entrepreneurs.

Table 2.2.4 (3) List of students who become entrepreneurs

Entrepreneurship				
<b>1</b>	<b>JARDOSH SHREYAS VIRESHKUMAR</b>	<b>170493119030</b>	<b>MR &amp; MS CLASSY</b>	<b>VISITING CARD</b>
<b>2</b>	<b>VAGHELA HET ANILBHAI</b>	<b>170493119066</b>	<b>MARK CREATION, SURAT</b>	<b>BUSINESS CARD</b>

(2) **One day seminar on Career Opportunities in Mechanical Engineering** was organized in 2020-21 to aware the students about the opportunities in Mechanical Engineering after higher study. With the impact of this event, the following students of this batch opted for higher study in India and abroad.

Table 2.2.4 (4) List of students of opted for higher study in India and abroad.

<b>Name of the Student</b>	<b>Enrollment No.</b>	<b>Name of the Firm</b>	<b>Documents</b>
<b>CHAUDHARI VIJUBHAI GACHHABHAI</b>	<b>170490119013</b>	<b>SNPITRC, UMRACH</b>	<b>I-CARD</b>
<b>PATRAWALA HASAN JUZER</b>	<b>170490119059</b>	<b>UNIVERSITY OF HUDDERSFIELD</b>	<b>CONFIRMATION LETTER</b>
<b>RAJWADI ROSHANKUMAR PARESHBHAI</b>	<b>170490119062</b>	<b>SNPITRC, UMRACH</b>	<b>I-CARD</b>

(1) The MOU between the institute and Rayzon Solar Energy, Kim was done on 29/04/2022. Rayzon Solar Energy is regularly visiting our campus for the placement drive of Mechanical Engineering Students. Recently, the placement drive has been conducted by Rayzon Solar Energy for the students of final year during 2022-23 (batch-2019). The following students got placed by Rayzon Solar Energy.

Table 2.2.5 List of students got placed by Rayzon Green Energy

<b>Sr. No.</b>	<b>Name of the Student</b>	<b>Enrollment No.</b>	<b>Name of the Firm</b>	<b>Documents</b>
<b>1</b>	<b>CHAITANYA DILIPBHAI CHAUDHARI</b>	<b>190490119011</b>	<b>RAYZON GREEN ENERGY, KIM.</b>	<b>EMAIL FROM INDUSTRY</b>

2	BHAUTIK JORUBHAI KHASHIYA	190490119022	RAYZON GREEN ENERGY, KIM.	EMAIL FROM INDUSTRY
3	PRANAV PRAKASHBHAI PATEL	190490119042	RAYZON GREEN ENERGY, KIM.	EMAIL FROM INDUSTRY
4	ABHISHEK ANOJBHAI SINGH	190490119046	RAYZON GREEN ENERGY, KIM.	EMAIL FROM INDUSTRY

## 2.2.5 Initiatives related to Industry Internship / Summer Training (15)

### 2.2.5 (A) Industrial training/tours for students

Industrial visit is a part of professional engineering education, where students visit industries and observe the internal working environment and gain useful practical knowledge. In addition to industrial exposure and knowledge, this increases placement opportunities for the students and also helps them to make the correct career choice in the future. Industrial tours are arranged at regular interval for the students of various semesters. During the term, department prepares a plan to visit Industry nearby or approachable destination. The list of industrial visits organized by the department is as shown in table 2.2.5 (1).

Table 2.2.5 (1) List of industrial visits organized

<b>Mechanical Engineering Department- Industrial Visit (2019-20) CAYm3&amp; (2022-23) CAY</b>					
<b>Company Name</b>	<b>Date of Visit</b>	<b>Profile of Company</b>	<b>Sem</b>	<b>No of Students</b>	<b>Subject (Subject Code)</b>
<b>Bharkadevi Ice-Cream Factory, Bardoli</b>	24-01-2020	Making of dairy products	6 <sup>th</sup>	79	<b>Industrial Engineering (2161907) Refrigeration &amp; Air Conditioning (2161908)</b>
<b>Shree Khedut Sahakari Khand Udhog Mandli Ltd., Bardoli</b>	07-03-2020	Sugar Manufacturing	2 <sup>nd</sup>	39	<b>Basic Mechanical Engineering (3110006)</b>
<b>Shree Khedut Sahakari Khand Udhog Mandli Ltd., Bardoli</b>	07-03-2020	Sugar Manufacturing	4 <sup>th</sup>	46	<b>Manufacturing Process (3141908)</b>

<b>Surat District Co-operative Milk Producers' Union Ltd (SUMUL), Surat</b>	18-01-2020	Dairy Products Manufacturing	6 <sup>th</sup>	78	<b>Refrigeration &amp; Air Conditioning (2161908)</b>
<b>Bharkadevi Ice-Cream Factory, Bardoli</b>	12 -10-2022	Making of dairy products	7 <sup>th</sup>	73	<b>Refrigeration and Air-conditioning (3171918)</b>
<b>Jay Metal Tech sachin</b>	13-10-2022	Metal processing Unit	5 <sup>th</sup>	47	<b>Manufacturing Technology (3151912)</b>
<b>Vrindavan Industries, Sachin, Surat</b>	23-03-2023	Advance Metal Manufacturing Unit	6 <sup>th</sup>	35	<b>Computer Aided Manufacturing (3161917)</b>

- Training & Placement Cell identifies the organizations suitable for Mechanical Engineering students and approach them to allow our students for internship / summer training.
- Letters are sent by the head of the department requesting the industry concerned to grant permission mentioning the date, time, and the number of students accompanied by one or two faculty members.
- Students undertake summer / winter vacation training in industries with respect to his/her field of study.
- Students attend the industry internship training programs for their personal growth in academics and practical knowledge development.
- These industrial visits fulfill the study of content beyond syllabus as well it bridges the gap between theoretical concepts and practical implications of the same.
- After completion of the industry visit, students are informed to submit the feedback form.

#### **2.2.5 (B) Industrial/Internship/Summer Training of More than Two Weeks and Post-Training Assessment**

- The students of Mechanical Engineering are motivated to go for internship at various industries in the semester break.
- The institute supports students by sanctioning permission to visit industries and gain practical knowledge.

- After the consent of the industry, students attend the training program in the respective industry.
- The training helps them to think innovatively in solving real time problems and implement as working models. The list of students undergone industrial training or internship are given in Table 2.2.5 (2) - (4), for different academic years.

Table 2.2.5 (2) Industrial internship / Summer Training for CAYm3

<b>Mechanical Engineering Department- Internship (2019-20) CAYm3</b>						
<b>Sr. No.</b>	<b>Company Name</b>	<b>PEN</b>	<b>Student Name</b>	<b>Duration</b>	<b>No. of Days</b>	<b>Relevance to POs/PSOs</b>
<b>1</b>	Jackbro Global Pvt. Ltd, Kamrej, Surat	170493119027	Ahire Kailash Ghanshyam	01/01/2020 To 20/03/2020	45	<b>PO1, PO2, PO3, PO7, PO8, PO10, PO12, PSO1</b>
<b>2</b>	Jackbro Global Pvt. Ltd, Kamrej, Surat	170493119027	Gandhi Jenish Paresh	01/01/2020 To 20/03/2020	45	<b>PO1, PO2, PO3, PO7, PO8, PO10, PO12, PSO1</b>
<b>3</b>	Nuclear Power Corporation of India Ltd., Kakrapar, Tapi	160490119014	Chaudhari Tarkik Umeshbhai	07/12/2019 To 21/12/2019	14	<b>PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PSO1, PSO2</b>
<b>4</b>	<b>Batliboi Ltd., Surat</b>	<b>160490119040</b>	<b>Panchal Harshkumar Alkeshbhai</b>	<b>01/06/2019 To 15/06/2019</b>	<b>15</b>	<b>PO1, PO3, PO4, PO6, PO7, PO8, PO9, PO11, PSO2</b>

Table 2.2.5 (3) Industrial internship / Summer Training for CAYm1 (a)

<b>Mechanical Engineering Department- Internship (2021-22) CAYm1(Odd)</b>					
<b>Sr. No</b>	<b>Company Name</b>	<b>No of student</b>	<b>Duration</b>	<b>No. of days</b>	<b>Relevance to POs/PSOs</b>
<b>1</b>	<b>SOPAN Institute of Engineering &amp; Design (SIED, SURAT)</b>	<b>80</b>	<b>31/05/2021 To 12/06/2021</b>	<b>12</b>	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>

Table 2.2.5 (3) Industrial internship / Summer Training for CAYm1 (b)

<b>Mechanical Engineering Department- Internship (2021-22) CAYm1(Odd)</b>						
<b>Sr. No.</b>	<b>Company Name</b>	<b>PEN</b>	<b>Student Name</b>	<b>Duration</b>	<b>No. of Days</b>	<b>Relevance to POs/PSOs</b>
<b>1</b>	Spark Innovations, Vadodara	150490119025	Gamit Ankurbhai Chandubhai	23/05/2021 To 07/06/2021	15	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>2</b>	Sumul Cattle Feed Plant, Bajipura, Surat	190493119034	Viral.R.Chaudhary	01/06/2021 To 15/06/2021	15	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>3</b>	Sumul Cattle Feed Plant, Bajipura, Surat	190493119012	Parinkumar.R.Patel	01/06/2021 To 15/06/2021	15	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>4</b>	Shubham Packaging, Nani Daman	180490119037	Ravi Bharatbhai Prajapati	23/05/2021 To 13/06/2021	21	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>5</b>	T. M. Patel Processing Pvt.Ltd., Palsana, Surat	180490119043	Sharma Sonu	31/05/2021 To 16/06/2021	16	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>6</b>	Hyden Engineering Company, NPCIL, Kakrapar, Tapi	180490119011	Chaudhari Ujjaval Jitubhai	27/05/2021 To 16/06/2021	20	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>7</b>	Hyden Engineering Company,NPCIL, Kakrapar,Tapi	180490119018	Gamit Ronald Harilal	27/05/2021 To 16/06/2021	20	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>

8	Hyden Engineering Company,NPCIL, Kakrapar,Tapi	180490119017	Gamit Mehulbhai Mohanbhai	27/05/2021 To 16/06/2021	20	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
9	Shree Mahavir Roll-Tech Ltd.,Popda,Surat	190493119013	Parmar Milan.B.	27/05/2021 To 10/06/2021	14	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
10	Chalthan Sugar Mill Ltd.,Chalthan	190493119044	Mistry Henil.A.	31/05/2021 To 16/06/2021	16	<b>PO1, PO2, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
11	A.H.Techno Cast Pvt.Ltd.,Pipodra,Surat	190493119019	Timbadiya Karankumar Prafulbhai	25/05/2021 To 10/06/2021	16	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
12	A.H. Techno Cast Pvt.Ltd., Pipodra, Surat	190493119018	Tailor Darshan Rajeshbhai	25/05/2021 To 10/06/2021	16	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
13	Hyden Engineering Company, NPCIL, Kakrapar, Tapi	150490119026	Gamit Ankurbhai Rohitbhai	27/05/2021 To 16/06/2021	20	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
14	Plastic Injection Moulding Process	170490119003	Chaudhari Ashishkumar Ashokbhai	21/05/2021 To 14/06/2021	24	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
15	Bhagat Textile Engineers, Hojiwala Industrial Estate	180490119036	Ashish Kanubhai Prajapati	31/05/2021 To 16/06/2021	16	<b>PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
16	Garden Silk Mills Ltd., Jolwa,Surat	170490119078	Singh Rajnishkumar	28/05/2021 To 27/06/2021	30	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>



17	Plastic Injection Moulding Process	190493119030	Chaudhari Rahulbhai Jayantibhai	31/05/2021 To 14/06/2021	14	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
18	Veeline Media Limited, Tarsadi, Surat	190493119052	Patel Sanni.B.	31/05/2021 To 14/06/2021	14	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
19	Shree Mahavir Roll-Tech Ltd., Popda, Surat	190493119051	Patel Rohan Bipinbhai	27/05/2021 To 10/06/2021	14	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
20	Veeline Media Limited, Tarsadi, Surat	190493119031	Chaudhari Ronakkumar Rasikbhai	31/05/2021 To 14/06/2021	14	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
21	Veeline Media Limited, Tarsadi, Surat	190493119025	Chaudhari Dhavalkumar Surendrabhai	31/05/2021 To 14/06/2021	14	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
22	A.H.Techno Cast Pvt.Ltd., Pipodra, Surat	190493119008	Kania Hardik Manishbhai	25/05/2021 To 10/06/2021	16	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
23	Chalthan Sugar Mill Ltd., Chalthan	190493119054	Patil Bhavesh Jayeshbhai	31/05/2021 To 16/06/2021	16	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
24	Molding Process	190493119033	Chaudhari Swetangbhai Ashvinbhai	31/05/2021 To 14/06/2021	14	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
25	Shree Mahavir Roll-Tech Ltd., Popda, Surat	190493119010	Naik Punit Pradipbhai	27/05/2021 To 10/06/2021	14	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
26	Shree Mahavir Roll-Tech Ltd., Popda, Surat	190493119014	Tejassinh.P.Parmar	27/05/2021 To 10/06/2021	14	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2

27	Hyden Engineering Company,NPCIL, Kakrapar,Tapi	180490119014	Gamit Alkaben Alubhai	27/05/2021 To 16/06/2021	20	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
28	Hyden Engineering Company,NPCIL, Kakrapar,Tapi	180490119025	Darshan Rameshbhai Parmar	27/05/2021 To 16/06/2021	20	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
29	Bhagat Textile Engineers,Hojiwala Industrial Estate	180490119020	Godavale Hardikkumar Manojbhai	31/05/2021 To 16/06/2021	16	<b>PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
30	A.H.Techno Cast Pvt.Ltd.,Pipodra,Surat	190493119061	Viraj Harshukhbhai Tank	25/05/2021 To 10/06/2021	16	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
31	Emco Engineering Pvt.Ltd.,Mumbai	170490119033	Darshan Hosbet	28/05/2021 To 16/06/2021	19	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
32	Plastic Injection Molding Process	190493119022	Vasava Snehalbhai Shukkarbhai	31/05/2021 To 14/06/2021	14	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
33	Veeline Media Limited,Tarsadi,Surat	150490119073	Patel Nirmalkumar Harshadbhai	24/05/2021 To 07/06/2021	14	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
34	Acey Engineering Pvt.Ltd.	180490119040	Saiyad Sufiyan.M.	31/05/2021 To 16/06/2021	16	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
35	<b>Shree Mahavir Roll-Tech Ltd.,Popda,Surat</b>	<b>190493119043</b>	<b>Merai Harsh Deepak</b>	<b>27/05/2021 To 10/06/2021</b>	<b>14</b>	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>

Table 2.2.5 (3) Industrial internship / Summer Training for CAYm1(c)

Mechanical Engineering Department- Internship (2021-22) CAYm1(Even)						
Sr. No.	Company Name	PEN	Student Name	Duration	No. of Days	Relevance to POs/PSOs
1	Coper Co-Op. Sugar Ltd., Dadariya	130490119014	Chaudhari Pratikbhai Rajendrabhai	15/01/2022 TO 09/04/2022	84	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
2	Green Design & Engineering Services Pvt. Ltd , Althan, Surat	140490119087	Patel Parth Rameshchandra	17/01/2022 TO 09/04/2022	82	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
3	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	150490119025	Gamit Ankurbhai Chandubhai	10/01/2022 TO 09/04/2022	89	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
4	Coper Co-Op. Sugar Ltd., Dadariya,	150490119026	Gamit Ankurkumar Rohitbhai	15/01/2022 TO 09/04/2022	84	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
5	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	150490119073	Patel Nirmalkumar Harshadbhai	10/01/2022 TO 09/04/2022	89	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2

<b>6</b>	Essar Bulk Terminal Limited , Surat-Hazira Road,Hazira-	160490119029	Khalasi Riddhikkumar Rajnikantbhai	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>7</b>	Iocl Naphtha Cracker Plant, Panipat	160490119059	Samuel Joshua Saji	15/01/2022 TO 09/04/2022	84	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>8</b>	Vertaxis Tuturetech Pvt.Ltd ,Pune	160494119005	Sandipkumar Maheshbhai Bhoi	17/01/2022 TO 17/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>9</b>	Coper Co-Op. Sugar Ltd, Dadariya	170490119003	Chaudhari Aashishkumar Ashokbhai	15/01/2022 TO 09/04/2022	84	<b>PO1, PO2, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>10</b>	Emco Engineering Pvt. Ltd,Nallasopara	170490119033	Darshan Chetan Hosbet	12/01/2022 TO 12/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>11</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	180490119003	Baheliya Ajaykumar Radheshyam	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>

<b>12</b>	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	180490119004	Bhoya Mehulkumar Sanjaybhai	10/01/2022 TO 10/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>13</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	180490119007	Chaudhari Hiren Govindbhai	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>14</b>	Expert Engineering Works, Udhna,Surat	180490119010	Chaudhari Twinkalben Babubhai	11/01/2022 TO 09/04/2022	88	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>15</b>	Expert Engineering Works, Udhna,Surat	180490119011	Chaudhari Ujjaval Jitubhai	11/01/2022 TO 09/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>16</b>	Npcil, Kakrapar	180490119014	Gamit Alkaben Alubhai	17/01/2022 TO 09/04/2022	82	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>17</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	180490119015	Gamit Arjunbhai Posalyabhai	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>

<b>18</b>	Npcil, Kakrapar	180490119017	Gamit Mehulbhai Mohanbhai	17/01/2022 TO 09/04/2022	82	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>19</b>	Npcil, Kakrapar	180490119018	Gamit Ronald Harilal	17/01/2022 TO 09/04/2022	82	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>20</b>	Coper Co.Op Sugar Ltd.,Dadariya	180490119019	Gamit Swapnilbhai Sunilbhai	15/01/2022 TO 09/04/2022	84	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>21</b>	Aalidhra Texcraft Engineers, Hoziwala Estate Sachin.	180490119021	Gupta Pravin Surendra	16/01/2022 TO 15/04/2022	89	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>22</b>	Shiv Fabricators, Ichhapore	180490119025	Darshan Rameshbhai Parmar	11/01/2022 TO 16/04/2022	95	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>23</b>	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	180490119026	Patel Atishkumar Laxmabhai	10/01/2022 TO 10/04/2022	90	<b>PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

24	Heatex Industries Ltd Palsana, Surat,	180490119031	Patel Parthkumar Ranjitbhai	01/01/2022 TO 01/04/2022	90	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
25	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	180490119032	Patel Rahulbhai Pravinbhai	10/01/2022 TO 10/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
26	Make3d.In Tulsi Industrial, Katargam, Surat	180490119035	Pawar Aniket Kantilal	10/01/2022 TO 10/04/2022	90	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
27	Jmt India Inc, Gidc, Sachin, Surat	180490119038	Rajan Kumar	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
28	Sopan Infotech Pvt Ltd, Adajan, Surat	180490119040	Saiyad Sufiyan Mohammadibrahim	17/01/2022 TO 11/04/2022	84	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
29	Jmt India Inc, Gidc, Sachin, Surat	180490119041	Sajan Kumar	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>30</b>	Tata Motors, Gokul Automobile, Songadh	180490119042	Salve Mayur Randhirbhai	18/01/2022 TO 18/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>31</b>	Jc Metal Fab Hoziwala Industrial Estate, Sachin, Surat	180490119046	Thummar Fenil Ishwarbhai	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>32</b>	Energymax Boilers Llp, Ankleshwar	190493119001	Ahir Aniket Valjibhai	31/01/2022 TO 30/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>33</b>	Angel Laser Instruments, Delhi Gate, Surat	190493119002	Ansari Imran Kayamuddin	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>34</b>	Cipet Ahmedabad Vatva Gidc Phase 4	190493119005	Gamit Ashishkumar Govindbhai	18/01/2022 TO 16/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>35</b>	Sumul Cattle Feed Factory Bajipura	190493119006	Gamit Niranjambhai Rajendrabhai	24/01/2022 TO 30/04/2022	96	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>



36	Shree Ambika Auto Sales&Service	190493119007	Gamit Tejaskumar Ravjibhai	21/01/2022 TO 30/04/2022	99	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
37	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	190493119012	Parinkumar Rajendrabhai Patel	12/01/2022 TO 09/04/2022	87	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
38	Shree Mahuva Pradesh Sahakari Khand Udyog,Mahuva	190493119013	Parmar Milankumar Bhikhubhai	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
39	Madhi Sugar Factory Madhi	190493119014	Tejassinh Prakashsinh Parmar	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
40	Renon India Pvt Ltd	190493119015	Shubham Kumar Mishra	17/01/2022 TO 10/04/2022	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
41	Bardoli Sugar Factory, Bardoli	190493119016	Shukla Yogendrakumar Hemantkumar	24/01/2022 TO 24/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

42	Cipet Ahmadabad	190493119020	Vasava Bhaveshkumar Jagdishbhai	18/02/2022 TO 16/04/2022	57	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
43	Cipet Ahmadabad	190493119022	Vasava Snehalbhai Shukkarbhai	18/01/2022 TO 16/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
44	Energymax Boilers Llp, Ankleshwar	190493119024	Bhimda Martinbhai Jayantibhai	31/01/2022 TO 30/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
45	Roshan Engineering Pvt. Ltd. Antaliya	190493119025	Chaudhari Dhavalkumar Surendrabhai	01/02/2022 TO 30/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
46	Central Institute Of Petrochemicals Engineering And Technology, Phase-Iv, Gidc, Vatva,	190493119026	Chaudhari Jigneshbhai Hitendrabhai	18/01/2022 TO 16/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
47	Cipet Ahmedabad Vatva Gidc Phase 4	190493119027	Chaudhari Mitulkumar Dansingbhai	18/01/2022 TO 16/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>48</b>	Cipet Ahmadabad Vatva Gidc Phase 4	190493119030	Chaudhari Rahulbhai Jayantibhai	18/01/2022 TO 16/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>49</b>	Roshan Engineering Pvt. Ltd. Antaliya	190493119031	Chaudhari Ronakkumar Rasikbhai	01/02/2022 TO 30/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>50</b>	Roshan Engineering Pvt. Ltd. Antaliya	190493119033	Chaudhari Swetangbhai Ashvinbhai	01/02/2022 TO 30/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>51</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	190493119034	Viral Rajeshkumar Chaudhari	12/01/2022 TO 12/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>52</b>	Roshan Engineering Pvt. Ltd. Antaliya	190493119035	Chaudhary Mayur Gautambhai	01/02/2022 TO 30/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>53</b>	Sumul Cattle Feed Factory, Bajipura	190493119037	Gamit Ankitkumar Anilbhai	24/01/2022 TO 30/04/2022	96	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

54	Engg.Sdf.Bajipura	190493119038	Gamit Arpitbhai Navinbhai	24/01/2022 TO 30/04/2022	96	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
55	Jk Paper Ltd, Ukai	190493119039	Gamit Prafulkumar Ishwarbhai	01/02/2022 TO 30/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
56	Sumul Cattle Feed Factory Bajipura	190493119040	Gamit Pratikkumar Pravinbhai	24/01/2022 TO 30/04/2022	96	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
57	Sumul Cattle Feed Factory Bajipura	190493119041	Gamit Shaileshbhai Ukajibhai	24/01/2022 TO 30/04/2022	96	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
58	Cipet (Ahemdabad ) ,Vatva Gidc	190493119042	Gamit Viralkumar Natubhai	18/01/2022 TO 16/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
59	Shree Mahuva Pradesh Sahakari Khand Udyog , Mahuva	190493119043	Merai Harsh Dipak	10/01/2022 TO 09/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>60</b>	L & T Hydrocarbon Engineering Ltd., Hajira Manufacturing Complex, Surat	190493119044	Henil Arunbhai Mistry	15/02/2022 TO 15/05/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>61</b>	Energymax Boilers Llp, Ankleshwar	190493119045	Parikh Smitkumar Chetankumar	31/01/2022 TO 30/04/2022	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>62</b>	Reliance Industries Ltd, Silvassa	190493119046	Parmar Dharmarajsinh Natvarsinh	28/01/2022 TO 30/04/2022	92	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>63</b>	Tata Ambika Auto , Near Toll Plaza, Amboli	190493119048	Parmar Smeetkumar Kamleshbhai	10/01/2022 TO 04/04/2022	84	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>64</b>	Railway Loco Shed Valsad	190493119049	Patel Dishantkumar Mukeshbhai	15/01/2022 TO 17/03/2022	61	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>65</b>	Electric Loco Shed, Valsad	190493119052	Patel Sannikumar Balvantbhai	15/01/2022 TO 17/03/2022	61	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>66</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	190493119054	Patil Bhaveshkumar Jayeshbhai	12/01/2022 TO 12/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>67</b>	Coenz Engineering And Consultancy Pvt. Ltd, Vadodara	190493119056	Rai Amitkumar Santoshkumar	11/01/2022 TO 09/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>68</b>	Sopan Infotech Pvt Ltd, Green Plaza Lp Savani Cir,Adajan,Surat,Gujrat	190493119057	Rathod Parth Mahendrabhai	17/01/2022 TO 11/04/2022	84	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>69</b>	Coenz Engineering And Consultancy Pvt. Ltd.,Vadodara	190493119059	Siddiquie Maavia Moinuddin	11/01/2022 TO 09/04/2022	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>70</b>	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	190493119060	Singade Anilbhai Gangarambhai	15/01/2022 TO 09/04/2022	84	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>71</b>	(Cipet) Ahmedabad	190493119062	Vasava Pradipkumar Ratilal	16/01/2022 TO 16/04/2022	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

Table 2.2.5 (4) Industrial internship / Summer Training for CAY

Mechanical Engineering Department- Internship (2022-23) CAY						
Sr. No.	Company Name	PEN	Student Name	Duration	No. of Days	Relevance to POs/PSOs
1	Sai Texofab Kadodara	180490119009	CHAUDHARI PRAGNESHKUMAR AMARSINH	13/02/2023 TO 07/05/2023	83	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
2	Sai Texofab Kadodara	180490119030	PATEL MIHIR HARSHADKUMAR	13/02/2023 TO 07/05/2023	83	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
3	Veeline Meia LTD Mahuva	190490119001	AHIR HARSH AMRUTBHAI	01/02/2023 TO 02/05/2023	90	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
4	Brass Copper & Alloy LTD Valsad	190490119002	AHIR JAYKUMAR VIJAYBHAI	01/02/2023 TO 30/04/2023	88	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
5	Veeline Meia LTD Mahuva	190490119003	BHAKTA MAITRI JIGNESHBHAI	01/02/2023 TO 02/05/2023	90	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
6	surat -tapi Distric Cooprative Milk Producers Union LTD Surat	190490119007	CHAUDHARI DHRUV DHANSUKHBHAI	27/01/2023 TO 27/04/2023	90	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2

7	NPCIL Kakrapar	190490119008	CHAUDHARI KULDIPBHAI MOHANBHAI	10/02/2023 TO 09/05/2023	88	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
8	Indo German Tool Room,Ahmedabad	190490119010	CHAUDHARI UJAS DINESHBHAI	23/01/2023 TO 17/04/2023	84	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
9	Veeline Meia LTD Mahuva	190490119011	CHAUDHARY CHAITANYAKUMAR DILIPBHAI	01/02/2023 TO 02/05/2023	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
10	Nova Technocast Pvt LTD Rajkot	190490119012	CHOTAI JALPABEN JAYESHBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
11	Gsecl Ukai	190490119016	GAMIT JAIMINBHAI SUNILBHAI	06/02/2023 TO 29/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
12	Kataritya Automobile Pvt LTD Kadodara	190490119017	GAMIT JENISHKUMAR SUNILBHAI	01/02/2023 TO 26/04/2023	84	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>



<b>13</b>	Indo German Tool Room,Ahmedabad	190490119019	GAMIT SAHILKUMAR YOGESHBHAI	23/01/2023 TO 17/04/2023	84	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>14</b>	Kataritya Automobile Pvt LTD Kadodara	190490119021	JADHAV GYANESHWAR PRABHAKAR	01/02/2023 TO 26/04/2023	84	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>15</b>	Veeline Meia LTD Mahuva	190490119022	KHASIYA BHAUTIK JORUBHAI	01/02/2023 TO 02/05/2023	90	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>16</b>	Atul LTD Atul	190490119023	LAD YASH PANKAJBHAI	08/02/2023 TO 08/05/2023	89	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>17</b>	Narola Machines Sachin	190490119024	MAHAJAN SUMIT BAPU	23/01/2023 TO 17/04/2023	84	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>18</b>	Nisha Engineering Works surat	190490119025	MAVANI DENIS ASHOKBHAI	06/02/2023 TO 30/04/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>

<b>19</b>	Railway Surat	190490119026	MISAL SAGAR SAMPATBHAI	01/02/2023 TO 25/04/2023	83	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>20</b>	Veeline Meia LTD Mahuva	190490119027	MISTRY PRATHAM DINESHBHAI	01/02/2023 TO 02/05/2023	90	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>21</b>	Veeline Meia LTD Mahuva	190490119029	NIKWADE MANOJBHAI DAYARAMBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>22</b>	DS Engineers, Surat	190490119030	PARMAR MAHESH GANESH BHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>23</b>	Aareha Elastin fibk Pvt Ltd	190490119032	PATEL DHARMIN VINAYKUMAR	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>24</b>	CPET, Navsari	190490119033	PATEL GAURANG RAJESHBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>

25	Brass Copper & Alloy LTD Valsad	190490119034	PATEL HARDIKBHAI DIPAKBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
26	Delta Mechanical & Electrical Industry Bilomora	190490119035	PATEL HARSHADBHAI PRAMODBHAI	25/01/2023 TO 25/04/2023	90	<b>PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
27	Veeline Meia LTD Mahuva	190490119037	PATEL JEEL SUKETUBHAI	01/02/2023 TO 02/05/2023	90	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
28	Alok Industries Ltd, Vapi	190490119039	PATEL KEYUR HARISHBHAI	07/02/2023 TO 05/05/2023	87	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
29	Sopan Infotech PVT LTD Surat	190490119040	PATEL KRUNAL GOKULBHAI	01/02/2023 TO 24/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
30	SUMUL, Surat	190490119042	PATEL PRANAVKUMAR PRAKASHBHAI	01/02/2023 TO 29/04/2023	87	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
31	Sopan Infotech PVT LTD Surat	190490119043	PATEL RUSHILKUMAR KIRANBHAI	01/02/2023 TO 22/04/2023	80	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>

32	Sopan Infotech PVT LTD Surat	190490119044	PATEL SHIVKUMAR DILIPBHAI	01/02/2023 TO 24/04/2023	82	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
33	Surat -tapi Distric Coopratve Milk Producers Union LTD Surat	190490119045	PAVAGADHI DISHANTKUMAR SANATANBHAI	27/01/2023 TO 27/04/2023	90	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
34	Surat -tapi Distric Coopratve Milk Producers Union LTD Surat	190490119046	SINGH ABHISHEKKUMAR ANOJKUMAR	01/02/2023 TO 29/04/2023	87	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
35	Railway Surat	190490119047	SINGH AKSHAT JANMEJAY	01/02/2023 TO 25/04/2023	83	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
36	Lifescience Chemicals, Panoli	190490119049	SINGH ROSHAN SANJAY SINGH	01/02/2023 TO 26/04/2023	84	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
37	Railway Surat	190490119050	SOLANKI NILESHKUMAR BANSILAL	01/02/2023 TO 25/04/2023	83	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
38	Sopan Infotech PVT LTD Surat	190490119051	SOLANKI UJJVAL NILESHBHAI	01/02/2023 TO 24/04/2023	82	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2

<b>39</b>	Sopan Infotech PVT LTD Surat	190490119052	TAILOR JAYKUMAR MOHANBHAI	01/02/2023 TO 24/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>40</b>	Gujtax Engineering Company Vanz	190490119053	TANDEL DHRUVKUMAR BHAGVANDAS	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>41</b>	Delta Mechanical & Electrical Industry Bilomora	190490119054	TANDEL KEVALKUMAR MINISHBHAI	01/02/2023 TO 01/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>42</b>	NHB Ball & Roller LTD Amalsad	190490119055	TANDEL PRIYANK YOGESHBHAI	31/01/2023 TO 24/04/2023	83	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>43</b>	Delta Mechanical & Electrical Industry Bilomora	190490119056	TANDEL PURVESH HASMUKH	02/02/2023 TO 02/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>44</b>	NHB Ball & Roller LTD Amalsad	190490119057	TANDEL SHIVAM HIMMATBHAI	31/01/2023 TO 24/04/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>45</b>	Delta Mechanical & Electrical Industry Bilomora	190490119058	THORAT HIRENDRABHAI HARICHANDBHAI	25/01/2023 TO 25/04/2023	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>46</b>	Veeline Meia LTD Mahuva	190490119059	VALVI SHEKHARBHAI KANTILAL	01/02/2023 TO 02/05/2023	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>47</b>	Vijay Dairy Product Surat	190493119032	CHAUDHARI SAVANKUMAR RAVINDRABHAI	06/02/2023 TO 06/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>48</b>	Amba Enterprise PVT LTD Palsana	200490119501	DOSHI MEET MAYUR	10/02/2023 TO 10/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>49</b>	Khodiyar E Solution LLP Ahmedabad	200490119502	GOHIL DHANANJAY BHARATBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>50</b>	Gayatri Shakti Paper And Board Mill LTD Sarigam	200490119503	PAWAR JAY SUBHASH	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>51</b>	Shree Valsad Sahakari Khand Udhog Mandali LTD Pardi	200490119504	GANVIT JIGARBHAI NAGINBHAI	11/02/2023 TO 05/05/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>52</b>	Madelin enterprises Pvt LTD Daman	200490119505	DHODI BHAVARTH RAMUBHAI	01/02/2023 TO 27/04/2023	85	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>53</b>	Sopan Infotech PVT LTD Surat	200490119506	MAKWANA MEET VIJAYBHAI	01/02/2023 TO 24/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>54</b>	HLE Glasscoat LTD Maroli	200490119508	BHATTI RIZWANBHAI ANVARBHAI	30/01/2023 TO 21/04/2023	81	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>55</b>	Shree Modi Materials Handling Co Surat	200490119510	NIYOLIYA DHAVALKUMAR SANJAYSINH	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>56</b>	J k Paper LTD Songandh	200490119511	Suraj Prasad	02/02/2023 TO 28/04/2023	85	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

57	surat -tapi Distric Cooprative Milk Producers Union LTD Surat	200490119513	CHAUDHARI SAVANKUMAR KANTILAL	30/01/2023 TO 24/04/2023	84	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
58	surat -tapi Distric Cooprative Milk Producers Union LTD Surat	200490119514	CHAUDHARI SHUBHAMKUMAR PANKAJBHAI	30/01/2023 TO 22/04/2023	82	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
59	D K Engineering Works Vapi	200490119515	MISTRY YASHKUMAR MANOJBHAI	06/02/2023 TO 06/05/2023	89	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
60	Indo German Tool Room,Ahmedabad	200490119517	GAMIT AMITKUMAR MOHANBHAI	23/01/2023 TO 17/04/2023	84	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
61	Haron Research Centre, Surat	200490119518	VYAS PARTH JITENDRA	23/01/2023 TO 23/04/2023	90	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
62	Elicon Engineering Co. Ltd, V V Nagar	200490119519	MISTRY DARSHAN BHARATBHAI	23/01/2023 TO 23/04/2023	90	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
63	Shree Modi Materials Handling Co Surat	200490119522	MAURYA PRAJEET MEHILAL	01/02/2023 TO 30/04/2023	88	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1,



						<b>PSO2</b>
<b>64</b>	Nutraceutical International Surat	200490119524	CHAUDHARI HIRALBEN ARJUNBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>65</b>	VE ommerical Vehicles, Surat	200490119525	CHAUDHARI KAUSHIKKUMAR RAJESHBHAI	23/01/2023 TO 29/04/2023	96	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>66</b>	Gokul Automobiles, Songadh	200490119528	GAMIT PRAKASHBHAI JAGADISHBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>67</b>	Shree Valsad Sahakari Khand Udhog Mandali LTD Pardi	200490119529	MAHAKAL BHAVINKUMAR NARESHBHAI	11/02/2023 TO 05/05/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>68</b>	Realcade Lifescience Pvt Ltd, Valod	200490119530	CHAUDHARI NISHITHKUMAR PRADIPSINH	13/02/2023 TO 22/05/2023	98	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>69</b>	surat -tapi Distric Cooprative Milk Producers Union LTD Surat	200490119531	CHAUDHARI SNEHALBHAI SUNILBHAI	30/01/2023 TO 22/04/2023	82	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>

70	Gajera Enterprise, Ankaleshwar	200490119534	PANDEY ASHISHKUMAR JITENDRAKUMAR	08/02/2023 TO 08/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
71	Vikshara Alkline water, Surat	200490119535	MAHIDA PARTH KIRANSINH	02/02/2023 TO 02/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
72	Thermax Ltd, Dahej	200490119536	MANJUNATHA PRABU M	01/02/2023 TO 28/04/2023	86	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
73	Amba Enterprise PVT LTD Palsana	200490119537	SURYAVANSHI AVINASH RAJUBHAI	10/02/2023 TO 10/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
74	Techno Gear Works PVT LTD Valsad	200490119538	PATEL HIRENKUMAR JAYANTIBHAI	01/02/2023 TO 25/04/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
75	Vikshara Alkline water, Surat	200490119540	MISTRI KARANKUMAR MANISHBHAI	02/02/2023 TO 02/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

76	HIL Limited Golan	200490119544	CHAUDHARY CHINTANKUMAR RAJENDRABHAI	23/01/2023 TO 25/04/2023	92	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
77	Sopan Infotech PVT LTD Surat	200490119545	PANDYA ROHANKUMAR MAHESHBHAI	01/02/2023 TO 24/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
78	Ganesh Polichem Ltd, Vapi	200490119546	PATEL HIRENBHAI RASIKBHAI	01/02/2023 TO 22/04/2023	80	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
79	Veeline Meia LTD Mahuva	200490119547	MAISURIYA PARTHKUMAR DINESHBHAI	01/02/2023 TO 02/05/2023	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
80	Indo German Tool Room,Ahmedabad	200490119552	GAMIT KEVALBHAI BABJIBHAI	23/01/2023 TO 17/04/2023	84	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
81	Nutracare International Surat	200490119553	GAMIT PRUTHVIJEET MANGESHBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

82	Maruti Architectural Product PVT LTD Ena	200490119554	MAJITHIYA MIT PRATAPBHAI	24/01/2023 TO 17/04/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
83	New Palsana Industrial Co-Operative Society Limited palsana	200490119556	CHAUDHARI MIHIRKUMAR JAGDISHBHAI	22/02/2023 TO 16/05/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
84	New Palsana Industrial Co-Operative Society Limited palsana	200490119557	CHAUDHARI HIRENBHAI JITUBHAI	22/02/2023 TO 16/05/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
85	Techno Gear Works PVT LTD Valsad	200490119558	PATEL BHAVINBHAI RAJESHBHAI	01/02/2023 TO 23/04/2023	81	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
86	HIL Limited Golan	200490119559	GAMIT MEHULBHAI CHIMANBHAI	23/01/2023 TO 25/04/2023	92	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
87	Indo German Tool Room,Ahmedabad	200490119560	MARATHE HEMANT DINESHBHAI	30/01/2023 TO 22/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>88</b>	Sopan Infotech PVT LTD Surat	200490119561	CHEVLI YASH KAMLESHKUMAR	01/02/2023 TO 24/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>89</b>	PGP Glass PVT LTD Kosamba	200490119562	VASAVA NIKUNJKUMAR JAGDISHBHAI	08/02/2023 TO 10/05/2023	91	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>90</b>	Sargam Projects PVT LTD Hazira	200490119563	SHAH SAMAY KAILASHBHAI	28/01/2023 TO 28/04/2023	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>91</b>	Amba Enterprise PVT LTD Palsana	200490119566	AGRAWAL JAYESHKUMAR SAILESHBHAI	10/02/2023 TO 10/05/2023	89	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>92</b>	Tech sun Bio LTD Surat	200490119567	PAVAGHADHEE NISARG RAJESHBHAI	01/02/2023 TO 25/04/2023	83	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>93</b>	Gokul Automobiles, Songadh	200490119568	GAMIT JYOTIXBHAI JAYESHBHAI	01/02/2023 TO 30/04/2023	88	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

94	Alidhara Texpo Engineers Pvt Ltd, Surat	200490119570	BADGUJAR VAIBHAV PRAVINBHAI	0/02/2023 TO 25/04/2023	83	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
95	Pragati Vehicles, Bardoli	200490119571	RATHOD DARSHANBHAI RAMESHBHAI	17/02/2023 TO 28/04/2023	70	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
96	Techno Gear Works PVT LTD Valsad	200490119572	PATEL KEYURBHAI DILIPBHAI	01/02/2023 TO 23/04/2023	81	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
97	Gokul Automobiles, Songadh	200490119573	GAMIT ANKITKUMAR BAKULBHAI	01/02/2023 TO 30/04/2023	88	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
98	Circlips Technologie Pvt Ltd, Umbergaon	200490119575	MACHHI HARSHKUMAR ASHWINBHAI	11/02/2023 TO 06/05/2023	84	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
99	MS Enterprise, Surat	200490119577	DESAI NIRAV BABUBHAI	01/02/2023 TO 01/05/2023	89	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2

<b>100</b>	Gsecl Ukai	200490119578	MOHANAT VATSALBHAI UMESHKUMAR	06/02/2023 TO 29/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>101</b>	Sarda Industry, Vadodara	200490119580	SHARMA ASHISH RAMRATAN	03/02/2023 TO 29/04/2023	85	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>102</b>	Pahal Solar Ltd, Surat	200490119581	PATEL YUVRAJ KISHORBHAI	29/01/2023 TO 24/04/2023	85	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>103</b>	Inox Air Products Pvt Ltd, Surat	200490119586	PATIL VIPULKUMAR NARAYAN	26/01/2023 TO 26/04/2023	90	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>104</b>	surat -tapi Distric Cooprative Milk Producers Union LTD Surat	200490119590	CHAUDHARI VIPULBHAI NASHVANBHAI	30/01/2023 TO 22/04/2023	82	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>105</b>	<b>MS Enterprise, Surat</b>	<b>200490119591</b>	<b>KHUNT PARTH DHIRAJLAL</b>	<b>01/02/2023 TO 01/05/2023</b>	<b>89</b>	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

### 2.2.5 (C) Impact Analysis of Industrial Training

- In the last three years total 150+ students have undergone the industrial training / internship from various industries.
- Students' feedback is taken after their industrial training / internship and the impact of the training / internship on their performance and knowledge enhancement is analyzed.
- Awareness on recent tools used in industry help them to learn and grab opportunities in various companies.
- Students get trained themselves on the state of art equipment and standards used by the industry.
- Industry expert interaction helps them to understand the need of applying contextual knowledge to assess societal, health and safety issues.
- The visit to industry helps the student to improve the practical knowledge of the processes and systems.
- The technical, communication and interpersonal skills are also developed.
- Students are inspired to do hard work and develop the confidence.
- Good performance of students during training / internship motivates companies to recruit them in near future.

As per the syllabus prescribed by the affiliating university, the students has to undergo the industry internship of 2 weeks and 12 weeks in semester-7 and semester-8 respectively. Students opt for different domains for the internship such as manufacturing, design, energy, etc. They become compatible for the industry by developing some attributes like improved engineering knowledge, ethics, communication skill, team work, etc. The impact of this industry internship is observed that our students become the industry ready engineers after the completion of internship. Students got placed in the industry of the similar domain or in the same industry where they undergone for the internship. The details of such students are listed below.

Table 2.2.5 (4a) Impact of Internship

Sr. No.	Name of the student	Internship		Placement	
		Industry Name	Domain	Industry Name	Domain
1	MAJITHIYA MEET PRATAPBHAI	TECHNORAILL- MARUTI ARCHITECTURAL	DESIGN	TECHNORAILL- MARUTI ARCHITECTURAL	DESIGN



		PRODUCTS PVT LTD, ENA, PALSANA		PRODUCTS PVT LTD, ENA, PALSANA	
<b>2</b>	MISTRY YASHKUMAR MANOJBHAI	D.K. ENGINEERING WORKS	QUALITY	D.K. ENGINEERING WORKS	QUALITY
<b>3</b>	VYAS PARTH JITENDRA	Haron Research Centre	DESIGN	JAK MACHINERY, SURAT	DESIGN

- After completing a minimum of 12 weeks of internship during their eighth semester, students acquire knowledge about the practical applications of mechanical engineering.
- The student works on a specific task or project that has been assigned to him or her by a mentor from the industry in collaboration with a mentor from the institute.
- The department compiles the results of the industrial training in terms of the program outcomes (POs) attained in the form of a internship outcome performa, which provides a brief summary of the attained POs.

Table 2.2.5 (5.a) Industrial internship / Summer Training outcomes for CAYm3

Mechanical Engineering Department- Internship (2019-20) CAYm3				
Sr. No.	Company Name	PEN	Student Name	Relevance to POs/PSOs
1	Jackbro Global Pvt. Ltd, Kamrej, Surat	170493119027	Ahire Kailash Ghanshyam	PO1, PO2, PO3, PO7, PO8, PO10, PO12, PSO1
2	Jackbro Global Pvt. Ltd, Kamrej, Surat	170493119027	Gandhi Jenish Paresh	PO1, PO2, PO3, PO7, PO8, PO10, PO12, PSO1
3	Nuclear Power Corporation of India Ltd., Kakrapar, Tapi	160490119014	Chaudhari Tarkik Umeshbhai	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PSO1, PSO2
4	Batliboi Ltd., Surat	160490119040	Panchal Harshkumar Alkeshbhai	PO1, PO3, PO4, PO6, PO7, PO8, PO9, PO11, PSO2

Table 2.2.5 (5.b) Industrial internship / Summer Training outcomes for CAYm1 (a)

Mechanical Engineering Department- Internship (2021-22) CAYm1(Odd)			
Sr. No.	Company Name	No of student	Attainment of POs/PSOs
1	SOPAN Institute of Engineering & Design (SIED, SURAT)	80	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2

Table 2.2.5 (5.b) Industrial internship / Summer Training outcomes for CAYm1 (b)

Mechanical Engineering Department- Internship (2021-22) CAYm1(Odd)				
Sr. No.	Company Name	PEN	Student Name	Attainment of POs/PSOs
1	Spark Innovations, Vadodara	150490119025	Gamit Ankurbhai Chandubhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
2	Sumul Cattle Feed Plant, Bajipura, Surat	190493119034	Viral.R.Chaudhary	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
3	Sumul Cattle Feed Plant, Bajipura, Surat	190493119012	Parinkumar.R.Patel	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
4	Shubham Packaging, Nani Daman	180490119037	Ravi Bharatbhai Prajapati	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
5	T. M. Patel Processing Pvt.Ltd., Palsana, Surat	180490119043	Sharma Sonu	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
6	Hyden Engineering Company, NPCIL, Kakrapar, Tapi	180490119011	Chaudhari Ujjaval Jitubhai	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
7	Hyden Engineering	180490119018	Gamit Ronald Harilal	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2

	Company,NPCIL, Kakrapar,Tapi			
<b>8</b>	Hyden Engineering Company,NPCIL, Kakrapar,Tapi	180490119017	Gamit Mehulbhai Mohanbhai	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>9</b>	Shree Mahavir Roll- Tech Ltd.,Popda,Surat	190493119013	Parmar Milan.B.	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>10</b>	Chalthan Sugar Mill Ltd.,Chalthan	190493119044	Mistry Henil.A.	<b>PO1, PO2, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>11</b>	A.H.Techno Cast Pvt.Ltd.,Pipodra,Surat	190493119019	Timbadiya Karankumar Prafulbhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>12</b>	A.H. Techno Cast Pvt.Ltd., Pipodra, Surat	190493119018	Tailor Darshan Rajeshbhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>13</b>	Hyden Engineering Company, NPCIL, Kakrapar, Tapi	150490119026	Gamit Ankurbhai Rohitbhai	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>14</b>	Plastic Injection Moulding Process	170490119003	Chaudhari Ashishkumar Ashokbhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>15</b>	Bhagat Textile Engineers, Hojiwala Industrial Estate	180490119036	Ashish Kanubhai Prajapati	<b>PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>16</b>	Garden Silk Mills Ltd., Jolwa,Surat	170490119078	Singh Rajnishkumar	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>17</b>	Plastic Injection Moulding Process	190493119030	Chaudhari Rahulbhai Jayantibhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>18</b>	Veeline Media Limited,	190493119052	Patel Sanni.B.	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>

	Tarsadi, Surat			
19	Shree Mahavir Roll-Tech Ltd., Popda, Surat	190493119051	Patel Rohan Bipinbhai	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
20	Veeline Media Limited, Tarsadi, Surat	190493119031	Chaudhari Ronakkumar Rasikbhai	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
21	Veeline Media Limited, Tarsadi, Surat	190493119025	Chaudhari Dhavalkumar Surendrabhai	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
22	A.H.Techno Cast Pvt.Ltd., Pipodra, Surat	190493119008	Kania Hardik Manishbhai	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
23	Chalthan Sugar Mill Ltd., Chalthan	190493119054	Patil Bhavesh Jayeshbhai	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
24	Molding Process	190493119033	Chaudhari Swetangbhai Ashvinbhai	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
25	Shree Mahavir Roll-Tech Ltd., Popda, Surat	190493119010	Naik Punit Pradipbhai	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
26	Shree Mahavir Roll-Tech Ltd., Popda, Surat	190493119014	Tejassinh.P.Parmar	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
27	Hyden Engineering Company, NPCIL, Kakrapar, Tapi	180490119014	Gamit Alkaben Alubhai	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
28	Hyden Engineering Company, NPCIL, Kakrapar, Tapi	180490119025	Darshan Rameshbhai Parmar	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
29	Bhagat Textile Engineers, Hojiwala Industrial Estate	180490119020	Godavale Hardikkumar Manojbhai	PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2
30	A.H.Techno Cast Pvt.Ltd., Pipodra, Surat	190493119061	Viraj Harshukhbhai Tank	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2

<b>31</b>	Emco Engineering Pvt.Ltd.,Mumbai	170490119033	Darshan Hosbet	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>32</b>	Plastic Injection Molding Process	190493119022	Vasava Snehalbhai Shukkarbhai	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>33</b>	Veeline Media Limited,Tarsadi,Surat	150490119073	Patel Nirmalkumar Harshadbhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>34</b>	Acey Engineering Pvt.Ltd.	180490119040	Saiyad Sufiyan.M.	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>35</b>	<b>Shree Mahavir Roll-Tech Ltd.,Popda,Surat</b>	<b>190493119043</b>	<b>Merai Harsh Deepak</b>	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>

Table 2.2.5 (5.c) Industrial internship / Summer Training outcomes for CAYm1(c)

Mechanical Engineering Department- Internship (2021-22) CAYm1(Even)				
Sr. No.	Company Name	PEN	Student Name	Attainment of POs/PSOs
<b>1</b>	Coper Co-Op. Sugar Ltd., Dadariya	130490119014	Chaudhari Pratikbhai Rajendrabhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>2</b>	Green Design & Engineering Services Pvt. Ltd , Althan, Surat	140490119087	Patel Parth Rameshchandra	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>3</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	150490119025	Gamit Ankurbhai Chandubhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>

<b>4</b>	Coper Co-Op. Sugar Ltd., Dadariya,	150490119026	Gamit Ankurkumar Rohitbhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>5</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	150490119073	Patel Nirmalkumar Harshadbhai	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
<b>6</b>	Essar Bulk Terminal Limited , Surat-Hazira Road,Hazira-	160490119029	Khalasi Riddhikkumar Rajnikantbhai	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>7</b>	Iocl Naphtha Cracker Plant, Panipat	160490119059	Samuel Joshua Saji	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>8</b>	Vertaxis Tuturetech Pvt.Ltd ,Pune	160494119005	Sandipkumar Maheshbhai Bhoi	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>9</b>	Coper Co-Op. Sugar Ltd, Dadariya	170490119003	Chaudhari Aashishkumar Ashokbhai	<b>PO1, PO2, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>10</b>	Emco Engineering Pvt. Ltd,Nallasopara	170490119033	Darshan Chetan Hosbet	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>11</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	180490119003	Baheliya Ajaykumar Radheshyam	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>12</b>	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	180490119004	Bhoya Mehulkumar Sanjaybhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
<b>13</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	180490119007	Chaudhari Hiren Govindbhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>

14	Expert Engineering Works, Udhna, Surat	180490119010	Chaudhari Twinkalben Babubhai	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
15	Expert Engineering Works, Udhna, Surat	180490119011	Chaudhari Ujjaval Jitubhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
16	Npcil, Kakrapar	180490119014	Gamit Alkaben Alubhai	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
17	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	180490119015	Gamit Arjunbhai Posalyabhai	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
18	Npcil, Kakrapar	180490119017	Gamit Mehulbhai Mohanbhai	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
19	Npcil, Kakrapar	180490119018	Gamit Ronald Harilal	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
20	Coper Co.Op Sugar Ltd., Dadariya	180490119019	Gamit Swapnilbhai Sunilbhai	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
21	Aalidhra Texcraft Engineers, Hoziwala Estate Sachin.	180490119021	Gupta Pravin Surendra	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
22	Shiv Fabricators, Ichhapore	180490119025	Darshan Rameshbhai Parmar	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
23	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	180490119026	Patel Atishkumar Laxmabhai	<b>PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
24	Heatex Industries Ltd Palsana, Surat,	180490119031	Patel Parthkumar Ranjitbhai	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
25	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	180490119032	Patel Rahulbhai Pravinbhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>



26	Make3d.In Tulsi Industrial, Katargam, Surat	180490119035	Pawar Aniket Kantilal	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
27	Jmt India Inc, Gidc, Sachin, Surat	180490119038	Rajan Kumar	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
28	Sopan Infotech Pvt Ltd, Adajan, Surat	180490119040	Saiyad Sufiyan Mohammadibrahim	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
29	Jmt India Inc, Gidc, Sachin, Surat	180490119041	Sajan Kumar	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
30	Tata Motors, Gokul Automobile, Songadh	180490119042	Salve Mayur Randhirbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
31	Jc Metal Fab Hoziwala Industrial Estate, Sachin, Surat	180490119046	Thummar Fenil Ishwarbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
32	Energymax Boilers Llp, Ankleshwar	190493119001	Ahir Aniket Valjibhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
33	Angel Laser Instruments, Delhi Gate, Surat	190493119002	Ansari Imran Kayamuddin	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
34	Cipet Ahmedabad Vatva Gidc Phase 4	190493119005	Gamit Ashishkumar Govindbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
35	Sumul Cattle Feed Factory Bajipura	190493119006	Gamit Niranjانبhai Rajendrabhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2

36	Shree Ambika Auto Sales&Service	190493119007	Gamit Tejaskumar Ravjibhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
37	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	190493119012	Parinkumar Rajendrabhai Patel	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
38	Shree Mahuva Pradesh Sahakari Khand Udyog,Mahuva	190493119013	Parmar Milankumar Bhikhubhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
39	Madhi Sugar Factory Madhi	190493119014	Tejassinh Prakashsinh Parmar	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
40	Renon India Pvt Ltd	190493119015	Shubham Kumar Mishra	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
41	Bardoli Sugar Factory, Bardoli	190493119016	Shukla Yogendrakumar Hemantkumar	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
42	Cipet Ahmadabad	190493119020	Vasava Bhaveshkumar Jagdishbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
43	Cipet Ahmadabad	190493119022	Vasava Snehalbhai Shukkarbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
44	Energymax Boilers Llp, Ankleshwar	190493119024	Bhimda Martinbhai Jayantibhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
45	Roshan Engineering Pvt. Ltd. Antaliya	190493119025	Chaudhari Dhavalkumar Surendrabhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2

<b>46</b>	Central Institute Of Petrochemicals Engineering And Technology, Phase-IV, Gidc, Vatva, Ahmedabad	190493119026	Chaudhari Jigneshbhai Hitendrabhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>47</b>	Cipet Ahmedabad Vatva Gidc Phase 4	190493119027	Chaudhari Mitulkumar Dansingbhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>48</b>	Cipet Ahmedabad Vatva Gidc Phase 4	190493119030	Chaudhari Rahulbhai Jayantibhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>49</b>	Roshan Engineering Pvt. Ltd. Antaliya	190493119031	Chaudhari Ronakkumar Rasikbhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>50</b>	Roshan Engineering Pvt. Ltd. Antaliya	190493119033	Chaudhari Swetangbhai Ashvinbhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>51</b>	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	190493119034	Viral Rajeshkumar Chaudhari	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>52</b>	Roshan Engineering Pvt. Ltd. Antaliya	190493119035	Chaudhary Mayur Gautambhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>53</b>	Sumul Cattle Feed Factory, Bajipura	190493119037	Gamit Ankitkumar Anilbhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>54</b>	Engg.Sdf.Bajipura	190493119038	Gamit Arpitbhai Navinbhai	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

55	Jk Paper Ltd, Ukai	190493119039	Gamit Prafulkumar Ishwarbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
56	Sumul Cattle Feed Factory Bajipura	190493119040	Gamit Pratikkumar Pravinbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
57	Sumul Cattle Feed Factory Bajipura	190493119041	Gamit Shaileshbhai Ukajibhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
58	Cipet (Ahemdabad ) , Vatva Gidc	190493119042	Gamit Viralkumar Natubhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
59	Shree Mahuva Pradesh Sahakari Khand Udyog , Mahuva	190493119043	Mera Harsh Dipak	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
60	L & T Hydrocarbon Engineering Ltd., Hajira Manufacturing Complex, Surat	190493119044	Henil Arunbhai Mistry	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
61	Energymax Boilers Llp, Ankleshwar	190493119045	Parikh Smitkumar Chetankumar	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
62	Reliance Industries Ltd, Silvassa	190493119046	Parmar Dharmarajsinh Natvarsinh	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
63	Tata Ambika Auto , Near Toll Plaza, Amboli	190493119048	Parmar Smeetkumar Kamleshbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2

64	Railway Loco Shed Valsad	190493119049	Patel Dishantkumar Mukeshbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
65	Electric Loco Shed, Valsad	190493119052	Patel Sannikumar Balvantbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
66	Veeline Media Ltd. Tarsadi , Ta : Mahuva , Dist : Surat	190493119054	Patil Bhaveshkumar Jayeshbhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
67	Coenz Engineering And Consultancy Pvt. Ltd, Vadodara	190493119056	Rai Amitkumar Santoshkumar	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
68	Sopan Infotech Pvt Ltd, Green Plaza Lp Savani Cir,Adajan,Surat,Gujrat,395009	190493119057	Rathod Parth Mahendrabhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
69	Coenz Engineering And Consultancy Pvt. Ltd.,Vadodara	190493119059	Siddiquie Maavia Moinuddin	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
70	Brass Copper & Alloy (I) Ltd Vadkhmbha Near Nanapondha	190493119060	Singade Anilbhai Gangarambhai	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
71	<b>(Cipet) Ahmedabad</b>	<b>190493119062</b>	<b>Vasava Pradipkumar Ratilal</b>	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

Table 2.2.5 (d) Industrial internship / Summer Training outcomes for CAY

Mechanical Engineering Department- Internship (2022-23) CAY				
Sr. No.	Company Name	PEN	Student Name	Attainment of POs/PSOs
1	Sai Texofab Kadodara	180490119009	CHAUDHARI PRAGNESHKUMAR AMARSINH	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
2	Sai Texofab Kadodara	180490119030	PATEL MIHIR HARSHADKUMAR	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
3	Veeline Meia LTD Mahuva	190490119001	AHIR HARSH AMRUTBHAI	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
4	Brass Copper & Alloy LTD Valsad	190490119002	AHIR JAYKUMAR VIJAYBHAI	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
5	Veeline Meia LTD Mahuva	190490119003	BHAKTA MAITRI JIGNESHBHAI	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
6	surat -tapi Distric Coopratve Milk Producers Union LTD Surat	190490119007	CHAUDHARI DHRUV DHANSUKHBHAI	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
7	NPCIL Kakrapar	190490119008	CHAUDHARI KULDIPBHAI MOHANBHAI	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
8	Indo German Tool Room,Ahmedabad	190490119010	CHAUDHARI UJAS DINESHBHAI	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2

9	Veeline Meia LTD Mahuva	190490119011	CHAUDHARY CHAITANYAKUMAR DILIPBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
10	Nova Technocast Pvt LTD Rajkot	190490119012	CHOTAI JALPABEN JAYESHBHAI	PO1, PO2, PO8, PO9, PO10, PO12, PSO1, PSO2
11	Gsecl Ukai	190490119016	GAMIT JAIMINBHAI SUNILBHAI	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
12	Kataritya Automobile Pvt LTD Kadodara	190490119017	GAMIT JENISHKUMAR SUNILBHAI	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
13	Indo German Tool Room,Ahmedabad	190490119019	GAMIT SAHILKUMAR YOGESHBHAI	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
14	Kataritya Automobile Pvt LTD Kadodara	190490119021	JADHAV GYANESHWAR PRABHAKAR	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
15	Veeline Meia LTD Mahuva	190490119022	KHASIYA BHAUTIK JORUBHAI	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2
16	Atul LTD Atul	190490119023	LAD YASH PANKAJBHAI	PO1, PO2, PO8, PO9, PO12, PSO1, PSO2
17	Narola Machines Sachin	190490119024	MAHAJAN SUMIT BAPU	PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2

18	Nisha Engineering Works surat	190490119025	MAVANI DENIS ASHOKBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO12, PSO1, PSO2</b>
19	Railway Surat	190490119026	MISAL SAGAR SAMPATBHAI	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
20	Veeline Meia LTD Mahuva	190490119027	MISTRY PRATHAM DINESHBHAI	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
21	Veeline Meia LTD Mahuva	190490119029	NIKWADE MANOJBHAI DAYARAMBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
22	DS Engineers, Surat	190490119030	PARMAR MAHESH GANESH BHAI	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
23	Aareha Elastin fibk Pvt Ltd	190490119032	PATEL DHARMIN VINAYKUMAR	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
24	CPET, Navsari	190490119033	PATEL GAURANG RAJESHBHAI	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
25	Brass Copper & Alloy LTD Valsad	190490119034	PATEL HARDIKBHAI DIPAKBHAI	<b>PO1, PO2, PO8, PO9, PO12, PSO1, PSO2</b>
26	Delta Mechanical & Electrical Industry Bilomora	190490119035	PATEL HARSHADBHAI PRAMODBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
27	Veeline Meia LTD Mahuva	190490119037	PATEL JEEL SUKETUBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>



28	Alok Industries Ltd, Vapi	190490119039	PATEL KEYUR HARISHBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
29	Sopan Infotech PVT LTD Surat	190490119040	PATEL KRUNAL GOKULBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
30	SUMUL, Surat	190490119042	PATEL PRANAVKUMAR PRAKASHBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
31	Sopan Infotech PVT LTD Surat	190490119043	PATEL RUSHILKUMAR KIRANBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
32	Sopan Infotech PVT LTD Surat	190490119044	PATEL SHIVKUMAR DILIPBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
33	Surat -tapi Distric Coopratve Milk Producers Union LTD Surat	190490119045	PAVAGADHI DISHANTKUMAR SANATANBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
34	Surat -tapi Distric Coopratve Milk Producers Union LTD Surat	190490119046	SINGH ABHISHEKKUMAR ANOJKUMAR	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
35	Railway Surat	190490119047	SINGH AKSHAT JANMEJAY	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
36	Lifescience Chemicals, Panoli	190490119049	SINGH ROSHAN SANJAY SINGH	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
37	Railway Surat	190490119050	SOLANKI NILESHKUMAR BANSILAL	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

38	Sopan Infotech PVT LTD Surat	190490119051	SOLANKI UJJVAL NILESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
39	Sopan Infotech PVT LTD Surat	190490119052	TAILOR JAYKUMAR MOHANBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
40	Gujtax Engineering Company Vanz	190490119053	TANDEL DHRUVKUMAR BHAGVANDAS	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
41	Delta Mechanical & Electrical Industry Bilomora	190490119054	TANDEL KEVALKUMAR MINISHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
42	NHB Ball & Roller LTD Amalsad	190490119055	TANDEL PRIYANK YOGESHBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
43	Delta Mechanical & Electrical Industry Bilomora	190490119056	TANDEL PURVESH HASMUKH	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
44	NHB Ball & Roller LTD Amalsad	190490119057	TANDEL SHIVAM HIMMATBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
45	Delta Mechanical & Electrical Industry Bilomora	190490119058	THORAT HIRENDRABHAI HARICHANDBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
46	Veeline Meia LTD Mahuva	190490119059	VALVI SHEKHARBHAI KANTILAL	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
47	Vijay Dairy Product Surat	190493119032	CHAUDHARI SAVANKUMAR RAVINDRABHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>48</b>	Amba Enterprise PVT LTD Palsana	200490119501	DOSHI MEET MAYUR	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>49</b>	Khodiyar E Solution LLP Ahmedabad	200490119502	GOHIL DHANANJAY BHARATBHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>50</b>	Gayatri Shakti Paper And Board Mill LTD Sarigam	200490119503	PAWAR JAY SUBHASH	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>51</b>	Shree Valsad Sahakari Khand Udhog Mandali LTD Pardi	200490119504	GANVIT JIGARBHAI NAGINBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>52</b>	Madelin enterprises Pvt LTD Daman	200490119505	DHODI BHAVARTH RAMUBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>53</b>	Sopan Infotech PVT LTD Surat	200490119506	MAKWANA MEET VIJAYBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>54</b>	HLE Glasscoat LTD Maroli	200490119508	BHATTI RIZWANBHAI ANVARBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>55</b>	Shree Modi Materials Handling Co Surat	200490119510	NIYOLIYA DHAVALKUMAR SANJAYSINH	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
<b>56</b>	J k Paper LTD Songandh	200490119511	Suraj Prasad	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>57</b>	surat -tapi Distric Cooporative Milk Producers Union LTD Surat	200490119513	CHAUDHARI SAVANKUMAR KANTILAL	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

58	surat -tapi Distric Coopratve Milk Producers Union LTD Surat	200490119514	CHAUDHARI SHUBHAMKUMAR PANKAJBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
59	D K Engineering Works Vapi	200490119515	MISTRY YASHKUMAR MANOJBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
60	Indo German Tool Room,Ahmedabad	200490119517	GAMIT AMITKUMAR MOHANBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
61	Haron Research Centre, Surat	200490119518	VYAS PARTH JITENDRA	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
62	Elicon Engineering Co. Ltd, V V Nagar	200490119519	MISTRY DARSHAN BHARATBHAI	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
63	Shree Modi Materials Handling Co Surat	200490119522	MAURYA PRAJEET MEHILAL	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
64	Nutracare International Surat	200490119524	CHAUDHARI HIRALBEN ARJUNBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
65	VE ommerical Vehicles, Surat	200490119525	CHAUDHARI KAUSHIKKUMAR RAJESHBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
66	Gokul Automobiles, Songadh	200490119528	GAMIT PRAKASHBHAI JAGADISHBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2

67	Shree Valsad Sahakari Khand Udhog Mandali LTD Pardi	200490119529	MAHAKAL BHAVINKUMAR NARESHBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
68	Realcade Lifescience Pvt Ltd, Valod	200490119530	CHAUDHARI NISHITHKUMAR PRADIPSINH	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
69	surat -tapi Distric Cooprateive Milk Producers Union LTD Surat	200490119531	CHAUDHARI SNEHALBHAI SUNILBHAI	PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2
70	Gajera Enterprise, Ankaleshwar	200490119534	PANDEY ASHISHKUMAR JITENDRAKUMAR	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
71	Vikshara Alkline water, Surat	200490119535	MAHIDA PARTH KIRANSINH	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
72	Thermax Ltd, Dahej	200490119536	MANJUNATHA PRABU M	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
73	Amba Enterprise PVT LTD Palsana	200490119537	SURYAVANSHI AVINASH RAJUBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
74	Techno Gear Works PVT LTD Valsad	200490119538	PATEL HIRENKUMAR JAYANTIBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2
75	Vikshara Alkline water, Surat	200490119540	MISTRI KARANKUMAR MANISHBHAI	PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2

76	HIL Limited Golan	200490119544	CHAUDHARY CHINTANKUMAR RAJENDRABHAI	<b>PO1, PO2, PO3, PO8, PO9, PO12, PSO1, PSO2</b>
77	Sopan Infotech PVT LTD Surat	200490119545	PANDYA ROHANKUMAR MAHESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
78	Ganesh Polichem Ltd, Vapi	200490119546	PATEL HIRENBHAI RASIKBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
79	Veeline Meia LTD Mahuva	200490119547	MAISURIYA PARTHKUMAR DINESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
80	Indo German Tool Room,Ahmedabad	200490119552	GAMIT KEVALBHAI BABJIBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
81	Nutracare International Surat	200490119553	GAMIT PRUTHVIJEET MANGESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
82	Maruti Architectural Product PVT LTD Ena	200490119554	MAJITHIYA MIT PRATAPBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
83	New Palsana Industrial Co- Operative Society Limited palsana	200490119556	CHAUDHARI MIHIRKUMAR JAGDISHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>84</b>	New Palsana Industrial Co- Operative Society Limited palsana	200490119557	CHAUDHARI HIRENBHAI JITUBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>85</b>	Techno Gear Works PVT LTD Valsad	200490119558	PATEL BHAVINBHAI RAJESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>86</b>	HIL Limited Golan	200490119559	GAMIT MEHULBHAI CHIMANBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>87</b>	Indo German Tool Room,Ahmedabad	200490119560	MARATHE HEMANT DINESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>88</b>	Sopan Infotech PVT LTD Surat	200490119561	CHEVLI YASH KAMLESHKUMAR	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>89</b>	PGP Glass PVT LTD Kosamba	200490119562	VASAVA NIKUNJKUMAR JAGDISHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>90</b>	Sargam Projects PVT LTD Hazira	200490119563	SHAH SAMAY KAILASHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>91</b>	Amba Enterprise PVT LTD Palsana	200490119566	AGRAWAL JAYESHKUMAR SAILESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>92</b>	Tech sun Bio LTD Surat	200490119567	PAVAGHADHEE NISARG RAJESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

<b>93</b>	Gokul Automobiles, Songadh	200490119568	GAMIT JYOTIXBHAI JAYESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>94</b>	Alidhara Texpo Engineers Pvt Ltd, Surat	200490119570	BADGUJAR VAIBHAV PRAVINBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>95</b>	Pragati Vehicles, Bardoli	200490119571	RATHOD DARSHANBHAI RAMESHBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>96</b>	Techno Gear Works PVT LTD Valsad	200490119572	PATEL KEYURBHAI DILIPBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>97</b>	Gokul Automobiles, Songadh	200490119573	GAMIT ANKITKUMAR BAKULBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>98</b>	Circlips Technologie Pvt Ltd, Umbergaon	200490119575	MACHHI HARSHKUMAR ASHWINBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>99</b>	MS Enterprise, Surat	200490119577	DESAI NIRAV BABUBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>100</b>	Gsecl Ukai	200490119578	MOHANAT VATSALBHAI UMESHKUMAR	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>101</b>	Sarda Industry, Vadodara	200490119580	SHARMA ASHISH RAMRATAN	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>102</b>	Pahal Solar Ltd, Surat	200490119581	PATEL YUVRAJ KISHORBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>



<b>103</b>	Inox Air Products Pvt Ltd, Surat	200490119586	PATIL VIPULKUMAR NARAYAN	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>104</b>	surat -tapi Distric Coopratve Milk Producers Union LTD Surat	200490119590	CHAUDHARI VIPULBHAI NASHVANBHAI	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>
<b>105</b>	<b>MS Enterprise, Surat</b>	<b>200490119591</b>	<b>KHUNT PARTH DHIRAJLAL</b>	<b>PO1, PO2, PO6, PO8, PO9, PO10, PO12, PSO1, PSO2</b>

#### **2.2.5 (D) Student feedback on initiative**

- Student feedback on programs conducted in collaboration with industry has been taken after each program. These type of feedbacks are very important for improving the quality and standard of such programs.
- Based on the feedback collected, the department derives valuable outcomes to develop further interaction with industry.
- This in turn helps the department in continuously improving Course Objectives.
- The feedback collected helps the department to take necessary measures to improve and increase such activities that benefits the successive student's batches.

### 3. Course Outcomes and Program Outcomes (120)

#### 3.1 Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) (20)

All the courses of the mechanical engineering program were correlated with Program Outcomes (POs) and Program Specific Outcomes (PSOs). The batch-wise attainments were evaluated, for consecutive batches and are discussed in successive sections. These batches are:

1. 2016-Batch, admitted in 2016-17 and graduated in 2019-20 (CAYm3)
2. 2017-Batch, admitted in 2017-18 and graduated in 2020-21 (CAYm2)
3. 2018-Batch, admitted in 2018-19 and graduated in 2021-22 (CAYm1).
4. 2019-Batch, admitted in 2019-20 and graduated in 2022-23 (CAY).

The attainment for each academic year is considered as the attainment of the batch that got graduated in that year. For example, the attainment of CAY, is the attainment of the batch which got graduated in 2022-23.

The GTU curriculum and teaching scheme was updated in the summer of 2018, so the old curriculum and teaching scheme was followed for 2016-Batch and 2017-Batch, while the new teaching scheme was followed for 2018-Batch and 2019-Batch. The course code with “OC” represents the courses of old curriculum and the course code with “NC” represents the courses with the new scheme.

##### 3.1.1 Course Outcomes (COs) (SAR should include course outcomes of one course from each semester of study, however, should be prepared for all courses and made available as evidence, if asked) (5)

GTU has provided CO statements for all of the curricula courses except project and design engineering courses. The course outcome statements were considered as per the university syllabus. In some of the courses, the course outcomes were modified to keep it between three and six, considering POs and PSOs of the institute. The considered and modified CO statements are approved by Departmental Academic and Advisory Committee (DAAC).

The COs of one course from each semester of the 2017-Batch are selected and presented in Table-3.1.1(1). The course outcomes of these selected courses are shown in Table 3.1.1 (2) to Table 3.1.1(9).

Table 3.1.1(1) Course selected from each semester

Sr. No.	Course code	Name of course
1	OC105	Elements of Mechanical Engineering
2	OC109	Engineering Graphics
3	OC205	Material Science & Metallurgy
4	OC210	Mechanical Measurement & Metrology
5	OC304	Theory of Machines
6	OC315	Production Technology
7	OC409	Metal Forming Analysis
8	OC413	Renewable Energy Engineering

Table 3.1.1(2) Course outcomes for Element of Mechanical Engineering (Semester – 1),  
Course code: OC105 Year of Study: 2017-18 (2017 – Batch)

Course	Statements of course outcome
<b>OC105.1</b>	To study the various sources of energy and basic terminology of mechanical engineering
<b>OC105.2</b>	Understand and study calculations for commonly used working fluids i.e. ideal gases and steam
<b>OC105.3</b>	Study and analyse various heat engine cycles and understand the construction and working of IC engines
<b>OC105.4</b>	Study and understand the working and applications of steam boilers and various energy conversion systems
<b>OC105.5</b>	Understand various power transmission elements and properties of various engineering materials with their applications

Table 3.1.1(3) Course outcomes for Engineering Graphics (Semester – 2),  
Course code: OC109 Year of Study: 2017-18 (2017 – Batch)

Course	Statements of course outcome
<b>OC109.1</b>	Know and understand the conventions and methods of engineering drawing.
<b>OC109.2</b>	Interpret engineering drawings using fundamental technical mathematics.
<b>OC109.3</b>	Construct basic and intermediate geometry and comprehend the theory of projection.
<b>OC109.4</b>	Improve their visualization skills so that they can apply these skills in developing new products.
<b>OC109.5</b>	Improve their technical communication skill in the form of communicative drawings.
<b>OC109.6</b>	Use computer software for engineering drawing.

Table 3.1.1(4) Course outcomes for Material Science & Metallurgy (Semester – 3),  
Course code: OC205 Year of Study: 2018-19 (2017 – Batch)

Course	Statements of course outcome
<b>OC205.1</b>	Understand the basic concept of Material Science and Metallurgy
<b>OC205.2</b>	Know about the ferrous and non-ferrous metals and alloys and their application

<b>OC205.3</b>	Understand different non-destructive testing methods
<b>OC205.4</b>	Find the causes and prevention of metallic corrosion
<b>OC205.5</b>	Judge the Scope and limitations of different materials

Table 3.1.1 (5) Course outcomes for Mechanical Measurement & Metrology (Semester – 4), Course Code: OC210 Year of Study: 2018-19 (2017 – Batch)

<b>Course</b>	<b>Statements of course outcome</b>
<b>OC210.1</b>	Describe basic concepts of mechanical measurement, Metrology and its errors and linear and angular measuring instrument for measurement of various components.
<b>OC210.2</b>	Discriminate between various screws by measuring their dimensions.
<b>OC210.3</b>	Separate different gears through measurement of various dimensions of gears.
<b>OC210.4</b>	Evaluate quality of the surface produced using various methods and select appropriate temperature measuring device for various applications.
<b>OC210.5</b>	Describe methods of measurement for various quantities like force, torque, power, displacement, velocity/seed and acceleration

Table 3.1.1(6) Course outcomes for Theory of Machines (Semester – 5), Course Code: OC304 Year of Study: 2019-20 (2017 – Batch)

<b>Course</b>	<b>Statements of course outcome</b>
<b>OC304.1</b>	Analyse effect of gyroscopic couple on vehicles, ships and aeroplanes
<b>OC304.2</b>	Design flywheels for IC engines and punching press
<b>OC304.3</b>	Apply fundamentals of dynamics analysis to various mechanical systems
<b>OC304.4</b>	Design and analyse clutches and brakes.
<b>OC304.5</b>	Perform power measurement using dynamometers.

Table 3.1.1(7) Course outcomes for Production Technology (Semester – 6), Course Code: OC315 Year of Study: 2019-20 (2017 – Batch)

<b>Course</b>	<b>Statements of course outcome</b>
<b>OC315.1</b>	Students will be able to apply basics of metal machining processes very well with the detailed signature of tools.
<b>OC315.2</b>	Students able to understand different forces acting while metal cutting and can draw merchant circle diagram and also able to apply knowledge to economic metal cutting.
<b>OC315.3</b>	Students can able to grasp distinctive knowledge of gear forming and its generating methods as well as thread manufacturing.
<b>OC315.4</b>	Students are able to clutch its usefulness and design of such locating and fixing devices.
<b>OC315.5</b>	Learn in depth about press and press work.
<b>OC315.6</b>	Gained elementary knowledge in Non-conventional machining and its application in industries.

Table 3.1.1(8) Course outcomes for Metal Forming Analysis (Semester – 7),

Course Code: OC409 Year of Study: 2020-21 (2017 – Batch)

Course	Statements of course outcome
<b>OC409.1</b>	Students will be able to identify various forming processes.
<b>OC409.2</b>	Students will be able to Identify and determine various methods of rolling process
<b>OC409.3</b>	Students will be able to Identify and determine various methods of forging process
<b>OC409.4</b>	Students will be able to Identify and determine various methods of extrusion process
<b>OC409.5</b>	Students will be able to Identify and determine various methods of drawing process
<b>OC409.6</b>	Students will be able to Identify and determine various methods of sheet metal forming process

Table 3.1.1(9) Course outcomes for Renewable Energy Engineering (Semester – 8),  
Course Code: OC413 Year of Study: 2020-21 (2017 – Batch)

Course	Statements of course outcome
<b>OC413.1</b>	Students will gain knowledge of non-conventional energy sources like wind, solar, tidal, OTEC etc.
<b>OC413.2</b>	Students will be able to analyze and infer the potentials and design systems based on solar, wind, tidal MHD, OTEC energy systems.
<b>OC413.3</b>	Students can able to understand various financial techniques for economic analysis of RE system

Table-3.1.1(10) shows the courses chosen to display the CO statements of one course from each semester of the 2018-Batch for the revised curriculum. The course outcomes of each course of the selected courses are shown in Table 3.1.1 (11) to Table 3.1.1(18).

Table 3.1.1(10) Course Selected from each semester

Sr. No.	Course code	Name of course
<b>1</b>	NC106	Basic Mechanical Engineering
<b>2</b>	NC110	Engineering Graphics and Design
<b>3</b>	NC205	Material Science and Metallurgy
<b>4</b>	NC209	Mechanical Measurement & Metrology
<b>5</b>	NC308	Manufacturing Technology
<b>6</b>	NC325	Computer Aided Manufacturing
<b>7</b>	NC419	Nano-Technology and Surface Engineering
<b>8</b>	NC420	Internship/Project

Table 3.1.1(11) Course outcomes for Basic Mechanical Engineering (Semester – 1),  
Course code: NC106 Year of Study: 2018-19 (2018 – Batch)

Course	Statements of course outcome
NC106.1	Discuss the various sources of energy and basic terminology of mechanical engineering
NC106.2	Make calculations for commonly used working fluids i.e. ideal gases and steam
NC106.3	Analyze various heat engine cycles and understand construction and working of IC engines

NC106.4	Discuss working and applications of steam boilers and various energy conversion systems
NC106.5	Discuss various power transmission elements and properties of various engineering materials with their applications

Table 3.1.1(12) Course outcomes for Engineering Graphics and Design (Semester – 2),  
Course code: NC110 Year of Study: 2018-19 (2018 – Batch)

Course	Statements of course outcome
NC110.1	Know and understand the conventions and the methods of engineering drawing.
NC110.2	Interpret engineering drawings using fundamental technical mathematics.
NC110.3	Construct basic and intermediate geometry and comprehend the theory of projection.
NC110.4	Improve their visualization skills so that they can apply these skills in developing new products.
NC110.5	Improve their technical communication skill in the form of communicative drawings.
NC110.6	Use computer software for engineering drawing.

Table 3.1.1(13) Course outcomes for Material Science and Metallurgy (Semester – 3),  
Course code: NC205 Year of Study: 2019-20 (2018 – Batch)

Course	Statements of course outcome
NC205.1	Understand the basic concept of Material Science and Metallurgy
NC205.2	Know about the ferrous and nonferrous metals and alloys and their applications
NC205.3	Understand different non-destructive testing methods
NC205.4	Find the causes and prevention of metallic corrosion
NC205.5	Judge the Scope and limitations of different materials
NC205.1	Understand the basic concept of Material Science and Metallurgy

Table 3.1.1(14) Course outcomes for Mechanical Measurement & Metrology (Semester – 4), Course code: NC209 Year of Study: 2019-20 (2018 – Batch)

Course	Statements of course outcome
NC209.1	Summarize various methods and terms used in mechanical measurements and metrology.
NC209.2	Measure mechanical quantities like Force, Temperature, Pressure, Velocity, Acceleration, Strain and Torque.
NC209.3	Apply concepts of metrology for gears, threads and surface finish.
NC209.4	Utilize various precision machines working based on Laser technology and coordinate measuring methods.

Table 3.1.1(15) Course outcomes for Manufacturing Technology (Semester – 5), Course code: NC308 Year of Study: 2020-21 (2018 – Batch)

<b>Course</b>	<b>Statements of course outcome</b>
NC308.1	Interpret foundry practices like pattern making, mould making, Core making and Inspection of defects.
NC308.2	Differentiate various metal forming processes
NC308.3	Select appropriate metal joining Processes to join similar or dissimilar metals.
NC308.4	Classify different plastic moulding processes and application
NC308.5	Distinguish different Super Finishing Technology

Table 3.1.1(16) Course outcomes for Computer Aided Manufacturing (Semester – 6), Course code: NC325 Year of Study: 2020-21 (2018 – Batch)

<b>Course</b>	<b>Statements of course outcome</b>
NC325.1	Illustrate Computer Aided Manufacturing with NC, CNC and PLC technology for Industry
NC325.2	Describe the Group Technology and Computer Aided Process Planning
NC325.3	Describe the Group Technology and Computer Aided Process Planning
NC325.4	Describe Robot technology for Computer Aided Manufacturing system.
NC325.5	Demonstrate Integrated Production Management system.

Table 3.1.1(17) Course outcomes for Nano-Technology and Surface Engineering (Semester – 7), Course code: NC419 Year of Study: 2021-22 (2018 – Batch)

<b>Course</b>	<b>Statements of course outcome</b>
NC419.1	To comprehend basics of nano-science and technology and their applications in the domain of engineering
NC419.2	To impart fundamental knowledge of various methods used in the field of nanotechnology
NC419.3	To impart basics of various characterization tools/methods in the field of NanoTechnology
NC419.4	Explain the effect of process parameters on the properties & microstructure of the surface coating processes
NC419.5	Understand the importance & role of surface modifications to achieve several technological properties

Table 3.1.1(18) Course outcomes for Internship/Project (Semester – 8), Course code: NC420 Year of Study: 2021-22 (2018 – Batch)

<b>Course</b>	<b>Statements of course outcome</b>
NC420.1	Demonstrate a sound technical knowledge of their selected project topic
NC420.2	Undertake problem identification, formulation and solution



NC420.3	Design engineering solutions to complex problems utilising a systems approach and team work
NC420.4	Communicate with engineers and the community at large in written and oral forms
NC419.5	Understand the importance & role of surface modifications to achieve several technological properties

### 3.1.2 CO-PO matrices of courses selected in 3.1.1 (six matrices to be mentioned; one per semester from 3<sup>rd</sup> to 8<sup>th</sup> semester) (05)

#### 1. Mapping of COs with POs

The course coordinator performed the mapping of COs with POs for each of the courses. This mapping was reviewed by the head of the department and approved by DAAC. According to the impact of COs on POs, the mapping is done at three levels of correlations namely, 3 for substantial correlation, 2 for moderate correlation and 1 for slight correlation. The “-” is kept instead of numerals for the COs and POs that are not correlated.

The CO-PO matrices for the courses of old syllabus, considering one per semester from 3<sup>rd</sup> to 8<sup>th</sup> semester, for the selected courses are shown in Table 3.1.2(1) to 3.1.2(6).

Table 3.1.2(1) Course Articulation Matrix for Material Science & Metallurgy (Semester – 3), Course code: OC205 Year of Study: 2018-19 (2017 – Batch)

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>OC205.1</b>	3	2	-	1	1	2	-	1	1	1	-	3
<b>OC205.2</b>	3	2	-	2	2	2	-	2	2	2	-	2
<b>OC205.3</b>	3	2	-	3	3	2	-	3	3	2	-	2
<b>OC205.4</b>	3	2	-	3	3	2	-	3	2	2	-	2
<b>OC205.5</b>	3	2	-	1	1	2	-	1	2	2	-	2
<b>Average</b>	3.00	2.00	-	2.00	2.00	2.00	-	2.00	2.00	1.80	-	2.20

Table 3.1.2(2) Course Articulation Matrix for Mechanical Measurement & Metrology (Semester – 4), Course Code: OC210 Year of Study: 2018-19 (2017 – Batch)

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>OC210.1</b>	3	3	-	-	3	3	-	1	1	1	-	3
<b>OC210.2</b>	3	2	1	-	-	-	-	-	-	-	-	1
<b>OC210.3</b>	3	3	2	-	-	-	-	-	-	-	-	1

<b>OC210.4</b>	3	3	2	-	1	2	-	1	1	1	-	2
<b>OC210.5</b>	3	3	2	-	2	2	-	1	1	1	-	2
<b>Average</b>	3.00	2.80	1.75	-	2.00	2.33	-	1.00	1.00	1.00	-	1.80

Table 3.1.2 (3) Course Articulation Matrix for Theory of Machines (Semester – 5),  
Course Code: OC304 Year of Study: 2019-20 (2017 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>OC304.1</b>	3	3	2	3	-	-	2	2	1	1	-	2
<b>OC304.2</b>	3	2	3	2	1	-	-	2	-	-	-	3
<b>OC304.3</b>	3	3	3	3	-	-	-	2	1	1	-	2
<b>OC304.4</b>	3	3	3	3	3	-	-	2	3	2	-	3
<b>OC304.5</b>	3	3	3	3	-	-	-	-	1	2	-	1
<b>OC304.6</b>	3	2	3	3	-	-	-	1	-	-	-	1
<b>Average</b>	3.00	2.67	2.83	2.83	2.00	-	2.00	1.80	1.50	1.50	-	2.00

Table 3.1.2(4) Course Articulation Matrix for Production Technology (Semester – 6),  
Course Code: OC315 Year of Study: 2019-20 (2017 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>OC315.1</b>	3	2	2	-	2	2	-	1	-	1	-	2
<b>OC315.2</b>	2	3	2	3	-	-	2	-	-	-	-	-
<b>OC315.3</b>	3	-	2	-	2	-	-	-	-	-	-	-
<b>OC315.4</b>	3	3	2	-	-	2	-	-	2	-	-	-
<b>OC315.5</b>	3	2	2	-	-	-	-	-	-	-	-	-
<b>OC315.6</b>	3	-	1	2	2	-	-	-	-	-	-	2
<b>Average</b>	2.83	2.50	1.83	2.50	2.00	2.00	2.00	1.00	2.00	1.00	-	2.00

Table 3.1.2(5) Course Articulation Matrix for Metal Forming Analysis (Semester – 7),  
Course Code: OC409 Year of Study: 2020-21 (2017 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>OC409.1</b>	2	2	-	-	-	-	-	1	-	1	-	2
<b>OC409.2</b>	3	3	2	2	2	-	-	-	2	-	-	-
<b>OC409.3</b>	3	3	-	2	2	-	-	-	2	-	-	-
<b>OC409.4</b>	3	2	2	2	2	-	-	-	2	-	-	-
<b>OC409.5</b>	3	2	2	1	2	-	-	-	2	-	-	-
<b>OC409.6</b>	3	2	-	-	2	1	-	-	2	-	-	-
<b>Average</b>	2.83	2.33	2.00	1.75	2.00	1.00	-	1.00	2.00	1.00	-	2.00

Table 3.1.2(6) Course Articulation Matrix for Renewable Energy Engineering (Semester – 8), Course code: OC413 Year of Study: 2020-21 (2017 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>OC413.1</b>	3	2	-	-	-	-	-	-	-	-	-	-
<b>OC413.2</b>	2	-	3	-	2	2	2	-	-	-	-	2
<b>OC413.3</b>	2	-	-	-	-	-	-	-	-	2	3	-
<b>Average</b>	2.33	2.00	3.00	-	2.00	2.00	2.00	-	-	2.00	3.00	2.00

The CO-PO matrices for new course, considering one per semester from 3<sup>rd</sup> to 8<sup>th</sup> semester, for the selected courses are shown in Table 3.1.2(7) to 3.1.2(12).

Table 3.1.2(7) Course Articulation Matrix for Material Science & Metallurgy (Semester – 3), Course code: NC205 Year of Study: 2019-20 (2018 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>NC205.1</b>	3	2	-	1	1	1	-	1	1	1	-	3
<b>NC205.2</b>	3	2	-	2	2	2	-	2	2	2	-	2
<b>NC205.3</b>	3	2	-	3	3	2	-	3	3	2	-	2
<b>NC205.4</b>	3	2	-	3	2	2	-	3	2	2	-	2
<b>NC205.5</b>	3	2	-	1	2	3	-	1	2	2	-	2
<b>Average</b>	3.00	2.00	-	2.00	2.00	2.00	-	2.00	2.00	1.80	-	2.20

Table 3.1.2(8) Course Articulation Matrix for Mechanical Measurement & Metrology (Semester – 4), Course Code: NC209 Year of Study: 2019-20 (2018 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>NC209.1</b>	3	2	1	-	-	1	-	1	1	2	-	3
<b>NC209.2</b>	3	3	2	-	2	2	-	1	1	1	-	2
<b>NC209.3</b>	3	3	2	-	-	-	-	-	-	-	-	1
<b>NC209.4</b>	3	3	2	1	3	-	-	-	-	-	-	3
<b>Average</b>	3.00	2.75	1.75	1.00	2.50	1.50	-	1.00	1.00	1.50	-	2.25

Table 3.1.2 (9) Course Articulation Matrix for Manufacturing Technology (Semester – 5), Course Code: NC308 Year of Study: 2020-21 (2018 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>NC308.1</b>	3	3	3	2	-	-	-	2	3	2	-	2
<b>NC308.2</b>	3	3	3	2	-	-	-	2	3	2	-	2

<b>NC308.3</b>	3	3	3	2	-	-	-	2	3	2	-	2
<b>NC308.4</b>	3	3	3	2	-	-	-	2	3	2	-	2
<b>NC308.5</b>	3	3	3	2	-	-	-	2	3	2	-	2
<b>Average</b>	3.00	3.00	3.00	2.00	-	-	-	2.00	3.00	2.00	-	2.00

Table 3.1.2(10) Course Articulation Matrix for Computer Aided Manufacturing  
(Semester – 6), Course Code: NC325 Year of Study: 2020-21 (2018 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>NC325.1</b>	3	3	-	2	3	1	1	1	3	3	-	3
<b>NC325.2</b>	2	3	2	2	-	-	-	1	1	3	-	3
<b>NC325.3</b>	3	2	2	1	2	1	-	1	1	1	-	3
<b>NC325.4</b>	3	2	3	1	2	1	-	1	1	1	-	3
<b>NC325.5</b>	2	-	3	-	2	1	-	-	1	1	2	1
<b>Average</b>	2.60	2.50	2.50	1.50	2.25	1.00	1.00	1.00	1.40	1.80	2.00	2.60

Table 3.1.2(11) Course Articulation Matrix for Nano-Technology and Surface Engineering  
(Semester – 7), Course Code: NC419 Year of Study: 2021-22 (2018 – Batch)

Course Outcome s	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>NC419.1</b>	3	2	-	-	-	2	-	-	-	-	-	2
<b>NC419.2</b>	3	3	-	-	-	2	1	-	-	-	-	2
<b>NC419.3</b>	2	-	3	2	2	-	-	-	-	-	-	-
<b>NC419.4</b>	3	2	3	3	3	-	-	-	-	-	-	-
<b>NC419.5</b>	3	2	2	-	3	2	-	-	-	-	-	2
<b>Average</b>	2.80	2.25	2.67	2.50	2.67	2.00	1.00	-	-	-	-	2.00

Table 3.1.2(6) Course Articulation Matrix for Internship/Project  
(Semester – 8), Course code: NC420 Year of Study: 2021-22 (2018 – Batch)

Course Outcom es	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
<b>NC420.1</b>	3	3	3	2	3	2	-	3	2	3	3	3
<b>NC420.2</b>	3	3	3	2	3	2	2	3	2	3	3	3
<b>NC420.3</b>	3	3	3	2	3	-	2	3	2	3	3	3
<b>NC420.4</b>	3	3	3	2	3	2	2	3	2	3	3	3
<b>NC420.5</b>	3	3	3	2	3	2	2	3	2	3	3	3
<b>Average</b>	3.00	3.00	3.00	2.00	3.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00

## 2. Mapping of COs with PSOs

Similar procedure was carried out for mapping COs with PSOs, as described in section 1 of 3.1.2. The course coordinator performed the mapping of COs with PSOs for each of the courses, which was reviewed by the head of the department and approved by DAAC. According to the impact of COs on PSOs, the mapping is done at three levels of correlations namely, 3 for substantial correlation, 2 for moderate correlation and 1 for slight correlation. The “-” is kept instead of numerals for the COs and POs that are not correlated. The CO-PSO matrices, considering one course per semester from 3<sup>rd</sup> to 8<sup>th</sup> semester, for the old scheme are shown in Table 3.1.2(7) to 3.1.2(12).

Table 3.1.2(7) Course Articulation Matrix for Material Science & Metallurgy (Semester – 3), Course code: OC205 Year of Study: 2018-19 (2017 – Batch)

Course Outcomes	PSO1	PSO2
<b>OC205.1</b>	3	3
<b>OC205.2</b>	3	3
<b>OC205.3</b>	3	3
<b>OC205.4</b>	3	3
<b>OC205.5</b>	3	3
<b>Average</b>	3.00	3.00

Table 3.1.2(8) Course Articulation Matrix for Mechanical Measurement & Metrology (Semester – 4), Course Code: OC210 Year of Study: 2018-19 (2017 – Batch)

Course Outcomes	PSO1	PSO2
<b>OC210.1</b>	3	3
<b>OC210.2</b>	3	1
<b>OC210.3</b>	3	1
<b>OC210.4</b>	3	-
<b>OC210.5</b>	3	3
<b>Average</b>	3.00	2.00

Table 3.1.2(9) Course Articulation Matrix for Theory of Machines (Semester – 5), Course Code: OC304 Year of Study: 2019-20 (2017-Batch)

Course Outcomes	PSO1	PSO2
<b>OC304.1</b>	3	3
<b>OC304.2</b>	3	3
<b>OC304.3</b>	2	-

<b>OC304.4</b>	2	3
<b>OC304.5</b>	-	2
<b>OC304.6</b>	2	-
<b>Average</b>	2.40	2.75

Table 3.1.2(10) Course Articulation Matrix for Production Technology (Semester – 6),  
Course code: OC315 Year of Study: 2019-20 (2017-Batch)

<b>Course Outcomes</b>	<b>PSO1</b>	<b>PSO2</b>
<b>OC315.1</b>	2	2
<b>OC315.2</b>	3	3
<b>OC315.3</b>	3	2
<b>OC315.4</b>	2	3
<b>OC315.5</b>	2	2
<b>OC315.6</b>	3	2
<b>Average</b>	2.50	2.33

Table 3.1.2(11) Course Articulation Matrix for Metal Forming Analysis (Semester – 7),  
Course Code: OC409 Year of Study: 2020-21 (2017-Batch)

<b>Course Outcomes</b>	<b>PSO1</b>	<b>PSO2</b>
<b>OC409.1</b>	2	2
<b>OC409.2</b>	3	2
<b>OC409.3</b>	3	2
<b>OC409.4</b>	2	3
<b>OC409.5</b>	2	2
<b>OC409.6</b>	2	2
<b>Average</b>	2.33	2.17

Table 3.1.2(12) Course Articulation Matrix for Renewable Energy Engineering  
(Semester – 8), Course code: OC413 Year of Study: 2020-21 (2017-Batch)

<b>Couse Outcomes</b>	<b>PSO1</b>	<b>PSO2</b>
<b>OC413.1</b>	3	-
<b>OC413.2</b>	-	3
<b>OC413.3</b>	-	-
<b>Average</b>	3.00	3.00

The CO-PSO matrices, considering one course per semester from 3rd to 8th semester, for the new curriculum are shown in Table 3.1.2(13) to 3.1.2(18).

Table 3.1.2(13) Course Articulation Matrix for Material Science & Metallurgy (Semester – 3), Course code: NC205 Year of Study: 2019-20 (2018 – Batch)

Course Outcomes	PSO1	PSO2
<b>NC205.1</b>	3	3
<b>NC205.2</b>	3	3
<b>NC205.3</b>	3	3
<b>NC205.4</b>	3	3
<b>NC205.5</b>	3	3
<b>Average</b>	3.00	3.00

Table 3.1.2(14) Course Articulation Matrix for Mechanical Measurement & Metrology (Semester – 4), Course Code: NC209 Year of Study: 2019-20 (2018 – Batch)

Course Outcomes	PSO1	PSO2
<b>NC209.1</b>	3	2
<b>NC209.2</b>	3	3
<b>NC209.3</b>	3	1
<b>NC209.4</b>	2	-
<b>Average</b>	2.75	2.00

Table 3.1.2 (15) Course Articulation Matrix for Manufacturing Technology (Semester – 5), Course Code: NC308 Year of Study: 2020-21 (2018 – Batch)

Course Outcomes	PSO1	PSO2
<b>NC308.1</b>	3	3
<b>NC308.2</b>	3	3
<b>NC308.3</b>	3	3
<b>NC308.4</b>	3	3
<b>NC308.5</b>	3	3
<b>Average</b>	3.00	3.00

Table 3.1.2(16) Course Articulation Matrix for Computer Aided Manufacturing (Semester – 6), Course Code: NC325 Year of Study: 2020-21 (2018 – Batch)

Course Outcomes	PSO1	PSO2
NC325.1	3	3
NC325.2	3	3
NC325.3	3	3
NC325.4	3	3
NC325.5	2	1
Average	2.80	2.60

Table 3.1.2(17) Course Articulation Matrix for Nano-Technology and Surface Engineering (Semester – 7), Course Code: NC419 Year of Study: 2021-22 (2018 – Batch)

Course Outcomes	PSO1	PSO2
NC419.1	2	2
NC419.2	3	2
NC419.3	3	2
NC419.4	3	2
NC419.5	2	2
Average	2.60	2.00

Table 3.1.2(18) Course Articulation Matrix for Internship/Project (Semester – 8), Course code: NC420 Year of Study: 2021-22 (2018 – Batch)

Couse Outcomes	PSO1	PSO2
NC420.1	3	3
NC420.2	3	3
NC420.3	3	3
NC420.4	3	3
NC420.5	3	3
Average	3.00	3.00

### 3.1.3 Program level Course-PO matrix of all courses including first year courses (10)

#### 1. Mapping of Course with POs

The mean of CO-PO correlation matrices for each PO is considered for the course-PO correlation. Table 3.1.3(1) shows the course-PO correlation for all courses including the first year for the old curriculum applicable to the 2016-Batch and 2017-Batch respectively



including elective courses. Table 3.1.3(2) shows the course-PO correlation for all courses including the first year for the new curriculum applicable to the 2018-Batch and 2019-Batch. The correlation is between 1 and 3. The “-” is kept instead of numerals for the Course and POs that are not correlated.

Table 3.1.3(1) Course-PO matrix for 2016-Batch and 2017-Batch

GTU Code	NBA Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2110002	OC101	-	1.00	-	-	-	1.00	-	1.00	1.00	2.17	1.00	1.50
2110003	OC102	-	-	-	-	-	1.25	1.67	2.00	1.33	2.00	-	2.33
2110005	OC104	3.00	3.00	-	-	-	3.00	-	2.00	-	2.00	-	3.00
2110006	OC105	2.00	2.00	2.00	-	-	-	1.00	1.00	-	-	-	-
2110007	OC106	2.33	-	-	-	-	2.60	2.83	1.00	-	-	-	2.20
2110014	OC110	2.00	2.00	-	-	-	-	-	-	-	-	-	1.00
2110004	OC103	2.00	2.00	-	-	1.00	2.50	1.00	2.00	2.00	2.00	-	2.50
2110011	OC107	2.50	1.67	-	-	-	-	-	2.33	2.00	1.50	-	2.00
2110012	OC108	3.00	-	2.00	-	-	3.00	-	3.00	3.00	2.00	-	1.00
2110013	OC109	2.17	1.75	1.50	-	2.50	-	1.00	-	-	1.75	-	2.17
2110015	OC111	2.40	1.60	-	-	-	-	-	-	-	-	-	1.00
2990001	OC112	-	-	-	-	-	1.25	1.67	2.00	1.33	2.00	-	2.33
2130002	OC201	2.60	2.00	-	-	-	-	-	-	-	-	-	1.60
2130003	OC202	3.00	3.00	-	-	-	-	-	2.00	2.00	2.33	-	2.00
2130005	OC203	3.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	2.00	3.00	3.00
2131903	OC204	3.00	2.50	2.00	-	1.00	-	-	2.00	3.00	2.00	-	2.00
2131904	OC205	3.00	2.00	-	2.00	2.00	2.00	-	2.00	2.00	1.80	-	2.20
2131905	OC206	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	2.50
2131906	OC207	2.75	2.75	2.25	2.00	1.50	-	-	-	1.00	1.25	-	1.00
2140002	OC208	3.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	3.00	2.33	3.00	3.00
2140003	OC209	-	-	-	-	-	-	1.50	1.33	1.17	1.83	1.83	-
2141901	OC210	3.00	2.80	1.75	-	2.00	2.33	-	1.00	1.00	1.00	-	1.80
2141905	OC211	3.00	2.00	-	-	-	-	-	-	-	-	-	1.60
2141906	OC212	3.00	2.25	2.33	1.67	-	1.67	-	1.00	2.00	-	-	2.20
2141907	OC213	3.00	2.60	2.80	2.25	2.33	2.00	-	2.00	2.25	2.20	-	2.00
2141908	OC214	3.00	2.75	2.50	-	2.00	1.00	-	2.00	3.00	2.50	-	2.75
2150001	OC301	3.00	3.00	3.00	2.67	1.80	3.00	2.00	2.33	3.00	3.00	3.00	3.00
2150002	OC302	3.00	2.33	2.50	3.00	2.00	-	3.00	-	-	-	-	-
2150003	OC303	2.00	2.50	2.00	2.00	2.00	2.00	1.67	2.00	1.00	2.67	1.33	1.00
2151902	OC304	3.00	2.67	2.83	2.83	2.00	-	2.00	1.80	1.50	1.50	-	2.00
2151903	OC305	3.00	2.00	2.67	1.00	-	-	-	1.00	2.00	-	-	2.50
2151907	OC306	3.00	2.50	2.50	2.33	-	1.50	1.00	1.00	2.00	-	-	1.00
2151908	OC307	2.25	2.25	2.00	1.67	3.00	2.00	1.00	-	1.67	-	1.00	1.50
2151909	OC308	3.00	3.00	3.00	3.00	-	2.00	-	1.00	2.00	1.00	-	2.00
2160001	OC309	3.00	3.00	3.00	3.00	2.00	2.50	2.33	2.00	3.00	2.60	3.00	2.40
2161901	OC310	3.00	2.75	3.00	3.00	-	2.00	-	1.00	1.00	2.00	-	2.25

2161902	OC311	3.00	3.00	2.00	2.00	-	-	2.00	1.00	1.00	1.00	-	2.00
2161903	OC312	3.00	2.75	2.00	1.67	1.75	2.00	1.67	1.00	1.67	1.33	-	2.25
2161907	OC313	3.00	3.00	2.33	2.00	2.25	2.00	2.00	2.00	2.60	2.20	2.00	2.80
2161908	OC314	3.00	3.00	3.00	3.00	2.00	2.00	2.00	1.00	1.00	-	1.00	3.00
2161909	OC315	2.83	2.50	1.83	2.50	2.00	2.00	2.00	1.00	2.00	1.00	-	2.00
2170001	OC401	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	3.00
2171901	OC403	2.60	2.20	2.60	2.00	-	3.00	-	-	2.00	2.00	2.25	2.25
2171903	OC404	2.33	2.40	2.33	1.67	2.50	1.00	1.00	1.00	1.20	1.60	-	2.40
2171909	OC405	3.00	3.00	3.00	3.00	-	2.00	-	2.00	2.00	2.00	-	-
2171910	OC406	3.00	3.00	3.00	-	-	1.00	3.00	1.00	-	1.00	-	2.00
2171913	OC409	2.83	2.33	2.00	1.75	2.00	1.00	-	1.00	2.00	1.00	-	2.00
2181909	OC412	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	3.00
2181910	OC413	2.33	2.00	3.00	-	2.00	2.00	2.00	-	-	2.00	3.00	2.00
2181923	OC426	2.67	3.00	2.00	2.00	2.00	2.00	1.67	3.00	3.00	3.00	2.00	2.00
2181927	OC430	2.50	2.83	2.33	2.00	2.00	1.33	-	2.00	2.00	2.00	-	1.50

Table 3.1.3(2) Course-PO matrix for 2018-Batch and 2019-Batch

GTU Code	NBA Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3110003	NC103	2.40	2.00	2.00	2.00	2.00	-	-	-	-	2.00	-	2.00
3110004	NC104	2.50	2.00	2.00	-	1.00	2.00	2.00	1.67	3.00	2.00	2.00	2.33
3110005	NC105	3.00	3.00	-	-	-	3.00	-	2.00	-	2.00	-	3.00
3110006	NC106	2.00	2.00	2.00	-	-	-	1.00	1.00	-	-	-	2.00
3110014	NC111	2.40	2.60	-	-	-	-	-	-	-	-	-	2.00
3110017	NC114	-	-	-	-	-	-	-	-	-	-	-	-
3110002	NC102	-	-	-	-	-	-	-	1.75	1.33	2.00	-	1.50
3110007	NC107	1.50	-	2.00	-	-	1.50	2.00	1.67	1.00	1.50	-	2.00
3110011	NC108	2.40	1.50	-	-	-	-	-	2.33	1.75	1.40	-	2.00
3110012	NC109	3.00	2.00	-	-	2.00	2.00	-	2.00	3.00	2.00	-	1.00
3110013	NC110	2.50	2.00	1.50	-	2.50	-	2.00	-	-	2.33	-	2.17
3110015	NC112	2.80	2.40	-	-	-	-	-	-	-	-	-	1.67
3130004	NC201	-	-	-	-	-	-	-	1.17	1.33	2.00	-	1.00
3130005	NC202	2.80	2.20	-	-	-	-	-	-	-	-	-	2.33
3130007	NC203	-	-	-	-	-	1.50	-	1.20	-	-	-	-
3130008	NC204	2.67	2.00	2.00	3.00	2.00	1.50	2.00	1.00	2.50	2.00	1.50	1.00
3131904	NC205	3.00	2.00	-	2.00	2.00	2.00	-	2.00	2.00	1.80	-	2.20
3131905	NC206	3.00	3.00	3.00	3.00	-	-	-	1.00	-	1.00	-	3.00
3131906	NC207	3.00	2.40	2.00	2.50	3.00	-	-	1.00	1.00	1.50	-	2.00
3140005	NC208	3.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	3.00	2.33	3.00	3.00
3141901	NC209	3.00	2.75	1.75	1.00	2.50	1.50	-	1.00	1.00	1.50	-	2.25
3141906	NC210	3.00	2.75	3.00	2.00	-	-	-	-	2.00	-	-	2.00
3141907	NC211	2.80	2.75	3.00	2.25	2.00	1.00	1.50	-	1.50	2.00	1.00	2.00
3141908	NC212	3.00	3.00	3.00	2.00	-	-	-	2.00	3.00	2.00	-	2.00
3141909	NC213	-	-	-	-	-	1.00	1.00	1.25	2.25	1.50	1.00	1.67

<b>3150001</b>	NC301	3.00	3.00	3.00	2.67	1.80	3.00	2.00	2.33	3.00	3.00	3.00	3.00
<b>3150004</b>	NC302	-	-	-	-	1.67	1.33	-	1.67	1.50	1.17	-	1.17
<b>3150005</b>	NC303	-	-	-	-	-	2.67	1.00	1.67	1.33	2.00	-	1.50
<b>3151909</b>	NC305	3.00	3.00	3.00	3.00	-	2.00	-	1.00	2.00	1.00	-	2.00
<b>3151910</b>	NC306	2.60	2.20	2.60	2.00	-	3.00	-	-	2.00	2.00	2.25	2.25
<b>3151911</b>	NC307	3.00	2.80	3.00	2.60	-	1.67	-	1.00	1.00	2.00	-	2.20
<b>3151912</b>	NC308	3.00	3.00	3.00	2.00	-	-	-	2.00	3.00	2.00	-	2.00
<b>3151913</b>	NC309	2.00	-	3.00	2.00	2.00	2.00	-	2.00	-	2.00	-	1.00
<b>3160001</b>	NC313	3.00	3.00	3.00	3.00	2.00	2.50	2.33	2.00	3.00	2.60	3.00	2.40
<b>3160002</b>	NC314	-	-	-	-	1.83	1.50	-	1.33	1.33	1.17	-	1.00
<b>3160003</b>	NC315	-	-	-	-	-	2.67	1.00	1.67	1.33	2.00	-	1.50
<b>3161903</b>	NC316	2.80	2.50	2.60	1.67	2.80	2.00	1.50	1.00	2.33	2.00	-	2.40
<b>3161910</b>	NC318	3.00	2.00	2.00	2.00	-	-	2.00	1.00	1.00	1.00	-	2.00
<b>3161917</b>	NC325	2.60	2.50	2.50	1.50	2.25	1.00	1.00	1.00	1.40	1.80	2.00	2.60
<b>3161919</b>	NC327	2.33	2.40	2.33	2.50	3.00	2.00	2.00	2.25	2.67	2.75	3.00	2.25
<b>3161922</b>	NC330	2.80	2.20	1.00	1.00	2.40	1.00	-	1.00	1.00	1.00	-	1.50
<b>3161924</b>	NC332	3.00	2.60	2.00	1.50	2.33	2.20	1.50	1.40	3.00	3.00	2.00	2.00
<b>3170001</b>	NC401	2.00	2.00	1.00	1.00	2.00	2.00	2.00	3.00	2.00	2.00	1.00	2.00
<b>3171506</b>	NC402	2.00	2.00	-	1.00	-	2.00	-	3.00	3.00	2.00	3.00	3.00
<b>3171910</b>	NC403	3.00	3.00	3.00	-	-	1.00	3.00	-	-	-	1.00	2.00
<b>3171917</b>	NC405	3.00	2.60	2.60	3.00	3.00	3.00	2.00	2.00	2.00	2.75	-	2.33
<b>3171918</b>	NC406	3.00	3.00	3.00	3.00	2.00	1.00	2.00	-	-	-	-	3.00
<b>3171923</b>	NC411	3.00	3.00	2.00	2.00	-	-	2.00	1.00	1.00	1.00	-	2.00
<b>3171931</b>	NC419	2.80	2.25	2.67	2.50	2.67	2.00	1.00	-	-	-	-	2.00
<b>3181901</b>	NC420	3.00	3.00	3.00	2.00	3.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00

## 2. Mapping of course with PSOs

The mean of CO-PSO correlation matrices for each PSO is considered for the course-PSO correlation. Table 3.1.3(3) shows the course-PSO correlation for all courses including the first year for the old teaching scheme applicable to the 2016-Batch and 2017-Batch including the elective courses offered in these years. Table 3.1.3(4) shows the course-PSO correlation for all courses including the first year for the new teaching scheme applicable to the 2018-Batch and 2019-Batch which will be getting graduated in CAY. The correlation is between 1 and 3. The “-” is kept instead of numerals for the Course and PSOs that are not correlated.

Table 3.1.3(3) Course-PSO matrix for 2016-Batch and 2017-Batch

GTU Code	NBA Code	PSO1	PSO2
<b>2110002</b>	OC101	-	-
<b>2110003</b>	OC102	-	-
<b>2110005</b>	OC104	2.00	2.67
<b>2110006</b>	OC105	1.80	1.00
<b>2110007</b>	OC106	-	-

<b>2110014</b>	OC110	-	1.00
<b>2110004</b>	OC103	-	2.00
<b>2110011</b>	OC107	-	-
<b>2110012</b>	OC108	3.00	3.00
<b>2110013</b>	OC109	-	1.00
<b>2110015</b>	OC111	-	1.00
<b>2990001</b>	OC112	-	-
<b>2130002</b>	OC201	-	1.00
<b>2130003</b>	OC202	-	2.00
<b>2130005</b>	OC203	-	1.00
<b>2131903</b>	OC204	3.00	3.00
<b>2131904</b>	OC205	3.00	3.00
<b>2131905</b>	OC206	3.00	2.00
<b>2131906</b>	OC207	2.25	2.50
<b>2140002</b>	OC208	2.00	2.00
<b>2140003</b>	OC209	-	-
<b>2141901</b>	OC210	3.00	2.00
<b>2141905</b>	OC211	-	2.25
<b>2141906</b>	OC212	1.75	2.00
<b>2141907</b>	OC213	2.40	2.00
<b>2141908</b>	OC214	3.00	2.75
<b>2150001</b>	OC301	2.00	2.00
<b>2150002</b>	OC302	-	-
<b>2150003</b>	OC303	2.33	1.50
<b>2151902</b>	OC304	2.40	2.75
<b>2151903</b>	OC305	2.00	2.00
<b>2151907</b>	OC306	2.25	2.00
<b>2151908</b>	OC307	2.00	2.50
<b>2151909</b>	OC308	3.00	3.00
<b>2160001</b>	OC309	2.00	2.00
<b>2161901</b>	OC310	2.25	2.75
<b>2161902</b>	OC311	2.00	2.00
<b>2161903</b>	OC312	2.25	2.75
<b>2161907</b>	OC313	3.00	3.00
<b>2161908</b>	OC314	3.00	3.00
<b>2161909</b>	OC315	2.50	2.33
<b>2170001</b>	OC401	3.00	3.00
<b>2171901</b>	OC403	2.60	2.40
<b>2171903</b>	OC404	1.67	1.80
<b>2171909</b>	OC405	3.00	3.00
<b>2171910</b>	OC406	3.00	3.00
<b>2171913</b>	OC409	2.33	2.17
<b>2181909</b>	OC412	3.00	3.00
<b>2181910</b>	OC413	3.00	3.00
<b>2181923</b>	OC426	1.50	1.50

2181927	OC430	2.67	2.33
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Table 3.1.3(4) Course-PSO matrix for 2018-Batch

GTU Code	NBA Code	PSO1	PSO2
3110003	NC103	2.00	2.00
3110004	NC104	-	2.00
3110005	NC105	-	-
3110006	NC106	1.80	1.00
3110014	NC111	-	1.20
3110017	NC114	-	-
3110002	NC102	-	-
3110007	NC107	-	2.00
3110011	NC108	-	-
3110012	NC109	2.00	2.00
3110013	NC110	-	1.00
3110015	NC112	-	1.20
3130004	NC201	-	-
3130005	NC202	-	1.60
3130007	NC203	-	-
3130008	NC204	2.00	2.00
3131904	NC205	3.00	3.00
3131905	NC206	3.00	2.00
3131906	NC207	2.40	2.40
3140005	NC208	2.00	2.00
3141901	NC209	2.75	2.00
3141906	NC210	2.00	2.50
3141907	NC211	2.20	2.75
3141908	NC212	3.00	3.00
3141909	NC213	-	-
3150001	NC301	2.00	2.00
3150004	NC302	-	-
3150005	NC303	-	-
3151909	NC305	2.00	2.00
3151910	NC306	2.60	2.40
3151911	NC307	2.20	2.80
3151912	NC308	3.00	3.00
3151913	NC309	3.00	2.00
3160001	NC313	2.00	2.00
3160002	NC314	-	-
3160003	NC315	-	-
3161903	NC316	2.40	2.60
3161910	NC318	2.00	2.00
3161917	NC325	2.80	2.60

<b>3161919</b>	NC327	2.25	3.00
<b>3161922</b>	NC330	2.60	2.00
<b>3161924</b>	NC332	1.75	1.50
<b>3170001</b>	NC401	2.00	2.00
<b>3171506</b>	NC402	2.80	2.80
<b>3171910</b>	NC403	3.00	3.00
<b>3171917</b>	NC405	2.25	2.80
<b>3171918</b>	NC406	3.00	3.00
<b>3171923</b>	NC411	2.00	2.00
<b>3171931</b>	NC419	2.60	2.00
<b>3181901</b>	NC420	3.00	3.00

### 3.2 Attainment of Course Outcomes (50)

#### 3.2.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based (10)

The assessment was made as per the assessment scheme provided by the university. The evaluation of course outcome is based on the marks scored by students in the following assessment methods:

- (1) Internal Assessment
  - (2) External Assessment
- (1) **Internal Assessment** – It comprises of:
- i. Progressive Evaluation – (1) Assignment/Tutorials completed by the students, (2) Performance of the students in laboratory (3) Interactive performance of the student in theory, practical, and tutorial classes
  - ii. Mid semester examination/class test
  - iii. Internal Viva
- (2) **External Assessment** – It comprises of:
- i. University theory examination
  - ii. University practical and viva examination

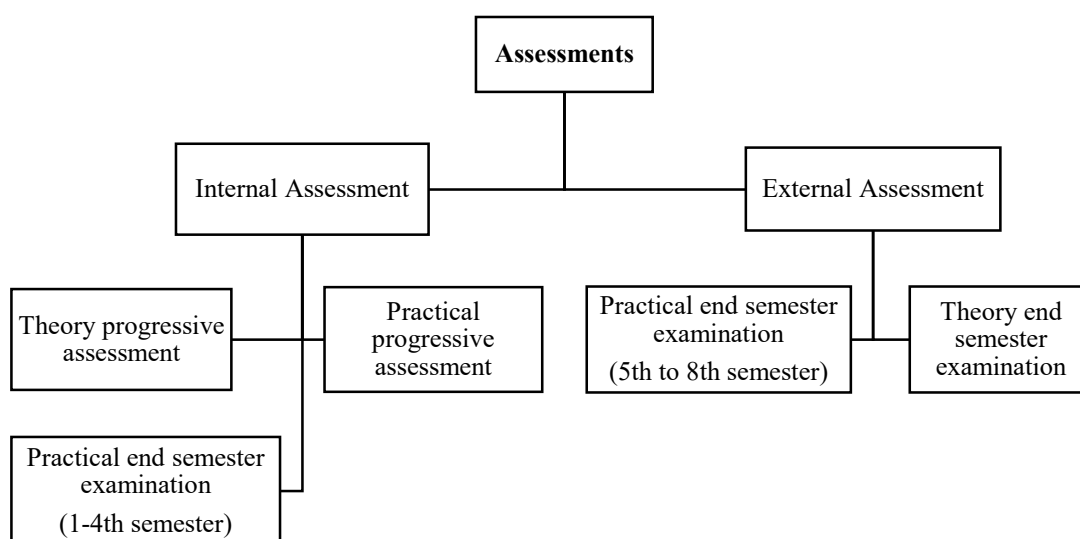


Fig. 3.2.1(1) Assessment tools for course attainment

The distribution of marks as per the assessment scheme of the university are as follows:

- i. Table 3.2.1(1) shows the evaluation scheme as per the university syllabus for all courses, covering theoretical and practical aspects, from semesters 1 to 4.

Table 3.2.1(1) Evaluation scheme for semesters 1 to 4

Assessment Methods		Marks
<b>Internal Assessment</b>	Theory progressive assessment	30
	Practical progressive assessment	20
	Practical end semester examination	30
	<b>Total Internal-Assessment Marks</b>	<b>80</b>
<b>External Assessment</b>	University Theory Examination	70
	University practical end semester examination	-
	<b>Total External-Assessment Marks</b>	<b>70</b>
<b>Total Marks</b>		<b>150</b>

- ii. Table 3.2.1(2) shows the evaluation scheme as per the university syllabus for all courses, covering theoretical and practical aspects, from semester 5 to 8.

Table 3.2.1(2) Evaluation scheme for semester 5 to 8

Assessment Methods		Marks
<b>Internal Assessment</b>	Theory progressive assessment	30
	Practical progressive assessment	20
	Practical end semester examination	-
	<b>Total Internal-Assessment Marks</b>	<b>50</b>
	University Theory Examination	70

<b>External Assessment</b>	University practical end semester examination	30
	<b>Total External-Assessment Marks</b>	<b>100</b>
<b>Total Marks</b>		<b>150</b>

- iii. Table 3.2.1(3) shows the evaluation scheme of the courses which only covers the theoretical part as per the university syllabus.

Table 3.2.1(3) Evaluation scheme for theoretical courses

<b>Assessment Methods</b>		<b>Marks</b>
<b>Internal Assessment</b>	Theory progressive assessment	30
	Practical progressive assessment	-
	Practical end semester examination	-
	<b>Total Internal-Assessment Marks</b>	<b>30</b>
<b>External Assessment</b>	University Theory Examination	70
	University practical end semester examination	-
	<b>Total External-Assessment Marks</b>	<b>70</b>
<b>Total Marks</b>		<b>100</b>

- iv. Table 3.2.1(4) shows the evaluation scheme for the courses which covers only practical aspects as per the university syllabus. This courses includes (a) Project (OC401, OC412) (b) Summer Internship (NC401) (c) Design Engineering (OC203, OC208, OC301, OC309, NC204, NC208, NC301, NC313) (d) Workshop (OC108) and Workshop/Manufacturing practices (NC109).

Table 3.2.1(4) Evaluation scheme for practical courses

<b>Assessment Methods</b>		<b>Marks</b>
<b>Internal Assessment</b>	Theory progressive assessment	-
	Practical progressive assessment	20
	Practical end semester examination	-
	<b>Total Internal-Assessment Marks</b>	<b>20</b>
<b>External Assessment</b>	University Theory Examination	-
	University practical end semester examination	80
	<b>Total External-Assessment Marks</b>	<b>80</b>
<b>Total Marks</b>		<b>100</b>



- v. Table 3.2.1(5) shows the scheme of project/internship (NC420) under new Evaluation scheme provided by the university for semester 8. This scheme of the new courses was implemented for 2018 and 2019-Batches.

Table 3.2.1(5) Evaluation scheme for project/internship (NC420)

Assessment Methods		Marks
<b>Internal Assessment</b>	Theory progressive assessment	-
	Practical progressive assessment	100
	Practical end semester examination	-
	<b>Total Internal-Assessment Marks</b>	<b>100</b>
<b>External Assessment</b>	University Theory Examination	-
	University practical end semester examination	100
	<b>Total External-Assessment Marks</b>	<b>100</b>
Total Marks		<b>200</b>

The above schemes (Table 3.2.1 (1-5)) encompass all courses of the curriculum except Indian Constitution (NC203), which is offered in third semester. The evaluation of the course Indian Constitution (NC203), is performed through an external university theory examination of 50 marks.

The theory progressive assessment includes assignments/tutorials completed by the students, class tests and mid-term examinations. Students' practical progressing performance involves evaluation of lab manuals/tutorials, interactive performance in practical and tutorial sessions, attendance and practical viva during each lab and tutorial hour.

The university and institute conduct the theory end semester examination at the end of the semester. Practical end-of-semester exams are conducted at the institution level till semester 4, and then at the university level from semesters 5 to 8.

### 3.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels (40)

- Four-year B. E. Mechanical program is divided into eight semesters.
- Courses of this program consist of theory and practical hours as per the teaching scheme provided by the GTU.
- The attainment for all courses of the program was computed.
- Attainment was determined for the 2016-Batch and 2017-Batch, as well as the 2018-Batch and 2019-Batch.
- The grades obtained by each student in the end-semester result declared by the university were used to evaluate course outcome attainment.

- For example, the following Table 3.2.2(1) shows the sample list of students from the 2017-Batch obtaining grades for the course of semester-5, namely theory of machines (OC304, 2151902).

Table 3.2.2(1) Sample grades for the course of 2017-Batch, semester-5, namely theory of machines (OC304, 2151902)

PEN	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end semester exam (PR ESE) ( $i = 3$ or 4)	Practical progressive assessment (PR PA) ( $i = 5$ )
170490119001	DD	CC	BB	AB
170490119002	CD	BC	BB	AA
170490119005	CD	BC	BB	AA
:	:	:	:	:
:	:	:	:	:
180493119055	DD	CC	AB	AA
180493119057	CC	CC	AB	AB
180493119058	CC	BB	AB	AB

- Total number of students under each grades were counted. The following Table 3.2.2(2) shows the number of students in each grade level.

Table 3.2.2(2) Number of students possessing each grades for the course of theory of machines (OC304, 2151902) of 2017-Batch, semester-5.

Grades	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end semester exam (PR ESE) ( $i = 3$ or 4)	Practical progressive assessment (PR PA) ( $i = 5$ )
<b>AA</b>	0	4	17	37
<b>AB</b>	3	13	53	38
<b>BB</b>	7	17	30	25
<b>BC</b>	10	21	0	0
<b>CC</b>	23	22	0	0
<b>CD</b>	15	23	0	0
<b>DD</b>	39	0	0	0
<b>FF</b>	4	1	1	1
<b>Total number of students (<math>S_{ij}</math>)</b>	101	101	101	101

- AA and AB grade students are considered to have an attainment level of 3; BB, BC, and CC grade students are considered to have an attainment level of 2; CD and DD grade students are considered to have an attainment level of 1; and FF grade students are considered to have an attainment level of 0.

Let,

- $(S_{AA-AB})_{ij}$  is the number of students who obtained AA and AB grades in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $(S_{BB-CC})_{ij}$  is the number of students who obtained BB, BC and CC grades in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $(S_{CD-DD})_{ij}$  is the number of students who obtained CD and DD grades in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $(S_{FF})_{ij}$  is the number of students who obtained FF grade in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $S_{ij}$  is the total number of students in the  $i^{th}$  assessment component of the  $j^{th}$  course  $[(S_{AA-AB})_{ij} + (S_{BB-CC})_{ij} + (S_{CD-DD})_{ij} + (S_{FF})_{ij}]$ .
- Here,  $i$  denotes the type of assessment component (for the  $j^{th}$  course). These assessment types ( $i$ ) are - (1) University theory end semester examination (TH ESE), (2) Theory progressive assessment (TH PA), (3) Practical internal end semester examination (PR ESE) and (4) Practical progressive assessment (PR PA).
- Number of students in each attainment level were counted as shown in Table 3.2.2(3).

Table 3.2.2(3) Number of students for each attainment level for course of theory of machines (C304, 2151902), 2017-Batch, semester-5.

Attainment level	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end semester exam (PR ESE) ( $i = 3$ or 4)	Practical progressive assessment (PR PA) ( $i = 5$ )
$(S_{AA-AB})_{ij}$ (Attainment level 3)	3	17	70	75
$(S_{BB-CC})_{ij}$ (Attainment level 2)	40	60	30	25

<b><math>(S_{CD-DD})_{ij}</math> (Attainment level 1)</b>	54	23	0	0
<b><math>(S_{FF})_{ij}</math> (Attainment level 0)</b>	4	1	1	1
Total number of students ( $S_{ij}$ )	101	101	101	101

- Fraction of the number of students for the attainment level 1, 2 and 3 (ie.  $(S_{AA-AB})_{ij}$ ,  $(S_{BB-CC})_{ij}$ ,  $(S_{CD-DD})_{ij}$ , and  $(S_{FF})_{ij}$ ) out of the total students ( $S_{ij}$ ) were evaluated. Table 3.2.2(4) shows the fractional calculation for each attainment level.
- The course outcome attainment ( $COA_{ij}$ ) for each assessment component ( $i$ ) and  $j^{th}$  course (Eq. (3.1)), was computed by multiplying the percentage of students in each grade group by the corresponding set attainment levels. A sample calculation is shown in Table 3.2.2(4).

$$COA_{ij} = \left[ \left( 3 \cdot \frac{(S_{AA-AB})_{ij}}{S_{ij}} \right) + \left( 2 \cdot \frac{(S_{BB-CC})_{ij}}{S_{ij}} \right) + \left( 1 \cdot \frac{(S_{CD-DD})_{ij}}{S_{ij}} \right) + \left( 0 \cdot \frac{(S_{FF})_{ij}}{S_{ij}} \right) \right] \quad (3.1)$$

Here, Attainment levels of three, two, one, and zero are multiplied by the fraction of total students in each group.

Table 3.2.2(4) Fractional calculation for each attainment level for the course of theory of machines (OC304, 2151902), 2017-Batch, semester-5.

Fraction for different attainment level	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end semester exam (PR ESE) ( $i = 3$ or 4)	Practical progressive assessment (PR PA) ( $i = 5$ )
$\frac{(S_{AA-AB})_{ij}}{S_{ij}}$	0.03	0.17	0.70	0.75
$\frac{(S_{BB-CC})_{ij}}{S_{ij}}$	0.40	0.60	0.30	0.25
$\frac{(S_{CD-DD})_{ij}}{S_{ij}}$	0.53	0.23	0.00	0.00
$\frac{(S_{FF})_{ij}}{S_{ij}}$	0.04	0.00	0.00	0.00
<b>Attainment (<math>COA_{ij}</math>)</b>	1.42	1.92	2.67	2.72

- The course outcome attainment ( $COA_j$ ) for each individual internal and external component for a course is then computed as per Eq. (3.2).

$$COA_j = \sum_{i=1}^4 (COA_{ij} \cdot W_{ij}) \quad (3.2)$$

Here, the weights ( $W_{ij}$ ) is the ratio of the maximum marks of an assessment tool to the total marks.  $W_{ij}$  is the weight given for the  $i^{\text{th}}$  assessment component of the  $j^{\text{th}}$  course (Table 3.2.2(5) to 3.2.2(9)) based on the scheme provided by GTU (Table 3.2.1(1) to 3.2.1(5)). Table 3.2.2(5) shows the weight as per the university syllabus for all courses, covering theoretical and practical aspects, from semesters 1 to 4.

Table 3.2.2(5) Weight for assessment methods for semesters 1 to 4

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	0.20
	Practical progressive assessment, $W_2$	0.13
	Practical end semester examination, $W_3$	0.20
	<b>Total Internal-Assessment Weight</b>	<b>0.53</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	0.47
	University practical end semester examination, $W_5$	-
	<b>Total External-Assessment Weight</b>	<b>0.47</b>
Total Weight		<b>1</b>

Table 3.2.2(6) shows the weight as per the university syllabus for all courses, covering theoretical and practical aspects, from semesters 5 to 8.

Table 3.2.2(6) Weight for assessment methods for semesters 5 to 8

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	0.20
	Practical progressive assessment, $W_2$	0.13
	Practical end semester examination, $W_3$	-
	<b>Total Internal-Assessment Weight</b>	<b>0.33</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	0.47
	University practical end semester examination, $W_5$	0.20
	<b>Total External-Assessment Weight</b>	<b>0.67</b>
Total Weight		<b>1</b>

Table 3.2.2(7) shows the weight of the courses, which only covers the theoretical part as per the university syllabus.

Table 3.2.2(7) Weight for assessment methods for theoretical courses

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	0.3
	Practical progressive assessment, $W_2$	-
	Practical end semester examination, $W_3$	-
	<b>Total Internal-Assessment Weight</b>	<b>0.30</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	0.70
	University practical end semester examination, $W_5$	-
	<b>Total External-Assessment Weight</b>	<b>0.70</b>
Total Weight		<b>1</b>

The weight for the courses, which cover only practical aspects as per the university syllabus, is shown in Table 3.2.2(8). This courses includes (a) Project (OC401, OC412) (b) Summer Internship (NC401) (c) Design Engineering (OC203, OC208, OC301, OC309, NC204, NC208, NC301, NC313) (d) Workshop (OC108) and Workshop/Manufacturing practices (NC109)

Table 3.2.2(8) Weight for assessment methods for practical courses

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	-
	Practical progressive assessment, $W_2$	0.20
	Practical end semester examination, $W_3$	-
	<b>Total Internal-Assessment Weight</b>	<b>0.20</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	-
	University practical end semester examination, $W_5$	0.80
	<b>Total External-Assessment Weight</b>	<b>0.80</b>
Total Weight		<b>1</b>

Table 3.2.2(9) shows the weight for the project/internship (NC420) under the new Evaluation scheme provided by the university for semester 8.

Table 3.2.2(9) Weight for assessment methods for project/internship (NC420)

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	-
	Practical progressive assessment, $W_2$	0.5
	Practical end semester examination, $W_3$	-
	<b>Total Internal-Assessment Weight</b>	<b>0.5</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	-
	University practical end semester examination, $W_5$	0.5
	<b>Total External-Assessment Weight</b>	<b>0.5</b>
Total Weight		<b>1</b>

- The following Table 3.2.2(10) shows the sample calculation of the  $COA_j$  based on Eq. (3.1) and (3.2) for the same course of 2017-Batch, Semester 5.

Table 3.2.2(10) Calculation of  $COA$  for the course of 2017-Batch, semester-5, namely theory of machines (C304, 2151902)

	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end semester exam (PR ESE) ( $i = 3$ or 4)	Practical progressive assessment (PR PA) ( $i = 5$ )
<b>Weight (<math>W_i</math>)</b>	0.47	0.20	0.20	0.13
<b>Attainment (<math>COA_{ij}</math>)</b>	1.42	1.92	2.67	2.72
<b>Course outcome attainment (<math>COA_j</math>)</b>	1.94			

- Table 3.2.2 (11), (12), (13) and (14) shows the course outcome attainment ( $COA_j$ ) for all courses of 2016 Batch, 2017 Batch, 2018 Batch and 2019 Batch graduated in CAYm3, CAYm2, CAYM1 and CAY respectively. Similarly, course outcomes for all the batches were evaluated.

Here,

$$\alpha = (S_{AA-AB})_{ij} / S_{ij}$$

$$\beta = (S_{BB-CC})_{ij} / S_{ij}$$

$$\gamma = (S_{CD-DD})_{ij} / S_{ij}$$

$$\kappa = (S_{FF})_{ij} / S_{ij}$$

Table 3.2.2(11) The course outcome attainment for all courses of 2016 Batch graduated in CAYm3

Sr. No.	Sem / Year	NBA Code	Total number of student $S_{ij}$	Theory end Semester exam (TH ESE) (i = 1)					Theory Progressive Assessment (TH PA) (i=2)					Practical end Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainment (COA) <sub>j</sub>
				$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
1	1	OC101	69	0.00	0.03	2.48	0.57	0.41	0.00	0.03	2.51	0.00	0.03	2.48	0.57	0.41	0.00	0.03	2.51	0.00	0.03	2.48	0.57	0.47	0.20	0.20	0.13	1.84
2	1	OC102	69	0.00	0.03	2.38	0.43	0.54	0.00	0.03	2.38	0.00	0.03	2.38	0.43	0.54	0.00	0.03	2.38	0.00	0.03	2.38	0.43	0.47	0.20	0.20	0.13	1.69
3	1	OC104	69	0.00	0.03	2.14	0.71	0.26	0.00	0.03	2.65	0.00	0.03	2.14	0.71	0.26	0.00	0.03	2.65	0.00	0.03	2.14	0.71	0.47	0.20	0.20	0.13	1.28
4	1	OC105	69	0.00	0.03	2.48	0.29	0.68	0.00	0.03	2.23	0.00	0.03	2.48	0.29	0.68	0.00	0.03	2.23	0.00	0.03	2.48	0.29	0.47	0.20	0.20	0.13	1.52
5	1	OC106	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.46
6	1	OC110	69	0.00	0.03	2.28	0.46	0.49	0.00	0.04	2.38	0.00	0.03	2.28	0.46	0.49	0.00	0.04	2.38	0.00	0.03	2.28	0.46	0.47	0.20	0.20	0.13	1.46
7	2	OC103	60	0.00	0.00	2.38	0.38	0.62	0.00	0.00	2.38	0.00	0.00	2.38	0.38	0.62	0.00	0.00	2.38	0.00	0.00	2.38	0.38	0.47	0.20	0.20	0.13	1.56
8	2	OC107	60	0.00	0.00	2.08	0.13	0.87	0.00	0.00	2.13	0.00	0.00	2.08	0.13	0.87	0.00	0.00	2.13	0.00	0.00	2.08	0.13	0.47	0.20	0.20	0.13	1.46
9	2	OC108	60	0.00	0.00	2.93	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.93	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.93	0.60	0.00	0.00	0.80	0.20	2.87
10	2	OC109	60	0.00	0.00	2.70	0.80	0.20	0.00	0.00	2.80	0.00	0.00	2.70	0.80	0.20	0.00	0.00	2.80	0.00	0.00	2.70	0.80	0.47	0.20	0.20	0.13	1.72
11	2	OC111	60	0.00	0.00	2.22	0.23	0.77	0.00	0.00	2.23	0.00	0.00	2.22	0.23	0.77	0.00	0.00	2.23	0.00	0.00	2.22	0.23	0.47	0.20	0.20	0.13	1.52
12	2	OC112	60	0.00	0.00	2.02	0.10	0.90	0.00	0.00	2.10	0.00	0.00	2.02	0.10	0.90	0.00	0.00	2.10	0.00	0.00	2.02	0.10	0.47	0.20	0.20	0.13	2.29
13	3	OC201	115	0.00	0.03	2.21	0.24	0.73	0.00	0.03	2.19	0.00	0.03	2.21	0.24	0.73	0.00	0.03	2.19	0.00	0.03	2.21	0.24	0.47	0.20	0.20	0.13	1.26



14	3	OC202	115	0.00	0.00	2.80	0.89	0.11	0.00	0.00	2.89	0.00	0.00	2.80	0.89	0.11	0.00	0.00	2.89	0.00	0.00	2.80	0.89	0.47	0.20	0.20	0.13	1.74
15	3	OC203	115	0.00	0.02	2.47	0.90	0.09	0.00	0.01	2.89	0.00	0.02	2.47	0.90	0.09	0.00	0.01	2.89	0.00	0.02	2.47	0.90	0.00	0.00	0.80	0.20	2.55
16	3	OC204	115	0.00	0.01	2.30	0.60	0.39	0.00	0.01	2.58	0.00	0.01	2.30	0.60	0.39	0.00	0.01	2.58	0.00	0.01	2.30	0.60	0.47	0.20	0.20	0.13	1.66
17	3	OC205	115	0.00	0.01	2.10	0.13	0.86	0.00	0.01	2.11	0.00	0.01	2.10	0.13	0.86	0.00	0.01	2.11	0.00	0.01	2.10	0.13	0.47	0.20	0.20	0.13	1.47
18	3	OC206	115	0.00	0.01	2.59	0.90	0.09	0.00	0.01	2.89	0.00	0.01	2.59	0.90	0.09	0.00	0.01	2.89	0.00	0.01	2.59	0.90	0.47	0.20	0.20	0.13	1.62
19	3	OC207	115	0.00	0.01	2.46	0.42	0.57	0.00	0.01	2.40	0.00	0.01	2.46	0.42	0.57	0.00	0.01	2.40	0.00	0.01	2.46	0.42	0.47	0.20	0.20	0.13	1.69
20	4	OC208	99	0.00	0.01	2.43	0.71	0.29	0.00	0.00	2.71	0.00	0.01	2.43	0.71	0.29	0.00	0.00	2.71	0.00	0.01	2.43	0.71	0.00	0.00	0.80	0.20	2.49
21	4	OC209	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.61
22	4	OC210	99	0.00	0.00	2.60	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.60	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.60	0.60	0.47	0.20	0.20	0.13	1.90
23	4	OC211	99	0.00	0.00	2.23	0.32	0.68	0.00	0.00	2.32	0.00	0.00	2.23	0.32	0.68	0.00	0.00	2.32	0.00	0.00	2.23	0.32	0.47	0.20	0.20	0.13	1.59
24	4	OC212	99	0.00	0.00	2.41	0.57	0.43	0.00	0.00	2.57	0.00	0.00	2.41	0.57	0.43	0.00	0.00	2.57	0.00	0.00	2.41	0.57	0.47	0.20	0.20	0.13	1.77
25	4	OC213	99	0.00	0.00	2.47	0.72	0.28	0.00	0.00	2.72	0.00	0.00	2.47	0.72	0.28	0.00	0.00	2.72	0.00	0.00	2.47	0.72	0.47	0.20	0.20	0.13	1.77
26	4	OC214	99	0.00	0.00	2.76	0.64	0.36	0.00	0.00	2.64	0.00	0.00	2.76	0.64	0.36	0.00	0.00	2.64	0.00	0.00	2.76	0.64	0.47	0.20	0.20	0.13	2.05
27	5	OC301	95	0.00	0.00	2.79	0.91	0.09	0.00	0.00	2.91	0.00	0.00	2.79	0.91	0.09	0.00	0.00	2.91	0.00	0.00	2.79	0.91	0.00	0.00	0.80	0.20	2.81
28	5	OC302	95	0.00	0.00	2.59	0.89	0.11	0.00	0.00	2.89	0.00	0.00	2.59	0.89	0.11	0.00	0.00	2.89	0.00	0.00	2.59	0.89	0.00	0.00	0.80	0.20	2.65
29	5	OC304	95	0.00	0.00	2.58	0.29	0.71	0.00	0.00	2.29	0.00	0.00	2.58	0.29	0.71	0.00	0.00	2.29	0.00	0.00	2.58	0.29	0.47	0.20	0.20	0.13	1.72
30	5	OC305	95	0.00	0.00	2.16	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.16	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.16	0.60	0.47	0.20	0.20	0.13	1.77
31	5	OC306	95	0.00	0.00	2.32	0.73	0.27	0.00	0.00	2.73	0.00	0.00	2.32	0.73	0.27	0.00	0.00	2.73	0.00	0.00	2.32	0.73	0.47	0.20	0.20	0.13	1.85
32	5	OC307	95	0.00	0.00	2.50	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.50	0.60	0.40	0.00	0.00	2.60	0.00	0.00	2.50	0.60	0.47	0.20	0.20	0.13	1.87
33	5	OC308	95	0.00	0.00	2.44	0.78	0.22	0.00	0.00	2.78	0.00	0.00	2.44	0.78	0.22	0.00	0.00	2.78	0.00	0.00	2.44	0.78	0.47	0.20	0.20	0.13	1.67
34	6	OC309	93	0.00	0.00	2.59	0.91	0.09	0.00	0.00	2.91	0.00	0.00	2.59	0.91	0.09	0.00	0.00	2.91	0.00	0.00	2.59	0.91	0.00	0.00	0.80	0.20	2.66
35	6	OC310	93	0.00	0.00	2.56	0.55	0.45	0.00	0.00	2.55	0.00	0.00	2.56	0.55	0.45	0.00	0.00	2.55	0.00	0.00	2.56	0.55	0.47	0.20	0.20	0.13	1.67
36	6	OC311	93	0.00	0.00	2.51	0.66	0.34	0.00	0.00	2.66	0.00	0.00	2.51	0.66	0.34	0.00	0.00	2.66	0.00	0.00	2.51	0.66	0.47	0.20	0.20	0.13	1.97
37	6	OC312	93	0.00	0.00	2.74	0.98	0.02	0.00	0.00	2.98	0.00	0.00	2.74	0.98	0.02	0.00	0.00	2.98	0.00	0.00	2.74	0.98	0.47	0.20	0.20	0.13	1.85
38	6	OC313	93	0.00	0.00	2.27	0.35	0.65	0.00	0.00	2.35	0.00	0.00	2.27	0.35	0.65	0.00	0.00	2.35	0.00	0.00	2.27	0.35	0.47	0.20	0.20	0.13	1.92
39	6	OC314	93	0.00	0.00	2.94	0.91	0.09	0.00	0.00	2.91	0.00	0.00	2.94	0.91	0.09	0.00	0.00	2.91	0.00	0.00	2.94	0.91	0.47	0.20	0.20	0.13	2.01
40	6	OC315	93	0.00	0.00	2.18	0.47	0.53	0.00	0.00	2.47	0.00	0.00	2.18	0.47	0.53	0.00	0.00	2.47	0.00	0.00	2.18	0.47	0.47	0.20	0.20	0.13	1.82

41	7	OC401	90	0.00	0.00	2.17	1.00	0.00	0.00	0.00	3.00	0.00	0.00	2.17	1.00	0.00	0.00	0.00	3.00	0.00	0.00	2.17	1.00	0.00	0.00	0.80	0.20	2.33
42	7	OC403	90	0.00	0.00	2.83	0.51	0.49	0.00	0.00	2.51	0.00	0.00	2.83	0.51	0.49	0.00	0.00	2.51	0.00	0.00	2.83	0.51	0.47	0.20	0.20	0.13	1.98
43	7	OC404	90	0.00	0.00	2.18	0.89	0.11	0.00	0.00	2.89	0.00	0.00	2.18	0.89	0.11	0.00	0.00	2.89	0.00	0.00	2.18	0.89	0.47	0.20	0.20	0.13	2.14
44	7	OC405	90	0.00	0.00	2.68	0.98	0.02	0.00	0.00	2.98	0.00	0.00	2.68	0.98	0.02	0.00	0.00	2.98	0.00	0.00	2.68	0.98	0.47	0.20	0.20	0.13	2.11
45	7	OC406	90	0.00	0.00	2.14	0.93	0.07	0.00	0.00	2.93	0.00	0.00	2.14	0.93	0.07	0.00	0.00	2.93	0.00	0.00	2.14	0.93	0.47	0.20	0.20	0.13	1.98
46	7	OC409	90	0.00	0.00	2.09	0.36	0.64	0.00	0.00	2.36	0.00	0.00	2.09	0.36	0.64	0.00	0.00	2.36	0.00	0.00	2.09	0.36	0.47	0.20	0.20	0.13	1.85
47	8	OC412	90	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.00	0.00	3.00	1.00	0.00	0.00	0.80	0.20	3.00
48	8	OC413	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	2.69
49	8	OC426	90	0.00	0.00	2.84	1.00	0.00	0.00	0.00	3.00	0.00	0.00	2.84	1.00	0.00	0.00	0.00	3.00	0.00	0.00	2.84	1.00	0.47	0.20	0.20	0.13	2.69

Table 3.2.2(12) The course outcome attainment for all courses of 2017 Batch graduated in CAYm2

Sr. No.	Sem / Year	NBA Code	Total number of student S <sub>ij</sub>	Theory end Semester exam (TH ESE) (i = 1)					Theory Progressive Assessment (TH PA) (i=2)					Practical end Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainment (COA) <sub>j</sub>
				α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
1	1	OC101	76	0.03	0.61	0.34	0.03	1.63	0.05	0.67	0.28	0.00	1.78	0.08	0.89	0.00	0.03	2.03	0.30	0.67	0.00	0.03	2.25	0.47	0.20	0.20	0.13	1.822
2	1	OC102	76	0.01	0.17	0.39	0.42	0.78	0.07	0.57	0.37	0.00	1.70	0.41	0.55	0.00	0.04	2.33	0.64	0.32	0.00	0.04	2.57	0.47	0.20	0.20	0.13	1.509
3	1	OC104	76	0.00	0.13	0.42	0.45	0.68	0.08	0.33	0.54	0.05	1.43	0.33	0.62	0.00	0.05	2.22	0.42	0.53	0.00	0.05	2.32	0.47	0.20	0.20	0.13	1.359
4	1	OC105	76	0.00	0.21	0.46	0.33	0.88	0.07	0.41	0.53	0.00	1.54	0.59	0.34	0.00	0.07	2.46	0.64	0.29	0.00	0.07	2.51	0.47	0.20	0.20	0.13	1.546
5	1	OC106	76	0.00	0.41	0.43	0.16	1.25	0.09	0.61	0.30	0.00	1.79	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.412
6	1	OC110	76	0.04	0.17	0.33	0.46	0.79	0.11	0.26	0.57	0.07	1.41	0.32	0.62	0.00	0.07	2.18	0.39	0.53	0.00	0.08	2.24	0.47	0.20	0.20	0.13	1.385
7	2	OC103	72	0.00	0.35	0.42	0.24	1.11	0.14	0.44	0.36	0.06	1.67	0.26	0.68	0.00	0.06	2.15	0.58	0.36	0.00	0.06	2.47	0.47	0.20	0.20	0.13	1.612
8	2	OC107	72	0.06	0.46	0.33	0.15	1.42	0.14	0.53	0.29	0.04	1.76	0.29	0.65	0.00	0.06	2.18	0.29	0.65	0.00	0.06	2.18	0.47	0.20	0.20	0.13	1.740
9	2	OC108	72	-	-	-	-	-	-	-	-	-	-	0.46	0.49	0.00	0.06	2.35	0.58	0.36	0.00	0.06	2.47	0.00	0.00	0.80	0.20	2.372
10	2	OC109	72	0.01	0.43	0.44	0.11	1.35	0.06	0.40	0.49	0.06	1.46	0.51	0.42	0.00	0.07	2.38	0.79	0.14	0.00	0.07	2.65	0.47	0.20	0.20	0.13	1.749
11	2	OC111	72	0.08	0.25	0.47	0.19	1.22	0.10	0.25	0.61	0.04	1.40	0.19	0.75	0.00	0.06	2.08	0.26	0.68	0.00	0.06	2.15	0.47	0.20	0.20	0.13	1.554
12	2	OC112	72	0.11	0.86	0.01	0.01	2.07	0.10	0.90	0.00	0.00	2.10	0.39	0.50	0.00	0.11	2.17	0.90	0.01	0.00	0.08	2.74	0.47	0.20	0.20	0.13	2.183
13	3	OC201	120	0.05	0.13	0.30	0.53	0.70	0.06	0.28	0.58	0.09	1.30	0.08	0.83	0.00	0.08	1.92	0.17	0.75	0.00	0.08	2.00	0.47	0.20	0.20	0.13	1.236
14	3	OC202	120	0.00	0.16	0.43	0.42	0.74	0.00	0.68	0.23	0.09	1.58	0.19	0.74	0.00	0.07	2.06	0.43	0.50	0.00	0.08	2.28	0.47	0.20	0.20	0.13	1.377
15	3	OC203	120	-	-	-	-	-	-	-	-	-	-	0.66	0.33	0.00	0.02	2.63	0.85	0.14	0.00	0.01	2.83	0.00	0.00	0.80	0.20	2.667
16	3	OC204	120	0.03	0.48	0.36	0.13	1.43	0.32	0.58	0.10	0.00	2.22	0.74	0.20	0.00	0.06	2.63	0.72	0.23	0.00	0.05	2.62	0.47	0.20	0.20	0.13	1.982
17	3	OC205	120	0.00	0.33	0.43	0.24	1.08	0.09	0.53	0.26	0.12	1.60	0.47	0.48	0.00	0.05	2.37	0.72	0.23	0.00	0.05	2.62	0.47	0.20	0.20	0.13	1.647
18	3	OC206	120	0.00	0.22	0.30	0.48	0.73	0.06	0.60	0.26	0.08	1.63	0.23	0.75	0.00	0.02	2.20	0.59	0.39	0.00	0.02	2.56	0.47	0.20	0.20	0.13	1.449
19	3	OC207	120	0.00	0.18	0.43	0.38	0.80	0.03	0.75	0.22	0.00	1.82	0.38	0.60	0.00	0.02	2.35	0.67	0.32	0.00	0.02	2.63	0.47	0.20	0.20	0.13	1.557
20	4	OC208	111	-	-	-	-	-	-	-	-	-	-	0.54	0.45	0.00	0.01	2.52	0.44	0.56	0.00	0.00	2.44	0.00	0.00	0.80	0.20	2.506
21	4	OC209	111	0.04	0.51	0.38	0.07	1.51	0.05	0.53	0.41	0.00	1.64	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.551
22	4	OC210	111	0.02	0.50	0.37	0.12	1.41	0.04	0.32	0.59	0.05	1.33	0.14	0.86	0.00	0.00	2.14	0.26	0.74	0.00	0.00	2.26	0.47	0.20	0.20	0.13	1.655
23	4	OC211	111	0.03	0.21	0.21	0.32	0.70	0.14	0.37	0.37	0.03	1.51	0.35	0.59	0.59	0.05	2.84	0.39	0.56	0.56	0.05	2.84	0.47	0.20	0.20	0.13	1.576

24	4	OC212	111	0.03	0.42	0.36	0.19	1.29	0.06	0.23	0.69	0.01	1.35	0.42	0.58	0.00	0.00	2.42	0.33	0.67	0.00	0.00	2.33	0.47	0.20	0.20	0.13	1.667
25	4	OC213	111	0.03	0.39	0.42	0.16	1.28	0.02	0.28	0.69	0.01	1.31	0.69	0.30	0.00	0.01	2.68	0.67	0.32	0.00	0.01	2.65	0.47	0.20	0.20	0.13	1.746
26	4	OC214	111	0.04	0.46	0.40	0.11	1.42	0.03	0.46	0.51	0.00	1.51	0.80	0.20	0.00	0.00	2.80	0.38	0.62	0.00	0.00	2.38	0.47	0.20	0.20	0.13	1.844
27	5	OC301	101	-	-	-	-	-	-	-	-	-	-	0.47	0.51	0.00	0.02	2.43	0.78	0.21	0.00	0.01	2.76	0.00	0.00	0.80	0.20	2.493
28	5	OC303	101	0.03	0.67	0.29	0.01	1.72	0.17	0.46	0.37	0.01	1.78	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.741
29	5	OC304	101	0.03	0.40	0.53	0.04	1.42	0.17	0.59	0.23	0.01	1.92	0.69	0.30	0.00	0.01	2.67	0.74	0.25	0.00	0.01	2.72	0.47	0.20	0.20	0.13	1.942
30	5	OC305	101	0.03	0.39	0.50	0.08	1.37	0.15	0.36	0.49	0.01	1.64	0.43	0.56	0.00	0.01	2.41	0.53	0.46	0.00	0.01	2.51	0.47	0.20	0.20	0.13	1.782
31	5	OC306	101	0.05	0.31	0.31	0.09	1.07	0.08	0.37	0.37	0.01	1.34	0.54	0.45	0.45	0.01	2.97	0.28	0.71	0.71	0.01	2.97	0.47	0.20	0.20	0.13	1.756
32	5	OC307	101	0.05	0.56	0.35	0.04	1.62	0.07	0.30	0.62	0.01	1.43	0.24	0.75	0.00	0.01	2.22	0.99	0.00	0.00	0.01	2.97	0.47	0.20	0.20	0.13	1.882
33	5	OC308	101	0.01	0.31	0.56	0.12	1.21	0.09	0.45	0.46	0.01	1.61	0.06	0.93	0.00	0.01	2.04	0.59	0.40	0.00	0.01	2.57	0.47	0.20	0.20	0.13	1.637
34	6	OC309	98	-	-	-	-	-	-	-	-	-	-	0.93	0.07	0.00	0.00	2.93	0.96	0.04	0.00	0.00	2.96	0.00	0.00	0.80	0.20	2.935
35	6	OC310	98	0.04	0.68	0.28	0.00	1.77	0.23	0.51	0.26	0.00	1.98	0.56	0.44	0.00	0.00	2.56	0.92	0.08	0.00	0.00	2.92	0.47	0.20	0.20	0.13	2.121
36	6	OC311	98	0.06	0.74	0.19	0.00	1.87	0.22	0.61	0.16	0.00	2.06	1.00	0.00	0.00	0.00	3.00	0.97	0.03	0.00	0.00	2.97	0.47	0.20	0.20	0.13	2.279
37	6	OC312	98	0.06	0.73	0.20	0.00	1.86	0.15	0.70	0.14	0.00	2.01	0.98	0.02	0.00	0.00	2.98	0.94	0.06	0.00	0.00	2.94	0.47	0.20	0.20	0.13	2.256
38	6	OC313	98	0.09	0.79	0.12	0.00	1.97	0.72	0.13	0.14	0.00	2.58	0.55	0.45	0.00	0.00	2.55	0.82	0.18	0.00	0.00	2.82	0.47	0.20	0.20	0.13	2.321
39	6	OC314	98	0.02	0.47	0.51	0.00	1.51	0.05	0.37	0.58	0.00	1.47	0.80	0.20	0.00	0.00	2.80	0.46	0.54	0.00	0.00	2.46	0.47	0.20	0.20	0.13	1.885
40	6	OC315	98	0.01	0.67	0.32	0.00	1.69	0.05	0.58	0.37	0.00	1.68	0.23	0.77	0.00	0.00	2.23	0.94	0.06	0.00	0.00	2.94	0.47	0.20	0.20	0.13	1.966
41	7	OC401	98	-	-	-	-	-	-	-	-	-	-	1.00	0.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.00	0.00	0.80	0.20	3.000
42	7	OC403	98	0.07	0.60	0.30	0.03	1.71	0.19	0.61	0.19	0.00	2.00	0.29	0.71	0.00	0.00	2.29	0.47	0.53	0.00	0.00	2.47	0.47	0.20	0.20	0.13	1.986
43	7	OC404	98	0.10	0.59	0.29	0.02	1.78	0.63	0.37	0.00	0.00	2.63	0.86	0.14	0.00	0.00	2.86	0.67	0.33	0.00	0.00	2.67	0.47	0.20	0.20	0.13	2.283
44	7	OC405	98	0.03	0.45	0.45	0.07	1.44	0.45	0.55	0.00	0.00	2.45	0.33	0.67	0.00	0.00	2.33	0.48	0.52	0.00	0.00	2.48	0.47	0.20	0.20	0.13	1.957
45	7	OC406	98	0.03	0.41	0.50	0.06	1.41	0.46	0.52	0.02	0.00	2.44	0.54	0.46	0.00	0.00	2.54	0.44	0.56	0.00	0.00	2.44	0.47	0.20	0.20	0.13	1.978
46	7	OC409	98	0.08	0.60	0.28	0.04	1.72	0.15	0.64	0.20	0.00	1.95	0.48	0.52	0.00	0.00	2.48	0.96	0.04	0.00	0.00	2.96	0.47	0.20	0.20	0.13	2.085
47	8	OC412	97	-	-	-	-	-	-	-	-	-	-	1.00	0.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.00	0.00	0.80	0.20	3.000
48	8	OC413	97	0.45	0.47	0.07	0.00	2.38	0.57	0.43	0.00	0.00	2.57	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	2.437
49	8	OC430	97	0.20	0.66	0.14	0.00	2.05	0.43	0.57	0.00	0.00	2.43	0.98	0.02	0.00	0.00	2.98	0.98	0.02	0.00	0.00	2.98	0.47	0.20	0.20	0.13	2.437

Table 3.2.2(13) The course outcome attainment for all courses of 2018 Batch graduated in CAYm1

Sr. No.	Sem / Year	NBA Code	Total number of student S <sub>ij</sub>	Theory end Semester exam (TH ESE) (i = 1)					Theory Progressive Assessment (TH PA) (i=2)					Practical end Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainment (COA) <sub>j</sub>
				$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
1	1	NC103	41	0.00	0.20	0.41	0.39	0.80	0.17	0.51	0.24	0.07	1.78	0.27	0.66	0.00	0.07	2.12	0.46	0.46	0.00	0.07	2.32	0.47	0.20	0.20	0.13	1.47
2	1	NC104	41	0.00	0.20	0.41	0.39	0.80	0.20	0.61	0.12	0.07	1.93	0.71	0.24	0.00	0.05	2.61	0.49	0.46	0.00	0.05	2.39	0.47	0.20	0.20	0.13	1.60
3	1	NC105	41	0.02	0.15	0.12	0.71	0.49	0.12	0.37	0.44	0.07	1.54	0.34	0.66	0.00	0.00	2.34	0.27	0.73	0.00	0.00	2.27	0.47	0.20	0.20	0.13	1.31
4	1	NC106	41	0.00	0.15	0.32	0.54	0.61	0.24	0.41	0.27	0.07	1.83	0.27	0.63	0.00	0.10	2.07	0.44	0.46	0.00	0.10	2.24	0.47	0.20	0.20	0.13	1.36
5	1	NC111	41	0.02	0.12	0.27	0.59	0.59	0.07	0.39	0.46	0.07	1.46	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.85
6	1	NC114	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	2	NC102	36	0.00	0.50	0.39	0.11	1.39	0.14	0.72	0.06	0.08	1.92	0.28	0.64	0.00	0.08	2.11	0.56	0.36	0.00	0.08	2.39	0.47	0.20	0.20	0.13	1.77
8	2	NC107	36	0.00	0.53	0.33	0.14	1.39	0.11	0.58	0.31	0.00	1.81	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.51
9	2	NC108	36	0.06	0.39	0.36	0.19	1.31	0.19	0.36	0.39	0.06	1.69	0.39	0.56	0.00	0.06	2.28	0.28	0.67	0.00	0.06	2.17	0.47	0.20	0.20	0.13	1.69
10	2	NC109	36	-	-	-	-	-	-	-	-	-	-	0.81	0.11	0.00	0.08	2.64	0.28	0.64	0.00	0.08	2.11	0.00	0.00	0.80	0.20	2.53
11	2	NC110	36	0.00	0.42	0.33	0.25	1.17	0.08	0.56	0.28	0.08	1.64	0.53	0.39	0.00	0.08	2.36	0.61	0.31	0.00	0.08	2.44	0.47	0.20	0.20	0.13	1.67
12	2	NC112	36	0.03	0.31	0.22	0.44	0.92	0.17	0.33	0.42	0.08	1.58	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.12
13	3	NC201	83	0.01	0.52	0.41	0.06	1.48	0.00	0.35	0.65	0.00	1.35	0.29	0.70	0.00	0.01	2.27	0.33	0.66	0.00	0.01	2.30	0.47	0.20	0.20	0.13	1.72
14	3	NC202	83	0.02	0.13	0.31	0.53	0.65	0.11	0.34	0.46	0.10	1.46	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.89
15	3	NC203	83	0.96	0.00	0.00	0.04	2.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	0.00	0.00	0.00	2.89
16	3	NC204	83	-	-	-	-	-	-	-	-	-	-	0.88	0.12	0.00	0.00	2.88	0.70	0.30	0.00	0.00	2.70	0.00	0.00	0.80	0.20	2.84
17	3	NC205	83	0.02	0.48	0.36	0.13	1.40	0.16	0.42	0.41	0.01	1.72	0.29	0.70	0.00	0.01	2.27	0.35	0.64	0.00	0.01	2.33	0.47	0.20	0.20	0.13	1.76
18	3	NC206	83	0.00	0.19	0.47	0.34	0.86	0.01	0.28	0.69	0.02	1.28	0.80	0.18	0.00	0.02	2.75	0.94	0.04	0.00	0.02	2.89	0.47	0.20	0.20	0.13	1.59
19	3	NC207	83	0.01	0.14	0.42	0.42	0.75	0.13	0.43	0.43	0.00	1.70	0.90	0.07	0.00	0.02	2.86	0.71	0.27	0.00	0.02	2.66	0.47	0.20	0.20	0.13	1.61
20	4	NC208	80	-	-	-	-	-	-	-	-	-	-	0.55	0.45	0.00	0.00	2.55	0.61	0.39	0.00	0.00	2.61	0.00	0.00	0.80	0.20	2.56
21	4	NC209	80	0.00	0.56	0.43	0.01	1.55	0.09	0.60	0.31	0.00	1.78	0.51	0.49	0.00	0.00	2.51	0.89	0.11	0.00	0.00	2.89	0.47	0.20	0.20	0.13	1.97
22	4	NC210	80	0.04	0.53	0.43	0.01	1.59	0.24	0.38	0.39	0.00	1.85	0.51	0.49	0.00	0.00	2.51	0.59	0.41	0.00	0.00	2.59	0.47	0.20	0.20	0.13	1.96
23	4	NC211	80	0.00	0.65	0.34	0.01	1.64	0.19	0.54	0.28	0.00	1.91	0.51	0.49	0.00	0.00	2.51	0.80	0.20	0.00	0.00	2.80	0.47	0.20	0.20	0.13	2.02

24	4	NC212	80	0.00	0.73	0.26	0.01	1.71	0.21	0.65	0.14	0.00	2.08	0.51	0.49	0.00	0.00	2.51	0.70	0.30	0.00	0.00	2.70	0.47	0.20	0.20	0.13	2.08
25	4	NC213	80	0.00	0.39	0.60	0.01	1.38	0.01	0.44	0.55	0.00	1.46	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.00	1.40
26	5	NC301	80	-	-	-	-	-	-	-	-	-	-	0.84	0.16	0.00	0.00	2.84	0.84	0.16	0.00	0.00	2.84	0.00	0.00	0.80	0.20	2.84
27	5	NC302	80	0.86	0.14	0.00	0.00	2.86	0.75	0.25	0.00	0.00	2.75	0.71	0.29	0.00	0.00	2.71	0.39	0.61	0.00	0.00	2.39	0.47	0.20	0.20	0.13	2.75
28	5	NC305	80	0.00	0.55	0.34	0.11	1.44	0.05	0.73	0.23	0.00	1.83	0.66	0.34	0.00	0.00	2.66	0.68	0.33	0.00	0.00	2.68	0.47	0.20	0.20	0.13	1.93
29	5	NC306	80	0.03	0.38	0.44	0.16	1.26	0.06	0.74	0.20	0.00	1.86	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.00	1.44
30	5	NC307	80	0.00	0.23	0.58	0.20	1.03	0.40	0.56	0.04	0.00	2.36	0.98	0.03	0.00	0.00	2.98	0.98	0.03	0.00	0.00	2.98	0.47	0.20	0.20	0.13	1.94
31	5	NC308	80	0.05	0.51	0.31	0.13	1.49	0.51	0.46	0.03	0.00	2.49	0.40	0.60	0.00	0.00	2.40	0.51	0.49	0.00	0.00	2.51	0.47	0.20	0.20	0.13	2.01
32	5	NC309	80	0.03	0.43	0.40	0.15	1.33	0.58	0.40	0.03	0.00	2.55	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.00	1.69
33	6	NC313	77	-	-	-	-	-	-	-	-	-	-	1.00	0.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.00	0.00	0.80	0.20	3.00
34	6	NC314	77	0.44	0.48	0.07	0.00	2.37	0.81	0.19	0.00	0.00	2.81	0.70	0.30	0.00	0.00	2.70	1.00	0.00	0.00	0.00	3.00	0.47	0.20	0.20	0.13	2.61
35	6	NC316	77	0.18	0.74	0.08	0.00	2.10	0.62	0.36	0.01	0.00	2.61	0.92	0.08	0.00	0.00	2.92	0.95	0.05	0.00	0.00	2.95	0.47	0.20	0.20	0.13	2.48
36	6	NC318	77	0.19	0.74	0.06	0.00	2.13	0.84	0.16	0.00	0.00	2.84	0.68	0.32	0.00	0.00	2.68	0.81	0.19	0.00	0.00	2.81	0.47	0.20	0.20	0.13	2.47
37	6	NC325	77	0.30	0.64	0.06	0.00	2.23	0.79	0.21	0.00	0.00	2.79	0.91	0.09	0.00	0.00	2.91	0.95	0.05	0.00	0.00	2.95	0.47	0.20	0.20	0.13	2.58
38	6	NC330	77	0.05	0.88	0.06	0.00	1.99	0.32	0.68	0.00	0.00	2.32	0.82	0.18	0.00	0.00	2.82	0.86	0.14	0.00	0.00	2.86	0.47	0.20	0.20	0.13	2.34
39	6	NC332	77	0.27	0.68	0.05	0.00	2.22	0.86	0.14	0.00	0.00	2.86	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.00	2.41
40	7	NC401	77	-	-	-	-	-	-	-	-	-	-	1.00	0.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.00	0.00	0.80	0.20	3.00
41	7	NC402	77	0.01	0.58	0.35	0.05	1.56	0.61	0.38	0.01	0.00	2.60	0.68	0.32	0.00	0.00	2.68	0.77	0.23	0.00	0.00	2.77	0.47	0.20	0.20	0.13	2.15
42	7	NC403	77	0.01	0.29	0.47	0.23	1.08	0.45	0.51	0.04	0.00	2.42	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.00	1.48
43	7	NC405	77	0.08	0.49	0.42	0.01	1.64	0.45	0.39	0.16	0.00	2.30	0.60	0.40	0.00	0.00	2.60	0.56	0.44	0.00	0.00	2.56	0.47	0.20	0.20	0.13	2.08
44	7	NC406	77	0.45	0.52	0.01	0.01	2.42	0.13	0.44	0.43	0.00	1.70	1.00	0.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.47	0.20	0.20	0.13	2.47
45	7	NC411	77	0.01	0.49	0.44	0.05	1.47	0.10	0.45	0.44	0.00	1.66	1.00	0.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	3.00	0.47	0.20	0.20	0.13	2.02
46	7	NC419	77	0.10	0.57	0.31	0.01	1.77	0.23	0.57	0.19	0.00	2.04	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.00	1.85
47	8	NC420	77	-	-	-	-	-	-	-	-	-	-	0.92	0.08	0.00	0.00	2.92	1.00	0.00	0.00	0.00	3.00	0.00	0.00	0.50	0.50	2.96

Table 3.2.2(14) The course outcome attainment for all courses of 2019-Batch graduated in CAY

Sr. No.	Sem / Year	NBA Code	Total number of student S <sub>ij</sub>	Theory end Semester exam (TH ESE) (i = 1)					Theory Progressive Assessment (TH PA) (i=2)					Practical end Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainment (COA) <sub>j</sub>
				α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
1	1	NC103	53	0.02	0.42	0.38	0.19	1.26	0.04	0.23	0.7	0.04	1.26	0.04	0.92	0.00	0.04	1.96	0.32	0.64	0.00	0.04	2.25	0.47	0.2	0.2	0.13	1.54
2	1	NC104	53	0.02	0.3	0.38	0.3	1.04	0.13	0.47	0.4	0.00	1.74	0.42	0.55	0.00	0.04	2.34	0.49	0.47	0.00	0.04	2.42	0.47	0.2	0.2	0.13	1.62
9	1	NC108	53	0.04	0.47	0.3	0.19	1.36	0.13	0.53	0.3	0.04	1.75	0.13	0.83	0.00	0.04	2.06	0.19	0.77	0.00	0.04	2.11	0.47	0.2	0.2	0.13	1.68
10	1	NC109	53	-	-	-	-	-	-	-	-	-	-	0.13	0.83	0.00	0.04	2.06	0.75	0.21	0.00	0.04	2.68	0	0	0.8	0.2	2.18
5	1	NC111	53	0.02	0.3	0.32	0.36	0.98	0.11	0.32	0.55	0.02	1.53	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	1.15
6	1	NC114	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	2	NC102	53	0.04	0.64	0.23	0.09	1.62	0.3	0.38	0.32	0.00	1.98	0.04	0.92	0.00	0.04	1.96	0.11	0.89	0.00	0.00	2.11	0.47	0.2	0.2	0.13	1.83
3	2	NC105	53	0.04	0.75	0.13	0.08	1.75	0.34	0.51	0.15	0.00	2.19	0.04	0.92	0.00	0.04	1.96	0.38	0.62	0.00	0.00	2.38	0.47	0.2	0.2	0.13	1.97
4	2	NC106	53	0.09	0.81	0.06	0.04	1.96	0.74	0.23	0.04	0.00	2.7	0.04	0.92	0.00	0.04	1.96	0.79	0.21	0.00	0.00	2.79	0.47	0.2	0.2	0.13	2.22
8	2	NC107	53	0.02	0.6	0.28	0.09	1.55	0.19	0.43	0.38	0.00	1.81	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0.8	0.2	1.63
11	2	NC110	53	0.09	0.62	0.21	0.08	1.74	0.49	0.28	0.23	0.00	2.26	0.04	0.92	0.00	0.04	1.96	0.58	0.42	0.00	0.00	2.58	0.47	0.2	0.2	0.13	2.00
12	2	NC112	53	0.06	0.7	0.15	0.09	1.72	0.19	0.6	0.21	0.00	1.98	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	1.80
13	3	NC201	137	0.02	0.4	0.33	0.25	1.2	0.15	0.61	0.24	0.00	1.91	0.5	0.5	0.00	0	2.5	0.42	0.58	0.00	0.00	2.42	0.47	0.2	0.2	0.13	1.76
14	3	NC202	137	0	0.11	0.2	0.69	0.42	0.09	0.51	0.4	0.00	1.69	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	0.80
15	3	NC203	137	0.81	0	0	0.19	2.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0	2.43
16	3	NC204	137	-	-	-	-	-	-	-	-	-	-	1	0	0.00	0	3	0.93	0.07	0.00	0.00	2.93	0	0	0.8	0.2	2.99
17	3	NC205	137	0.01	0.18	0.36	0.45	0.74	0	0.44	0.56	0.00	1.44	0.6	0.4	0.00	0	2.6	0.65	0.35	0.00	0.00	2.65	0.47	0.2	0.2	0.13	1.51
18	3	NC206	137	0.01	0.08	0.34	0.56	0.55	0.2	0.62	0.18	0.00	2.01	0.65	0.35	0.00	0	2.65	0.81	0.19	0.00	0.00	2.81	0.47	0.2	0.2	0.13	1.56
19	3	NC207	137	0	0.09	0.4	0.5	0.59	0.08	0.69	0.23	0.00	1.85	0.39	0.61	0.00	0	2.39	0.38	0.62	0.00	0.00	2.38	0.47	0.2	0.2	0.13	1.44
20	4	NC208	126	-	-	-	-	-	-	-	-	-	-	1	0	0.00	0	3	1	0	0.00	0.00	3	0	0	0.8	0.2	3.00
21	4	NC209	126	0	0.73	0.25	0.02	1.71	0.35	0.65	0.00	0.00	2.35	0.2	0.8	0.00	0	2.2	1	0	0.00	0.00	3	0.47	0.2	0.2	0.13	2.11
22	4	NC210	126	0	0.73	0.25	0.02	1.71	0.37	0.63	0.00	0.00	2.37	0.76	0.24	0.00	0	2.76	0.75	0.25	0.00	0.00	2.75	0.47	0.2	0.2	0.13	2.19
23	4	NC211	126	0.01	0.67	0.31	0.02	1.67	0.28	0.72	0.00	0.00	2.28	0.33	0.67	0.00	0	2.33	0.22	0.78	0.00	0.00	2.22	0.47	0.2	0.2	0.13	2.00

24	4	NC212	126	0.01	0.59	0.39	0.02	1.59	0.22	0.78	0.00	0.00	2.22	0.32	0.68	0.00	0	2.32	0.45	0.55	0.00	0.00	2.45	0.47	0.2	0.2	0.13	1.98
25	4	NC213	126	0	0.48	0.51	0.02	1.46	0.03	0.97	0.00	0.00	2.03	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	1.63
26	5	NC301	120	-	-	-	-	-	-	-	-	-	-	0.78	0.23	0.00	0	2.78	0.74	0.26	0.00	0.00	2.74	0	0	0.8	0.2	2.77
27	5	NC303	120	0.04	0.93	0	0.02	2	1	0.00	0.00	0.00	3	1	0	0.00	0	3	1	0	0.00	0.00	3	0.47	0.2	0.2	0.13	2.53
28	5	NC305	120	0	0.19	0.35	0.46	0.73	0.01	0.14	0.85	0.00	1.16	0.38	0.62	0.00	0	2.38	0.79	0.21	0.00	0.00	2.79	0.47	0.2	0.2	0.13	1.42
29	5	NC306	120	0	0.36	0.32	0.33	1.03	0.34	0.47	0.19	0.00	2.15	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	1.37
30	5	NC307	120	0	0.21	0.33	0.47	0.74	0.04	0.21	0.75	0.00	1.29	0.33	0.67	0.00	0	2.33	0.46	0.54	0.00	0.00	2.46	0.47	0.2	0.2	0.13	1.40
31	5	NC308	120	0.08	0.56	0.25	0.12	1.59	0.18	0.38	0.45	0.00	1.73	0.56	0.44	0.00	0	2.56	0.56	0.44	0.00	0.00	2.56	0.47	0.2	0.2	0.13	1.94
32	5	NC309	120	0.02	0.48	0.4	0.1	1.42	0.25	0.41	0.34	0.00	1.91	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	1.56
33	6	NC313	119	-	-	-	-	-	-	-	-	-	-	0.15	0.85	0.00	0	2.15	0.34	0.66	0.00	0.00	2.34	0	0	0.8	0.2	2.19
34	6	NC315	119	0.87	0.11	0.00	0.02	2.83	0.91	0.09	0.00	0.00	2.91	0.2	0.78	0.00	0.02	2.15	0.93	0.07	0.00	0.00	2.93	0.47	0.2	0.2	0.13	2.72
35	6	NC316	119	0.03	0.39	0.33	0.25	1.19	0.1	0.26	0.64	0.00	1.46	0.22	0.76	0.00	0.02	2.18	0.41	0.59	0.00	0.00	2.41	0.47	0.2	0.2	0.13	1.61
36	6	NC318	119	0.01	0.18	0.37	0.44	0.76	0.02	0.16	0.82	0.00	1.19	0.98	0	0.00	0.02	2.95	1	0.00	0.00	0.00	3	0.47	0.2	0.2	0.13	1.59
37	6	NC325	119	0.02	0.35	0.45	0.18	1.2	0.03	0.27	0.7	0.00	1.34	0.34	0.64	0.00	0.02	2.31	0.61	0.39	0.00	0.00	2.61	0.47	0.2	0.2	0.13	1.64
38	6	NC327	119	0.08	0.48	0.38	0.06	1.59	0.07	0.36	0.57	0.00	1.5	0.39	0.6	0.00	0.02	2.35	0.49	0.51	0.00	0.00	2.49	0.47	0.2	0.2	0.13	1.84
39	6	NC332	119	0.08	0.45	0.33	0.13	1.49	0.08	0.49	0.43	0.00	1.66	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	1.54
40	7	NC401	110	-	-	-	-	-	-	-	-	-	-	0.82	0.18	0.00	0	2.82	0.82	0.18	0.00	0.00	2.82	0	0	0.8	0.2	2.82
41	7	NC402	110	0	0.6	0.31	0.09	1.51	0.13	0.47	0.4	0.00	1.73	0.49	0.5	0.00	0.01	2.47	0.65	0.35	0.00	0.00	2.65	0.47	0.2	0.2	0.13	1.90
42	7	NC403	110	0	0.25	0.55	0.21	1.04	0.12	0.41	0.47	0.00	1.65	-	-	-	-	-	-	-	-	-	-	0.7	0.3	0	0	1.22
43	7	NC405	110	0	0.07	0.35	0.57	0.5	0.02	0.4	0.58	0.00	1.44	0.23	0.76	0.00	0.01	2.21	0.56	0.44	0.00	0.00	2.56	0.47	0.2	0.2	0.13	1.30
44	7	NC406	110	0	0.48	0.45	0.07	1.41	0.05	0.54	0.41	0.00	1.65	0.14	0.85	0.00	0.01	2.12	0.68	0.32	0.00	0.00	2.68	0.47	0.2	0.2	0.13	1.77
45	7	NC411	110	0.05	0.56	0.28	0.1	1.57	0.17	0.5	0.33	0.00	1.85	0.55	0.43	0.00	0.02	2.52	1	0	0.00	0.00	3	0.47	0.2	0.2	0.13	2.01
46	7	NC419	110	0.11	0.55	0.29	0.05	1.73	0.11	0.35	0.54	0.00	1.57	-	-	-	-	-	-	-	-	-	-	0.11	0.55	0.29	0.05	1.68
47	8	NC420	106	-	-	-	-	-	-	-	-	-	-	0.76	0.20	0.00	0.04	2.69	0.96	0.00	0.00	0.04	2.89	0.00	0.00	0.50	0.50	2.788



### 3.3 Attainment of Program Outcomes and Program Specific Outcomes (50)

#### 3.3.1 Describe assessment tools and processes used for measuring the attainment of each of the Program Outcomes and Program Specific Outcomes (10)

The POs were assessed through following tools:

1. **Direct attainment** – This assessment is based on internal institute examination, assignments and external examination held by the university. The assessment is derived from the attainment of course outcomes of all the courses of the program.
2. **Indirect attainment** – This assessment is based on the feedback given by the students at the end of each semester for each course, student exit survey, alumni survey and employer feedback.

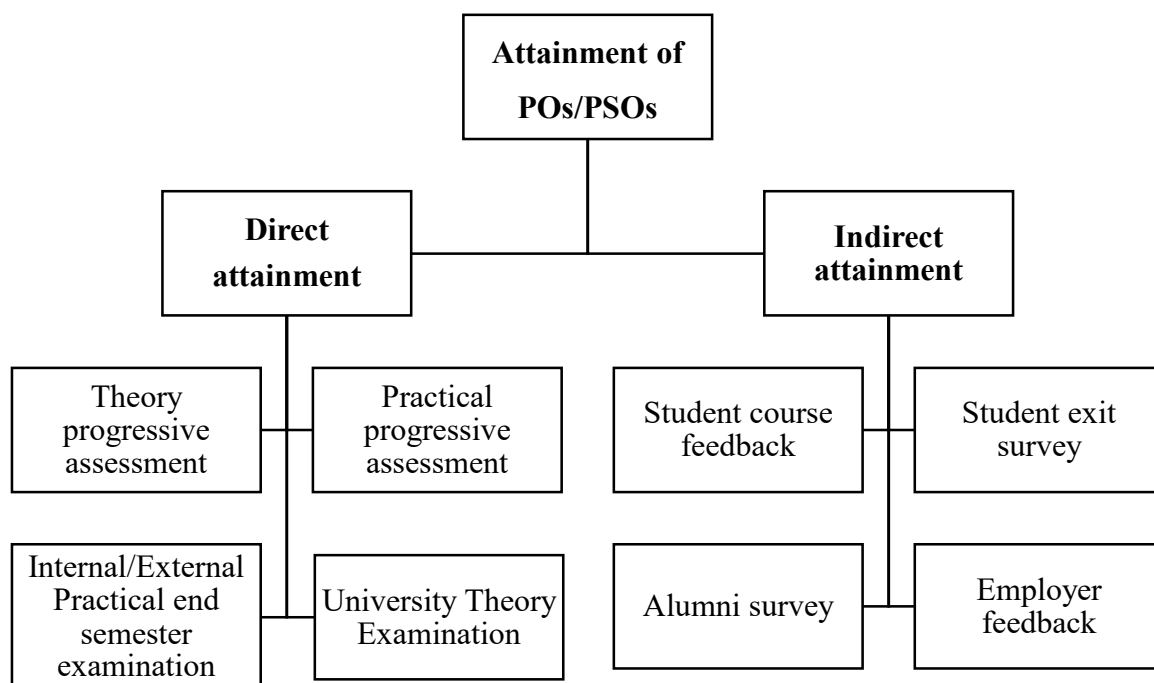


Fig. 3.3.1(1) Assessment tools for attainment

#### Process for measuring direct attainment

- CO statements are provided by GTU in the syllabus (<https://syllabus.gtu.ac.in/Syllabus.aspx?tp=BE>) for all courses of the program. However, all the statements are reviewed and approved by DAAC.
- COs were mapped with program outcomes (POs) and program specific outcomes (PSOs) by the course coordinator by carefully considering the factors to relate COs with POs and COs with PSOs.
- The record of the attainment of the COs were prepared for each course.

- The mean mapped value (MMV) for a PO (Eq. 3.3) is computed by averaging the mapped values for that PO with respect to different COs ( $MV_k$ ), where  $n$  is the number of mapped COs.

$$MMV = \left( \frac{\sum_{k=1}^n (MV_k)}{n} \right) \quad (3.3)$$

- The evaluation of POs/PSOs, from the CO attainment and CO-PO mapping is done using Eq. (3.4).

$$A_j = \left( \frac{COA_j}{3} \right) \cdot MMV_j \quad (3.4)$$

Here,  $A_j$  = Attainment of  $j^{\text{th}}$  Program Outcome, where  $j$  is from 1 to 12 for the twelve program outcomes provided by the NBA.

- The average attainment of a PO and PSOs for all courses of the program, is taken as an attainment level of that PO and PSOs for the direct attainment. In this manner, the direct attainment for all the POs and PSOs was evaluated.

### Process for measuring indirect attainment

For the improvement of academic performance for the students, the indirect assessment was performed through various tools.

- Students were asked to give feedback on the course outcome attained for each course at the end of each semester. Based on the average rating of the student and the mapping of COs and POs as well as COs and PSOs, the attainment of POs and PSOs was evaluated.
- Through the exit survey student gives their feedback on the attainment of the POs at the completion of the program.
- Alumni were asked to rate the POs and PSOs in accordance to the extent that they agree towards the attainment of each POs and PSOs while working in a professional environment after graduation.
- Employers are asked to provide their feedback for the students of the institute in a specific format. The marks provided by the employer were converted an attainment in

terms of POs and PSOs. These attainment were considered as one of the method for indirect attainment.

- The average of attainment obtained through these tools were considered as an indirect attainment for each of POs and PSOs.
- Thus the attainment for the direct assessment and indirect assessment tools were obtained in a scale of 3 (with a maximum attainment level of 3).
- Total attainment of POs are evaluated considering the 80% weightage of direct assessment and 20% weightage of indirect assessment.

The results of the attainment of POs and PSOs are given in the following sections.

### **3.3.2 Provide results of evaluation of each PO & PSO (40)**

#### **1. Evaluation of PO**

The evaluation of POs and PSOs for the 2016-Batch, 2017-Batch, 2018-Batch and 2019-Batch graduated in the academic year 2019-20 (CAYm3), 2020-21(CAYm2), 2021-22 (CAYm1) and 2022-23 (CAY) respectively are shown below in Table 3.3.2(1) to Table 3.3.2(4) respectively. The alumni survey and employers feedback are obtained nearly after a year of graduation. Therefore, the exit survey and course feedback of the students are only considered as a source of indirect attainment for 2019-Batch.

Table 3.3.2(1) Attainment of POs for 2016-Batch (CAYm3)

University Code	Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2110002	OC101	-	0.61	-	-	-	0.61	-	0.61	0.61	1.33	0.61	0.92
2110003	OC102	-	-	-	-	-	0.70	0.94	1.12	0.75	1.12	-	1.31
2110005	OC104	1.28	1.28	-	-	-	1.28	-	0.85	-	0.85	-	1.28
2110006	OC105	1.01	1.01	1.01	-	-	-	0.51	0.51	-	-	-	-
2110007	OC106	1.13	-	-	-	-	1.26	1.38	0.49	-	-	-	1.07
2110014	OC110	0.97	0.97	-	-	-	-	-	-	-	-	-	0.49
2110004	OC103	1.04	1.04	-	-	0.52	1.30	0.52	1.04	1.04	1.04	-	1.30
2110011	OC107	1.20	0.80	-	-	-	-	-	1.12	0.96	0.72	-	0.96
2110012	OC108	2.87	-	1.91	-	-	2.87	-	2.87	2.87	1.91	-	0.96
2110013	OC109	1.25	1.01	0.86	-	1.44	-	0.57	-	-	1.01	-	1.25
2110015	OC111	1.22	0.82	-	-	-	-	-	-	-	-	-	0.51
2990001	OC112	-	-	-	-	-	0.95	1.27	1.52	1.01	1.52	-	1.77
2130002	OC201	1.09	0.84	-	-	-	-	-	-	-	-	-	0.67
2130003	OC202	1.74	1.74	-	-	-	-	-	1.16	1.16	1.35	-	1.16
2130005	OC203	2.55	1.70	1.70	2.55	1.70	1.70	1.70	1.70	2.55	1.70	2.55	2.55
2131903	OC204	1.66	1.38	1.10	-	0.55	-	-	1.10	1.66	1.10	-	1.10
2131904	OC205	1.47	0.98	-	0.98	0.98	0.98	-	0.98	0.98	0.88	-	1.08
2131905	OC206	1.62	1.62	1.62	1.62	-	-	-	-	-	-	-	1.35
2131906	OC207	1.55	1.55	1.27	1.13	0.85	-	-	-	0.56	0.70	-	0.56
2140002	OC208	2.49	2.49	2.49	2.49	1.66	2.49	1.66	1.66	2.49	1.94	2.49	2.49
2140003	OC209	-	-	-	-	-	-	0.81	0.72	0.63	0.98	0.98	-
2141901	OC210	1.90	1.77	1.11	-	1.27	1.48	-	0.63	0.63	0.63	-	1.14
2141905	OC211	1.59	1.06	-	-	-	-	-	-	-	-	-	0.85
2141906	OC212	1.77	1.33	1.38	0.98	-	0.98	-	0.59	1.18	-	-	1.30
2141907	OC213	1.77	1.53	1.65	1.33	1.38	1.18	-	1.18	1.33	1.30	-	1.18
2141908	OC214	2.05	1.88	1.71	-	1.37	0.68	-	1.37	2.05	1.71	-	1.88
2150001	OC301	2.81	2.81	2.81	2.50	1.69	2.81	1.88	2.19	2.81	2.81	2.81	2.81
2150002	OC302	2.65	2.06	2.21	2.65	1.77	-	2.65	-	-	-	-	-
2151902	OC304	1.72	1.53	1.62	1.62	1.15	-	1.15	1.03	0.86	0.86	-	1.15
2151903	OC305	1.77	1.18	1.57	0.59	-	-	-	0.59	1.18	-	-	1.47
2151907	OC306	1.85	1.54	1.54	1.44	-	0.93	0.62	0.62	1.24	-	-	0.62
2151908	OC307	1.40	1.40	1.25	1.04	1.87	1.25	0.62	-	1.04	-	0.62	0.94
2151909	OC308	1.66	1.66	1.66	1.66	-	1.11	-	0.55	1.11	0.55	-	1.11
2160001	OC309	2.66	2.66	2.66	2.66	1.77	2.21	2.07	1.77	2.66	2.30	2.66	2.12
2161901	OC310	1.67	1.53	1.67	1.67	-	1.12	-	0.56	0.56	1.12	-	1.25
2161902	OC311	1.97	1.97	1.31	1.31	-	-	1.31	0.66	0.66	0.66	-	1.31
2161903	OC312	1.85	1.69	1.23	1.03	1.08	1.23	1.03	0.62	1.03	0.82	-	1.38
2161907	OC313	1.92	1.92	1.49	1.28	1.44	1.28	1.28	1.28	1.66	1.41	1.28	1.79
2161908	OC314	2.01	2.01	2.01	2.01	1.34	1.34	1.34	0.67	0.67	-	0.67	2.01
2161909	OC315	1.72	1.52	1.11	1.52	1.21	1.21	1.21	0.61	1.21	0.61	-	1.21
2170001	OC401	2.33	2.33	2.33	1.56	1.56	1.56	1.56	1.56	2.33	2.33	1.56	2.33
2171901	OC403	1.72	1.45	1.72	1.32	-	1.98	-	-	1.32	1.32	1.49	1.49

<b>2171903</b>	OC404	1.66	1.71	1.66	1.19	1.78	0.71	0.71	0.71	0.86	1.14	-	1.71
<b>2171909</b>	OC405	2.11	2.11	2.11	2.11	-	1.41	-	1.41	1.41	1.41	-	-
<b>2171910</b>	OC406	1.98	1.98	1.98	-	-	0.66	1.98	0.66	-	0.66	-	1.32
<b>2171913</b>	OC409	1.75	1.44	1.23	1.08	1.23	0.62	-	0.62	1.23	0.62	-	1.23
<b>2181909</b>	OC412	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	3.00
<b>2181910</b>	OC413	2.09	1.79	2.69	-	1.79	1.79	1.79	-	-	1.79	2.69	1.79
<b>2181923</b>	OC426	2.39	2.69	1.80	1.80	1.80	1.80	1.50	2.69	2.69	2.69	1.80	1.80
Average direct Attainment		1.82	1.62	1.73	1.61	1.41	1.38	1.31	1.11	1.40	1.33	1.73	1.40
<b>Indirect Attainment (Student feedback)</b>		2.00	1.94	1.94	1.50	1.55	1.32	1.45	1.26	1.70	1.53	1.72	1.73
<b>Indirect Attainment (Exit Survey)</b>		2.24	2.27	2.32	2.20	2.27	2.23	2.15	2.33	2.30	2.36	2.30	2.32
<b>Indirect Attainment (Alumni Feedback)</b>		2.17	2.27	2.25	2.11	2.21	2.15	2.07	2.30	2.15	2.37	2.24	2.24
<b>Indirect Attainment (Employer Feedback)</b>		2.25	2.27	2.27	2.30	2.20	2.13	2.20	2.27	2.33	2.40	2.33	2.10
Average indirect Attainment		2.17	2.18	2.20	2.03	2.06	1.96	1.97	2.04	2.12	2.16	2.15	2.10
<b>80% of direct attainment</b>		1.46	1.30	1.38	1.29	1.13	1.10	1.05	0.88	1.12	1.07	1.38	1.12
<b>20% of indirect attainment</b>		0.43	0.44	0.44	0.41	0.41	0.39	0.39	0.41	0.42	0.43	0.43	0.42
Weighted attainment of POs and PSOs		1.89	1.74	1.82	1.69	1.54	1.49	1.44	1.29	1.55	1.50	1.81	1.54

Table 3.3.2(2) Attainment of POs for 2017-Batch (CAYm2)

University Code	Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2110002	OC101	-	0.61	-	-	-	0.61	-	0.61	0.61	1.32	0.61	0.91
2110003	OC102	-	-	-	-	-	0.63	0.84	1.01	0.67	1.01	-	1.17
2110005	OC104	1.36	1.36	-	-	-	1.36	-	0.91	-	0.91	-	1.36
2110006	OC105	1.03	1.03	1.03	-	-	-	0.52	0.52	-	-	-	-
2110007	OC106	1.10	-	-	-	-	1.22	1.33	0.47	-	-	-	1.04
2110014	OC110	0.92	0.92	-	-	-	-	-	-	-	-	-	0.46
2110004	OC103	1.07	1.07	-	-	0.54	1.34	0.54	1.07	1.07	1.07	-	1.34
2110011	OC107	1.45	0.97	-	-	-	-	-	1.35	1.16	0.87	-	1.16
2110012	OC108	2.37	-	1.58	-	-	2.37	-	2.37	2.37	1.58	-	0.79
2110013	OC109	1.26	1.02	0.87	-	1.46	-	0.58	-	-	1.02	-	1.26
2110015	OC111	1.24	0.83	-	-	-	-	-	-	-	-	-	0.52
2990001	OC112	-	-	-	-	-	0.91	1.21	1.46	0.97	1.46	-	1.70
2130002	OC201	1.07	0.82	-	-	-	-	-	-	-	-	-	0.66
2130003	OC202	1.38	1.38	-	-	-	-	-	0.92	0.92	1.07	-	0.92
2130005	OC203	2.67	1.78	1.78	2.67	1.78	1.78	1.78	1.78	2.67	1.78	2.67	2.67
2131903	OC204	1.98	1.65	1.32	-	0.66	-	-	1.32	1.98	1.32	-	1.32
2131904	OC205	1.65	1.10	-	1.10	1.10	1.10	-	1.10	1.10	0.99	-	1.21
2131905	OC206	1.45	1.45	1.45	1.45	-	-	-	-	-	-	-	1.21
2131906	OC207	1.43	1.43	1.17	1.04	0.78	-	-	-	0.52	0.65	-	0.52
2140002	OC208	2.51	2.51	2.51	2.51	1.67	2.51	1.67	1.67	2.51	1.95	2.51	2.51
2140003	OC209	-	-	-	-	-	-	0.78	0.69	0.60	0.95	0.95	-
2141901	OC210	1.65	1.54	0.97	-	1.10	1.29	-	0.55	0.55	0.55	-	0.99
2141905	OC211	1.52	1.01	-	-	-	-	-	-	-	-	-	0.81
2141906	OC212	1.67	1.25	1.30	0.93	-	0.93	-	0.56	1.11	-	-	1.22
2141907	OC213	1.75	1.51	1.63	1.31	1.36	1.16	-	1.16	1.31	1.28	-	1.16
2141908	OC214	1.84	1.69	1.54	-	1.23	0.61	-	1.23	1.84	1.54	-	1.69
2150001	OC301	2.49	2.49	2.49	2.22	1.50	2.49	1.66	1.94	2.49	2.49	2.49	2.49
2150003	OC303	1.16	1.45	1.16	1.16	1.16	1.16	0.97	1.16	0.58	1.55	0.77	0.58
2151902	OC304	1.94	1.73	1.83	1.83	1.29	-	1.29	1.17	0.97	0.97	-	1.29
2151903	OC305	1.78	1.19	1.58	0.59	-	-	-	0.59	1.19	-	-	1.49
2151907	OC306	1.72	1.44	1.44	1.34	-	0.86	0.57	0.57	1.15	-	-	0.57
2151908	OC307	1.41	1.41	1.25	1.05	1.88	1.25	0.63	-	1.05	-	0.63	0.94
2151909	OC308	1.64	1.64	1.64	1.64	-	1.09	-	0.55	1.09	0.55	-	1.09
2160001	OC309	2.93	2.93	2.93	2.93	1.96	2.45	2.28	1.96	2.93	2.54	2.93	2.35
2161901	OC310	2.12	1.94	2.12	2.12	-	1.41	-	0.71	0.71	1.41	-	1.59
2161902	OC311	2.28	2.28	1.52	1.52	-	-	1.52	0.76	0.76	0.76	-	1.52
2161903	OC312	2.26	2.07	1.50	1.25	1.32	1.50	1.25	0.75	1.25	1.00	-	1.69
2161907	OC313	2.32	2.32	1.81	1.55	1.74	1.55	1.55	1.55	2.01	1.70	1.55	2.17
2161908	OC314	1.89	1.89	1.89	1.89	1.26	1.26	1.26	0.63	0.63	-	0.63	1.89
2161909	OC315	1.86	1.64	1.20	1.64	1.31	1.31	1.31	0.66	1.31	0.66	-	1.31
2170001	OC401	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	3.00
2171901	OC403	1.72	1.46	1.72	1.32	-	1.99	-	-	1.32	1.32	1.49	1.49

2171903	OC404	1.78	1.83	1.78	1.27	1.90	0.76	0.76	0.76	0.91	1.22	-	1.83
2171909	OC405	1.96	1.96	1.96	1.96	-	1.30	-	1.30	1.30	1.30	-	-
2171910	OC406	1.98	1.98	1.98	-	-	0.66	1.98	0.66	-	0.66	-	1.32
2171913	OC409	1.97	1.62	1.39	1.22	1.39	0.69	-	0.69	1.39	0.69	-	1.39
2181909	OC412	3.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	3.00
2181910	OC413	1.90	1.62	2.44	-	1.62	1.62	1.62	-	-	1.62	2.44	1.62
2181927	OC430	2.03	2.30	1.90	1.62	1.62	1.08	-	1.62	1.62	1.62	-	1.22
Average direct Attainment		1.81	1.64	1.73	1.61	1.43	1.36	1.28	1.10	1.39	1.33	1.69	1.40
Indirect Attainment (Student feedback)		1.97	1.88	1.81	1.57	1.37	1.34	1.30	1.02	1.37	1.33	1.46	1.52
Indirect Attainment (Exit Survey)		2.36	2.26	2.26	2.21	2.22	2.12	2.18	2.05	2.25	2.26	2.15	2.09
Indirect Attainment (Alumni Feedback)		2.07	2.06	2.02	2.04	2.13	2.10	2.02	2.10	2.14	2.04	2.13	2.01
Indirect Attainment (Employer Feedback)		2.78	2.80	2.80	2.85	2.74	2.75	2.85	2.75	2.80	2.70	2.80	2.78
Average indirect Attainment		2.29	2.25	2.22	2.16	2.12	2.07	2.09	1.98	2.14	2.08	2.14	2.10
80% of direct attainment		1.45	1.31	1.39	1.29	1.14	1.09	1.02	0.88	1.11	1.07	1.35	1.12
20% of indirect attainment		0.46	0.45	0.44	0.43	0.42	0.41	0.42	0.40	0.43	0.42	0.43	0.42
Weighted attainment of POs and PSOs		1.91	1.76	1.83	1.72	1.56	1.50	1.44	1.27	1.54	1.48	1.78	1.54

Table 3.3.2(3) Attainment of POs for 2018-Batch (CAYm1)

University Code	Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3110003	NC103	1.17	0.98	0.98	0.98	0.98	-	-	-	-	0.98	-	0.98
3110004	NC104	1.33	1.07	1.07	-	0.53	1.07	1.07	0.89	1.60	1.07	1.07	1.25
3110005	NC105	1.31	1.31	-	-	-	1.31	-	0.87	-	0.87	-	1.31
3110006	NC106	0.91	0.91	0.91	-	-	-	0.45	0.45	-	-	-	0.91
3110014	NC111	0.68	0.74	-	-	-	-	-	-	-	-	-	0.57
3110017	NC114	-	-	-	-	-	-	-	-	-	-	-	-
3110002	NC102	-	-	-	-	-	-	-	1.03	0.79	1.18	-	0.89
3110007	NC107	0.76	-	1.01	-	-	0.76	1.01	0.84	0.50	0.76	-	1.01
3110011	NC108	1.35	0.85	-	-	-	-	-	1.32	0.99	0.79	-	1.13
3110012	NC109	2.53	1.69	-	-	1.69	1.69	-	1.69	2.53	1.69	-	0.84
3110013	NC110	1.39	1.11	0.83	-	1.39	-	1.11	-	-	1.30	-	1.21
3110015	NC112	1.04	0.89	-	-	-	-	-	-	-	-	-	0.62
3130004	NC201	-	-	-	-	-	-	-	0.67	0.76	1.15	-	0.57
3130005	NC202	0.83	0.65	-	-	-	-	-	-	-	-	-	0.69
3130007	NC203	-	-	-	-	-	0.00	-	0.00	-	-	-	-
3130008	NC204	2.53	1.90	1.90	2.84	1.90	1.42	1.90	0.95	2.37	1.90	1.42	0.95
3131904	NC205	1.76	1.17	-	1.17	1.17	1.17	-	1.17	1.17	1.06	-	1.29
3131905	NC206	1.59	1.59	1.59	1.59	-	-	-	0.53	-	0.53	-	1.59
3131906	NC207	1.61	1.29	1.08	1.34	1.61	-	-	0.54	0.54	0.81	-	1.08
3140005	NC208	2.56	2.56	2.56	2.56	1.71	2.56	1.71	1.71	2.56	1.99	2.56	2.56
3141901	NC209	1.97	1.80	1.15	0.66	1.64	0.98	-	0.66	0.66	0.98	-	1.47
3141906	NC210	1.96	1.79	1.96	1.31	-	-	-	-	1.31	-	-	1.31

3141907	NC211	1.89	1.85	2.02	1.52	1.35	0.67	1.01	-	1.01	1.35	0.67	1.35
3141908	NC212	2.08	2.08	2.08	1.38	-	-	-	1.38	2.08	1.38	-	1.38
3141909	NC213	-	-	-	-	-	0.47	0.47	0.58	1.05	0.70	0.47	0.78
3150001	NC301	2.84	2.84	2.84	2.52	1.70	2.84	1.89	2.21	2.84	2.84	2.84	2.84
3150004	NC302	-	-	-	-	1.53	1.22	-	1.53	1.37	1.07	-	1.07
3151909	NC305	1.92	1.92	1.92	1.92	-	1.28	-	0.64	1.28	0.64	-	1.28
3151910	NC306	1.25	1.06	1.25	0.96	-	1.44	-	-	0.96	0.96	1.08	1.08
3151911	NC307	1.94	1.81	1.94	1.68	-	1.08	-	0.65	0.65	1.29	-	1.42
3151912	NC308	2.01	2.01	2.01	1.34	-	-	-	1.34	2.01	1.34	-	1.34
3151913	NC309	1.13	-	1.69	1.13	1.13	1.13	-	1.13	-	1.13	-	0.56
3160001	NC313	3.00	3.00	3.00	3.00	2.00	2.50	2.33	2.00	3.00	2.60	3.00	2.40
3160002	NC314	-	-	-	-	1.59	1.30	-	1.16	1.16	1.01	-	0.87
3161903	NC316	2.32	2.07	2.15	1.38	2.32	1.65	1.24	0.83	1.93	1.65	-	1.98
3161910	NC318	2.47	1.65	1.65	1.65	-	-	1.65	0.82	0.82	0.82	-	1.65
3161917	NC325	2.23	2.15	2.15	1.29	1.93	0.86	0.86	0.86	1.20	1.55	1.72	2.23
3161922	NC330	2.18	1.71	0.78	0.78	1.87	0.78	-	0.78	0.78	0.78	-	1.17
3161924	NC332	2.41	2.09	1.61	1.21	1.88	1.77	1.21	1.13	2.41	2.41	1.61	1.61
3170001	NC401	2.00	2.00	1.00	1.00	2.00	2.00	2.00	3.00	2.00	2.00	1.00	2.00
3171506	NC402	1.43	1.43	-	0.72	-	1.43	-	2.15	2.15	1.43	2.15	2.15
3171910	NC403	1.48	1.48	1.48	-	-	0.49	1.48	-	-	-	0.49	0.99
3171917	NC405	2.08	1.81	1.81	2.08	2.08	2.08	1.39	1.39	1.39	1.91	-	1.62
3171918	NC406	2.47	2.47	2.47	2.47	1.64	0.82	1.64	-	-	-	-	2.47
3171923	NC411	2.02	2.02	1.34	1.34	-	-	1.34	0.67	0.67	0.67	-	1.34
3171931	NC419	1.72	1.38	1.63	1.53	1.63	1.23	0.61	-	-	-	-	1.23
3181901	NC420	2.96	2.96	2.96	1.97	2.96	1.97	1.97	2.96	1.97	2.96	2.96	2.96
Average direct attainment		1.83	1.69	1.71	1.56	1.68	1.38	1.35	1.19	1.47	1.34	1.65	1.38
Indirect Attainment (Student feedback)		1.97	1.82	1.78	1.50	1.58	1.28	1.27	1.11	1.40	1.30	1.44	1.46
Indirect Attainment (Exit Survey)		2.32	2.30	2.27	2.19	2.22	2.14	2.15	2.05	2.26	2.26	2.15	2.09
Indirect Attainment (Alumni Feedback)		2.35	2.31	2.22	2.23	2.25	2.16	2.24	2.04	2.31	2.23	2.20	2.05
Indirect Attainment (Employer Feedback)		2.54	2.58	2.58	2.68	2.57	2.57	2.59	2.61	2.56	2.57	2.56	2.68
Average indirect Attainment		2.30	2.25	2.21	2.15	2.16	2.04	2.06	1.95	2.13	2.09	2.09	2.07
80% of direct attainment		1.46	1.35	1.37	1.25	1.34	1.07	1.08	0.93	1.18	1.07	1.32	1.10
20% of indirect attainment		0.46	0.45	0.44	0.43	0.43	0.41	0.41	0.39	0.43	0.42	0.42	0.41
Weighted attainment of POs and PSOs		1.92	1.80	1.81	1.68	1.77	1.51	1.49	1.34	1.60	1.49	1.73	1.52



Table 3.3.2(4) Attainment of POs for 2019-Batch (CAY)

University Code	Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3110003	NC103	1.23	1.02	1.02	1.02	1.02	-	-	-	-	1.02	-	1.02
3110004	NC104	1.35	1.08	1.08	-	0.54	1.08	1.08	0.90	1.62	1.08	1.08	1.26
3110011	NC108	1.34	0.84	-	-	-	-	-	1.31	0.98	0.78	-	1.12
3110012	NC109	2.18	1.45	-	-	1.45	1.45	-	1.45	2.18	1.45	-	0.73
3110014	NC111	0.92	0.99	-	-	-	-	-	-	-	-	-	0.76
3110017	NC114	-	-	-	-	-	-	-	-	-	-	-	-
3110002	NC102	-	-	-	-	-	-	-	1.07	0.81	1.22	-	0.91
3110005	NC105	1.97	1.97	-	-	-	1.97	-	1.31	-	1.31	-	1.97
3110006	NC106	1.48	1.48	1.48	-	-	-	0.74	0.74	-	-	-	1.48
3110007	NC107	0.81	-	1.08	-	-	0.81	1.08	0.90	0.54	0.81	-	1.08
3110013	NC110	1.67	1.33	1.00	-	1.67	-	1.33	-	-	1.56	-	1.44
3110015	NC112	1.68	1.44	-	-	-	-	-	-	-	-	-	1.00
3130004	NC201	-	-	-	-	-	-	-	0.68	0.78	1.17	-	0.59
3130005	NC202	0.75	0.59	-	-	-	-	-	-	-	-	-	0.62
3130007	NC203	-	-	-	-	-	1.22	-	0.97	-	-	-	-
3130008	NC204	2.65	1.99	1.99	2.99	1.99	1.49	1.99	1.00	2.49	1.99	1.49	1.00
3131904	NC205	1.51	1.00	-	1.00	1.00	1.00	-	1.00	1.00	0.90	-	1.11
3131905	NC206	1.56	1.56	1.56	1.56	-	-	-	0.52	-	0.52	-	1.56
3131906	NC207	1.44	1.15	0.96	1.20	1.44	-	-	0.48	0.48	0.72	-	0.96
3140005	NC208	3.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	3.00	2.33	3.00	3.00
3141901	NC209	2.11	1.93	1.23	0.70	1.76	1.05	-	0.70	0.70	1.05	-	1.58
3141906	NC210	2.19	2.01	2.19	1.46	-	-	-	-	1.46	-	-	1.46
3141907	NC211	1.86	1.83	2.00	1.50	1.33	0.67	1.00	-	1.00	1.33	0.67	1.33
3141908	NC212	1.98	1.98	1.98	1.32	-	-	-	1.32	1.98	1.32	-	1.32
3141909	NC213	-	-	-	-	-	0.54	0.54	0.68	1.22	0.82	0.54	0.91
3150001	NC301	2.77	2.77	2.77	2.46	1.66	2.77	1.85	2.15	2.77	2.77	2.77	2.77
3150005	NC303	-	-	-	-	-	2.25	0.84	1.41	1.13	1.69	-	1.27
3151909	NC305	1.42	1.42	1.42	1.42	-	0.95	-	0.47	0.95	0.47	-	0.95
3151910	NC306	1.19	1.00	1.19	0.91	-	1.37	-	-	0.91	0.91	1.03	1.03
3151911	NC307	1.40	1.31	1.40	1.21	-	0.78	-	0.47	0.47	0.93	-	1.03
3151912	NC308	1.94	1.94	1.94	1.29	-	-	-	1.29	1.94	1.29	-	1.29
3151913	NC309	1.04	-	1.56	1.04	1.04	1.04	-	1.04	-	1.04	-	0.52
3160001	NC313	2.19	2.19	2.19	2.19	1.46	1.82	1.70	1.46	2.19	1.90	2.19	1.75
3160003	NC315	-	-	-	-	-	2.42	0.91	1.51	1.21	1.82	-	1.36
3161903	NC316	1.50	1.34	1.39	0.89	1.50	1.07	0.80	0.54	1.25	1.07	-	1.29
3161910	NC318	1.59	1.06	1.06	1.06	-	-	1.06	0.53	0.53	0.53	-	1.06
3161917	NC325	1.42	1.37	1.37	0.82	1.23	0.55	0.55	0.55	0.76	0.98	1.09	1.42
3161919	NC327	1.43	1.47	1.43	1.54	1.84	1.23	1.23	1.38	1.64	1.69	1.84	1.38
3161924	NC332	1.54	1.33	1.03	0.77	1.20	1.13	0.77	0.72	1.54	1.54	1.03	1.03
3170001	NC401	1.88	1.88	0.94	0.94	1.88	1.88	1.88	2.82	1.88	1.88	0.94	1.88
3171506	NC402	1.27	1.27	-	0.63	-	1.27	-	1.90	1.90	1.27	1.90	1.90
3171910	NC403	1.22	1.22	1.22	-	-	0.41	1.22	-	-	-	0.41	0.81

<b>3171917</b>	NC405	1.30	1.13	1.13	1.30	1.30	1.30	0.87	0.87	0.87	1.19	-	1.01
<b>3171918</b>	NC406	1.77	1.77	1.77	1.77	1.18	0.59	1.18	-	-	-	-	1.77
<b>3171923</b>	NC411	2.01	2.01	1.34	1.34	-	-	1.34	0.67	0.67	0.67	-	1.34
<b>3171931</b>	NC419	1.57	1.26	1.49	1.40	1.49	1.12	0.56	-	-	-	-	1.12
<b>3181901</b>	NC420	2.79	2.79	2.79	1.86	2.79	1.86	1.86	2.79	1.86	2.79	2.79	2.79
Average direct attainment		1.67	1.56	1.56	1.40	1.49	1.34	1.18	1.13	1.35	1.29	1.52	1.31
<b>Indirect Attainment (Student feedback)</b>		1.94	1.79	1.78	1.56	1.62	1.43	1.26	1.20	1.44	1.40	1.55	1.50
<b>Indirect Attainment (Exit Survey)</b>		2.41	2.29	2.41	2.42	2.48	2.43	2.39	2.40	2.49	2.44	2.32	2.35
<b>Indirect Attainment (Alumni Feedback)</b>		-	-	-	-	-	-	-	-	-	-	-	-
<b>Indirect Attainment (Employer Feedback)</b>		-	-	-	-	-	-	-	-	-	-	-	-
Average indirect Attainment		2.18	2.04	2.09	1.99	2.05	1.93	1.82	1.80	1.96	1.92	1.94	1.92
<b>80% of direct attainment</b>		1.34	1.25	1.25	1.12	1.19	1.07	0.95	0.91	1.08	1.03	1.21	1.05
<b>20% of indirect attainment</b>		0.44	0.41	0.42	0.40	0.41	0.39	0.36	0.36	0.39	0.38	0.39	0.38
Weighted attainment of POs and PSOs		1.77	1.65	1.67	1.52	1.60	1.45	1.31	1.27	1.48	1.42	1.60	1.43

## 2. Evaluation of PSOs

The evaluation of PSOs for the 2016-Batch, 2017-Batch and 2018-Batch graduated in the academic year 2019-20 (CAYm3), 2020-21(CAYm2), 2021-22 (CAYm1), 2022-23 (CAY) respectively are shown below in Table 3.3.2(5) to Table 3.3.2(8) respectively. The alumni survey and employers feedback are obtained nearly after a year of graduation. Therefore, the exit survey and course feedback of the students are only considered as a source of indirect attainment for 2019-Batch.

Table 3.3.2(5) Attainment of PSOs for 2016-Batch (CAYm3)

University Code	Course Code	PSO1	PSO2
2110002	OC101	-	-
2110003	OC102	-	-
2110005	OC104	0.91	1.21
2110006	OC105	0.93	0.52
2110007	OC106	-	-
2110014	OC110	-	0.46
2110004	OC103	-	1.07
2110011	OC107	-	-
2110012	OC108	2.37	2.37
2110013	OC109	-	0.58
2110015	OC111	-	0.52
2990001	OC112	-	-
2130002	OC201	-	0.41
2130003	OC202	-	0.92
2130005	OC203	-	0.89
2131903	OC204	1.98	1.98
2131904	OC205	1.65	1.65
2131905	OC206	1.45	0.97
2131906	OC207	1.17	1.30
2140002	OC208	1.67	1.67
2140003	OC209	-	-
2141901	OC210	1.65	1.10
2141905	OC211	-	1.14
2141906	OC212	0.97	1.11
2141907	OC213	1.40	1.16
2141908	OC214	1.84	1.69
2150001	OC301	1.66	1.66
2150003	OC303	1.35	0.87
2151902	OC304	1.55	1.78
2151903	OC305	1.19	1.19

<b>2151907</b>	OC306	1.29	1.15
<b>2151908</b>	OC307	1.25	1.57
<b>2151909</b>	OC308	1.64	1.64
<b>2160001</b>	OC309	1.96	1.96
<b>2161901</b>	OC310	1.59	1.94
<b>2161902</b>	OC311	1.52	1.52
<b>2161903</b>	OC312	1.69	2.07
<b>2161907</b>	OC313	2.32	2.32
<b>2161908</b>	OC314	1.89	1.89
<b>2161909</b>	OC315	1.64	1.53
<b>2170001</b>	OC401	3.00	3.00
<b>2171901</b>	OC403	1.72	1.59
<b>2171903</b>	OC404	1.27	1.37
<b>2171909</b>	OC405	1.96	1.96
<b>2171910</b>	OC406	1.98	1.98
<b>2171913</b>	OC409	1.62	1.51
<b>2181909</b>	OC412	3.00	3.00
<b>2181910</b>	OC413	2.44	2.44
<b>2181927</b>	OC430	2.17	1.90
Average direct Attainment		1.66	1.47
<b>Indirect Attainment (Student feedback)</b>		1.87	1.86
<b>Indirect Attainment (Exit Survey)</b>		2.23	2.33
<b>Indirect Attainment (Alumni Feedback)</b>		2.22	2.34
<b>Indirect Attainment (Employer Feedback)</b>		2.28	2.28
Average indirect Attainment		2.15	2.20
<b>80% of direct attainment</b>		1.33	1.18
<b>20% of indirect attainment</b>		0.43	0.44
Weighted attainment of POs and PSOs		1.76	1.62

Table 3.3.2(6) Attainment of PSOs for 2017-Batch (CAYm2)

University Code	Course Code	PSO1	PSO2
2110002	OC101	-	-
2110003	OC102	-	-
2110005	OC104	0.91	1.21
2110006	OC105	0.93	0.52
2110007	OC106	-	-
2110014	OC110	-	0.46
2110004	OC103	-	1.07
2110011	OC107	-	-
2110012	OC108	2.37	2.37
2110013	OC109	-	0.58
2110015	OC111	-	0.52
2990001	OC112	-	-
2130002	OC201	-	0.41
2130003	OC202	-	0.92
2130005	OC203	-	0.89
2131903	OC204	1.98	1.98
2131904	OC205	1.65	1.65
2131905	OC206	1.45	0.97
2131906	OC207	1.17	1.30
2140002	OC208	1.67	1.67
2140003	OC209	-	-
2141901	OC210	1.65	1.10
2141905	OC211	-	1.14
2141906	OC212	0.97	1.11
2141907	OC213	1.40	1.16
2141908	OC214	1.84	1.69
2150001	OC301	1.66	1.66
2150003	OC303	1.35	0.87
2151902	OC304	1.55	1.78
2151903	OC305	1.19	1.19
2151907	OC306	1.29	1.15
2151908	OC307	1.25	1.57
2151909	OC308	1.64	1.64
2160001	OC309	1.96	1.96
2161901	OC310	1.59	1.94
2161902	OC311	1.52	1.52
2161903	OC312	1.69	2.07
2161907	OC313	2.32	2.32
2161908	OC314	1.89	1.89
2161909	OC315	1.64	1.53
2170001	OC401	3.00	3.00
2171901	OC403	1.72	1.59

<b>2171903</b>	OC404	1.27	1.37
<b>2171909</b>	OC405	1.96	1.96
<b>2171910</b>	OC406	1.98	1.98
<b>2171913</b>	OC409	1.62	1.51
<b>2181909</b>	OC412	3.00	3.00
<b>2181910</b>	OC413	2.44	2.44
<b>2181927</b>	OC430	2.17	1.90
Average direct Attainment		1.71	1.50
<b>Indirect Attainment (Student feedback)</b>		1.74	1.74
<b>Indirect Attainment (Exit Survey)</b>		2.33	2.22
<b>Indirect Attainment (Alumni Feedback)</b>		1.97	2.09
<b>Indirect Attainment (Employer Feedback)</b>		2.73	2.73
Average indirect Attainment		2.19	2.19
<b>80% of direct attainment</b>		1.36	1.20
<b>20% of indirect attainment</b>		0.44	0.44
Weighted attainment of POs and PSOs		1.80	1.64

Table 3.3.2(7) Attainment of PSOs for 2018-Batch (CAYm1)

University Code	Course Code	PSO1	PSO2
3110003	NC103	0.98	0.98
3110004	NC104	-	1.07
3110005	NC105	-	-
3110006	NC106	0.82	0.45
3110014	NC111	-	0.34
3110017	NC114	-	-
3110002	NC102	-	-
3110007	NC107	-	1.01
3110011	NC108	-	-
3110012	NC109	1.69	1.69
3110013	NC110	-	0.56
3110015	NC112	-	0.45
3130004	NC201	-	-
3130005	NC202	-	0.48
3130007	NC203	-	-
3130008	NC204	1.90	1.90
3131904	NC205	1.76	1.76
3131905	NC206	1.59	1.06
3131906	NC207	1.29	1.29
3140005	NC208	1.71	1.71
3141901	NC209	1.80	1.31
3141906	NC210	1.31	1.63
3141907	NC211	1.48	1.85
3141908	NC212	2.08	2.08
3141909	NC213	-	-
3150001	NC301	1.89	1.89
3150004	NC302	-	-
3151909	NC305	1.28	1.28
3151910	NC306	1.25	1.15
3151911	NC307	1.42	1.81
3151912	NC308	2.01	2.01
3151913	NC309	1.69	1.13
3160001	NC313	2.00	2.00
3160002	NC314	-	-
3161903	NC316	1.98	2.15
3161910	NC318	1.65	1.65
3161917	NC325	2.40	2.23
3161922	NC330	2.02	1.56
3161924	NC332	1.41	1.21
3170001	NC401	2.00	2.00
3171506	NC402	2.01	2.01
3171910	NC403	1.48	1.48

<b>3171917</b>	NC405	1.56	1.94
<b>3171918</b>	NC406	2.47	2.47
<b>3171923</b>	NC411	1.34	1.34
<b>3171931</b>	NC419	1.59	1.23
<b>3181901</b>	NC420	2.96	2.96
Average direct Attainment		1.71	1.50
<b>Indirect Attainment (Student feedback)</b>		1.72	1.65
<b>Indirect Attainment (Exit Survey)</b>		2.31	2.21
<b>Indirect Attainment (Alumni Feedback)</b>		2.30	2.25
<b>Indirect Attainment (Employer Feedback)</b>		2.55	2.55
Average indirect Attainment		2.22	2.16
<b>80% of direct attainment</b>		1.37	1.20
<b>20% of indirect attainment</b>		0.44	0.43
Weighted attainment of POs and PSOs		1.81	1.63



Table 3.3.2(8) Attainment of PSOs for 2019-Batch (CAY)

University Code	Course Code	PSO1	PSO2
3110003	NC103	1.02	1.02
3110004	NC104	-	1.08
3110005	NC105	-	-
3110006	NC106	1.45	1.45
3110014	NC111	-	0.46
3110017	NC114	-	-
3110002	NC102	-	-
3110007	NC107	-	-
3110011	NC108	1.33	0.74
3110012	NC109	-	1.08
3110013	NC110	-	0.67
3110015	NC112	-	0.72
3130004	NC201	-	-
3130005	NC202	-	0.43
3130007	NC203	-	-
3130008	NC204	1.99	1.99
3131904	NC205	1.51	1.51
3131905	NC206	1.56	1.04
3131906	NC207	1.15	1.15
3140005	NC208	2.00	2.00
3141901	NC209	1.93	1.41
3141906	NC210	1.46	1.83
3141907	NC211	1.46	1.83
3141908	NC212	1.98	1.98
3141909	NC213	-	-
3150001	NC301	1.85	1.85
3150004	NC302	-	-
3151909	NC305	0.95	0.95
3151910	NC306	1.19	1.09
3151911	NC307	1.03	1.31
3151912	NC308	1.94	1.94
3151913	NC309	1.56	1.04
3160001	NC313	1.46	1.46
3160002	NC314	-	-
3161903	NC316	1.29	1.39
3161910	NC318	1.06	1.06
3161917	NC325	1.53	1.42
3161922	NC330	1.38	1.84
3161924	NC332	0.90	0.77
3170001	NC401	1.88	1.88
3171506	NC402	1.77	1.77
3171910	NC403	1.22	1.22

<b>3171917</b>	NC405	0.98	1.22
<b>3171918</b>	NC406	1.77	1.77
<b>3171923</b>	NC411	1.34	1.34
<b>3171931</b>	NC419	1.46	1.12
<b>3181901</b>	NC420	2.70	2.70
Average direct Attainment		1.51	1.36
<b>Indirect Attainment (Student feedback)</b>		1.72	1.58
<b>Indirect Attainment (Exit Survey)</b>		2.41	2.41
<b>Indirect Attainment (Alumni Feedback)</b>		-	-
<b>Indirect Attainment (Employer Feedback)</b>		-	-
Average indirect Attainment		2.06	1.99
<b>80% of direct attainment</b>		1.20	1.09
<b>20% of indirect attainment</b>		0.41	0.40
Weighted attainment of POs and PSOs		1.62	1.49

**CRITERION 4****Student's Performance****150****4. Students' Performance (150)**

Table 4(a) shows the total number of students admitted in the program against sanctioned intake. Table 4(b) and 4(c) shows the details of successfully graduated students without backlogs and with and without backlog respectively in stipulated time.

Table 4(a) Total No. of students admitted in the program against sanctioned intake.

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY 2022- 23	CAY m1 2021- 22	CAYm 2 2020-21	CAY m3 2019- 20	CAYm 4 2018- 19	CAYm5 (LYGm 1) 2017-18	CAYm6 (LYGm 2) 2016-17	CAYm7 (LYGm 3) 2015-16
<b>Sanctioned intake of the program (N)</b>	60	120	120	120	120	120	120	<b>120</b>
<b>Total number of students admitted in first year minus number of students migrated to other programs/institutions plus no. of students migrated to this program (N1)</b>	14	44	42	54	41	77	69	<b>124</b>
<b>Number of students admitted in 2nd year in the same batch via lateral entry (N2)</b>	60#	49	56	91	56	53	59	<b>31</b>
<b>Separate division students, if applicable (N3)</b>	0	0	0	0	0	0	0	<b>0</b>
<b>Total number of students admitted in the Program (N1+N2 +N3)</b>	<b>74</b>	<b>93</b>	<b>98</b>	<b>145</b>	<b>97</b>	<b>130</b>	<b>128</b>	<b>155</b>

#Lateral entry admission enrolment in batch 2022-23 is under process by university.

CAY- Current Academic Year; CAYm1-Current Academic Year minus1=Current Assessment Year; CAYm2 - Current Academic Year minus2=Current Assessment Year minus 1; LYG-Last Year Graduate; LYGM1 - Last Year Graduate minus 1

Table 4(b) Number of students successfully graduated without backlogs in any semester/year of study

Year of entry	Total number of students admitted in program (N1+N2+N3)	Number of students who have successfully graduated without backlogs in any semester/year of study (Without Backlog means no compartment or failures in any semester/year of study)			
		I Year	II Year	III Year	IV Year
<b>CAY(2022-23)</b>	14				
<b>CAYm1(2021-22)</b>	93	5			
<b>CAYm2(2020-21)</b>	98	28	18	17	
<b>CAYm3(2019-20)</b>	145	30	29	23	<b>17</b>
<b>LYG(2018-19)</b>	97	8	23	19	<b>17</b>
<b>LYGm1(2017-18)</b>	130	23	26	26	<b>26</b>
<b>LYGm2(2016-17)</b>	128	16	22	18	<b>17</b>
<b>LYGm3(2015-16)</b>	<b>155</b>	<b>47</b>	<b>31</b>	<b>27</b>	<b>27</b>

Table 4(c) Number of students successfully graduated in stipulated period of study with and without backlog

Year of Entry	Total number of students admitted in program (N1+N2+N3)	Number of students who have successfully graduated in stipulated period of study [Total of with Backlog+ without Backlog]			
		I Year	II Year	III Year	IV Year
<b>CAY(2022-23)</b>	14				
<b>CAYm1(2021-22)</b>	93	41			
<b>CAYm2(2020-21)</b>	98	39	80		
<b>CAYm3(2019-20)</b>	145	47	120	110	<b>64</b>
<b>LYG(2018-19)</b>	97	29	80	77	<b>75</b>
<b>LYGm1(2017-18)</b>	130	67	100	98	<b>95</b>
<b>LYGm2(2016-17)</b>	128	56	94	89	<b>89</b>
<b>LYGm3(2015-16)</b>	<b>155</b>	<b>114</b>	<b>132</b>	<b>126</b>	<b>108</b>

#### 4.1 Enrolment Ratio (20)

The Enrolment Ratio= $N1/N$ , Where  $N1$  is Total number of students admitted in first year minus number of students migrated to other programs/institutions plus no. of students migrated to this program and  $N$  is the Sanctioned intake of the program. Table 4.1(1) shows the instruction for the marks based on enrolment ration while Table 4.1(2) shows the evaluation of enrolment ration and respective marks obtained therefrom.

Table 4.1(1) Marks based on enrolment ratio during the previous three academic year

Item (Students enrolled at the First Year Level on average basis during the previous three academic years starting from current academic year)	Marks
<b><math>\geq 90\%</math> students enrolled</b>	<b>20</b>
<b><math>\geq 80\%</math> students enrolled</b>	<b>18</b>
<b><math>\geq 70\%</math> students enrolled</b>	<b>16</b>
<b><math>\geq 60\%</math> students enrolled</b>	<b>14</b>
<b><math>\geq 50\%</math> students enrolled</b>	<b>12</b>
<b>Otherwise</b>	<b>0</b>

Table 4.1(2) Average marks based on enrolment ratio of last three academic years against sanctioned intake

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY 2022- 23	CAYm 1 2021- 22	CAYm 2 2020- 21	CAYm 3 2019- 20
<b>Sanctioned intake of the program (N)</b>	60	120	120	<b>120</b>
<b>Total number of students admitted in first year minus number of students migrated to other programs/institutions plus no. of students migrated to this program (N1)</b>	14	44	42	<b>54</b>
<b>Enrollment Ratio (<math>N1/N</math>) x 100</b>	23.33	36.67	35.00	<b>45.00</b>
<b>Marks</b>	0	0	0	<b>0</b>
<b>Average Marks</b>	<b>0</b>			

## 4.2 Success Rate in the stipulated period of the program (40)

### 4.2.1 Success rate without backlogs in any semester/year of study (25)

Table 4.2.1(1) shows the Success Index and success rate without backlogs for different academic years. According to National Board of Accreditation, the Success Index (SI), Average successful index (Average SI) and Success rate is defined as,

**SI** = (Number of students who have graduated from the program without backlog) / (Number of students admitted in the first year of that batch and actually admitted in 2<sup>nd</sup> year via lateral entry and separate division, if applicable)

**Average SI** = Mean of Success Index (SI) for past three batches = **0.17**

**Success rate** without backlogs in any year of study = 25 \* Average SI = **4.25**

Table 4.2.1(1) Success index and success rate without backlogs in any year of study

Item	CAYm3 2019-20	LYG 2018-19	LYGm1 2017-18	LYGm 2 2016-17	LYGm3 2015-16
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	145	97	130	128	<b>155</b>
Number of students who have graduated without backlogs in the stipulated period	17	17	26	17	<b>27</b>
Success Index (SI)	0.12	0.18	0.20	0.13	<b>0.17</b>
Average SI (2017-18, 2016-17, 2015-16)			<b>0.17</b>		
Average SI (2018-19, 2017-18, 2016-17)		0.17			
Average SI (2019-20, 2018-19, 2017-18)	0.17				
Success rate without backlogs in any year of study	<b>4.25</b>				

### 4.2.2 Success rate in stipulated period of study (15)

Table 4.2.2(1) shows the Success Index and success rate for different academic years based on graduation completed in stipulated time. According to National Board of Accreditation, the Success Index (SI), Average successful index (Average SI) and Success rate is defined as,

**SI** = (Number of students who graduated from the program in the stipulated period of course

duration) / (Number of students admitted in the first year of that batch and actual admitted in 2<sup>nd</sup> year via lateral entry and separate division, if applicable)

**Average SI** = mean of Success Index (SI) for past three batches = **0.61** (19-20, 18-19, 17-18)

**Success rate** in stipulated period = 15 \* Average SI = **9.15** (19-20, 18-19, 17-18)

Table 4.2.2 Success Index and success rate based on no. of students graduated in stipulated period

Item	CAYm3 2019-20	LYG 2018-19	LYGm1 2017-18	LYGm2 2016-17	LYGm 3 2015-16
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	145	97	130	128	<b>155</b>
Number of students who have graduated in the stipulated period	64	75	95	89	<b>108</b>
Success Index (SI)	0.44	0.77	0.73	0.70	<b>0.70</b>
Average SI (2017-18, 2016-17, 2015-16)			<b>0.71</b>		
Success rate in stipulated period of time (2017-18, 2016-17, 2015-16)			<b>10.65</b>		
Average SI (2018-19, 2017-18, 2016-17)		0.73			
Success rate in stipulated period of time (2018-19, 2017-18, 2016-17)		10.95			
Average SI (2019-20, 2018-19, 2017-18)	0.65				
Success rate in stipulated period of time (2019-20, 2018-19, 2017-18)	<b>9.75</b>				

### 4.3 Academic Performance in Third Year (15)

The Academic Performance and Academic Performance Index (API) for the third year is evaluated using following formula –

**Academic Performance** = 1.5\*Average API (Academic Performance Index)

**API** = ((Mean of 3<sup>rd</sup> Year Grade Point Average of all successful Students on a 10 point scale)  
or (Mean of the percentage of marks of all successful students in Third Year /10)) x (number

of successful students/number of students appeared in the examination)

Here, Successful students are those who are permitted to proceed to the final year.

Table 4.3(1) shows the evaluation of third year mean Academic Performance and API for three consecutive years. The evaluation for the year CAY (2022-23) cannot be performed as results of the third year is awaited.

Table 4.3(1) Academic performance of students in third year

Academic Performance	CAY# 2022-23 (Batch- 2020-21)	CAYm1 2021-22 (Batch- 2019-20)	CAYm2 2020-21 (Batch- 2018-19)	CAYm3 2019-20 (Batch- 2017-18)	CAYm4 2018-19 (Batch- 2016-17)
Mean of CGPA or Mean Percentage of all successful students (X)	-	5.40	7.29	6.88	6.34
Total no. of successful students (Y)	-	110	77	98	89
Total no. of students appeared in the examination (Z)	75	119	77	98	92
API=X*(Y/Z)	-	5.00	7.29	6.88	6.13
Average API= (AP1+ AP2 +AP3) / 3 (Batch: 2016-17, 2017-18, 2018-19)			6.77		
Academic Performance (Batch: 2016-17, 2017-18, 2018-19)			10.16		
Average API= (AP1+ AP2 +AP3) / 3 (Batch: 2017-18, 2018-19, 2019-20)		6.39			
Academic Performance (Batch: 2017-18, 2018-19, 2019-20)		9.59			

# Results of third year for CAY (2022-23) is yet awaited.



#### 4.4 Academic Performance in Second Year (15)

The Academic Performance and Academic Performance Index (API) for the second year is evaluated using following formula –

$$\text{Academic Performance} = 1.5 * \text{Average API (Academic Performance Index)}$$

$$\text{API} = ((\text{Mean of 2}^{\text{nd}} \text{ Year Grade Point Average of all successful Students on a 10 point scale})$$

$$\text{OR (Mean of the percentage of marks of all successful students in Second Year/10))} \times$$

$$(\text{number of successful students} / \text{number of students appeared in the examination})$$

Successful students are those who are permitted to proceed to the Third year.

Table 4.4(1) shows the evaluation of second year mean Academic Performance and API for three consecutive years. The evaluation for the year CAY (2022-23) cannot be performed as results of the second year is awaited.

Table4.4 (1) Academic performance of students in second year

Academic Performance	CAY# 2022-23 (Batch- 2021- 22)	CAYm1 2021-22 (Batch- 2020-21)	CAYm 2 2020- 21 (Batch- 2019- 20)	CAYm 3 2019-20 (Batch- 2018- 19)	CAYm4 2018-19 (Batch- 2017-18)
Mean of CGPA or Mean Percentage of all successful students (X)	-	5.52	5.53	5.58	5.60
Total no. of successful students (Y)	-	80	120	80	100
Total no. of students appeared in the examination (Z)	62	89	126	80	110
API=X*(Y/Z)	-	4.96	5.27	5.58	5.09
Average API= (AP1+ AP2 +AP3)/3 (Batch: 2017-18, 2018-19, 2019-20)			5.31		
Academic Performance (Batch: 2017-18, 2018-19, 2019-20)			7.97		
Average API= (AP1+ AP2 +AP3)/3 (Batch: 2018-19, 2019-20, 2020-21)		5.27			
Academic Performance (Batch: 2018-19, 2019-20, 2020-21)		7.90			

# Results of second year for CAY (2022-23) is yet awaited.

#### 4.5 Placement, Higher Studies and Entrepreneurship (40)

It is always a challenge for Mechanical Engineering Department to place its all students within the stipulated time period of study. The branch, usually, is recognized as practice driven, so fresher's can be seen as good resources for the multinational and national companies. The evaluation of assessment points are done using following formula –

$$\text{Assessment Points} = 40 * \text{Average PI}$$

Here, PI is the placement index. Table 4.5 (1) shows the evaluation of PI and assessment points for three consecutive years.

Table 4.5(1) Placement index, average placement and assessment point

Item	CAY# (2022-23)	LYG (2018-19) CAYm1 2021-22	LYGm1 (2017-18) CAYm2 2020-21	LYGm2 (2016-17) CAYm3 2019-20	LYGm3 (2015-16) CAYm4 2018-19
<b>Total No. of Final Year Students (N)</b>	106	77	95	89	<b>108</b>
<b>No. of students placed in companies or Government Sector (X)</b>	8	24	29	20	<b>29</b>
<b>No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (Y)</b>	-	2	3	5	<b>7</b>
<b>No. of students turned entrepreneur in engineering/technology (Z)</b>	-	0	0	2	<b>0</b>
<b>X+Y+Z</b>	8	26	32	27	<b>36</b>
<b>Placement Index:(X+Y+Z)/N</b>	-	0.347	0.337	0.303	<b>0.333</b>
<b>Average placement=(P1 +P2 + P3)/3</b>		0.329			
<b>Assessment Points = 40 * average placement</b>		<b>13.16</b>			

# Placement for the CAY (2022-23) is ongoing.

Table 4.5 (2) – (6) shows the details of the placement, higher study and entrepreneurship for CAY (2022-23), CAYm1 (2021-22), CAYm2 (2020-21), CAYm3 (2019-20) and CAYm4 (2018-19) respectively.

Table 4.5 (2) Details of Placement, Higher study and Entrepreneurship for Batch-2019-20

<b>BE Mechanical Engineering - CAY (2022-23) (Batch: 2019-20)</b>				
<b>Sr · N o.</b>	<b>Name of the Student</b>	<b>Enrollment No.</b>	<b>Name of the Firm</b>	<b>Documents</b>
<b>Placement</b>				
<b>1</b>	CHAITANYA DILIPBHAI CHAUDHARI	190490119011	RAYZON SOLAR ENERGY, KIM.	<b>EMAIL FROM INDUSTRY</b>
<b>2</b>	BHAUTIK JORUBHAI KHASIYA	190490119022	RAYZON SOLAR ENERGY, KIM.	<b>EMAIL FROM INDUSTRY</b>
<b>3</b>	PRANAV PRAKASHBHAI PATEL	190490119042	RAYZON SOLAR ENERGY, KIM.	<b>EMAIL FROM INDUSTRY</b>
<b>4</b>	ABHISHEK ANOJBHAI SINGH	190490119046	RAYZON SOLAR ENERGY, KIM.	<b>EMAIL FROM INDUSTRY</b>
<b>5</b>	VYAS PARTH JITENDRA	200490119518	JAK MACHINERY, SURAT	<b>APPOINTME NT LETTER</b>
<b>6</b>	MAJITHIYA MEET PRATAPBHAI	200490119554	TECHNORAILL- MARUTI ARCHITECTURAL PRODUCTS PVT LTD, ENA, PALSANA	<b>APPOINTME NT LETTER</b>
<b>7</b>	PATEL YUVRAJ KISHORBHAI	200490119581	MEINHARDT GROUP, BANGALORE	<b>APPOINTME NT LETTER</b>
<b>8</b>	<b>PATIL VIPUL NARAYAN</b>	<b>200490119586</b>	<b>MEINHARDT GROUP, BANGALORE</b>	<b>APPOINTME NT LETTER</b>

Table 4.5 (3) Details of Placement, Higher study and Entrepreneurship for Batch-2018-19

BE Mechanical Engineering - CAYm1 (2021-22) (Batch: 2018-19)				
Sr · N o.	Name of the Student	Enrollment No.	Name of the Firm	Documents
<b>Higher Study</b>				
<b>1</b>	THUMMAR FENIL ISHWARBHAI	180490119046	NORDHAUSEN UNIVERSITY OF APPLIED SCIENCES, GERMANY	<b>ADMISSION LETTER</b>
<b>2</b>	TANK VIRAJ HARSHUKHBHAI	190493119061	INDIAN INSTITUTE OF TECHNOLOGY, HYDERABAD	<b>ADMISSION LETTER</b>
<b>Placement</b>				
<b>1</b>	UJJAVAL JITUBHAI CHAUDHARI	180490119011	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>2</b>	ARJUNBHAI POSLYABHAI GAMIT	180490119015	ABM WOOD DECOR PVT. LTD., SURAT	<b>APPOINTME NT LETTER</b>
<b>3</b>	MEHULBHAI MOHANBHAI GAMIT	180490119017	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>4</b>	RONALD HARILAL GAMIT	180490119018	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>5</b>	SWAPNILBHAI SUNILBHAI GAMIT	180490119019	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>6</b>	HARDIKKUMAR MANOJBHAI GODAVALE	180490119020	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>7</b>	PRAVIN SURENDRA GUPTA	180490119021	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>8</b>	DARSHAN RAMESHBHAI PARMAR	180490119025	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>9</b>	RAVI BHARATBHAI PRAJAPATI	180490119037	QUALITY GEARS, VALSAD	<b>I-CARD</b>

10	RAJANKUMAR KAPILDEV MAHTO	180490119038	MACLEODS PHARMACEUTICAL LTD, DAMAN	APPOINTMENT LETTER
11	SAJANKUMAR KAPILDEV MAHTO	180490119041	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
12	MAYUR RANDHIRBHAI SALVE	180490119042	BHARAT PETROLEUM CORPORATION LTD.	APPOINTMENT LETTER
13	SONU RAMKUMAR SHARMA	180490119043	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
14	HARDIK MANISHKUMAR KANIA	190493119008	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
15	DARSHAN RAJESHBHAI TAILOR	190493119018	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
16	KARANKUMAR PRAFULBHAI TIMBADIYA	190493119019	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
17	VASAVA BHAVESH JAGDISHBHAI	190493119020	BANCO GASKETS (INDIA) LTD. BHARUCH	APPRENTICE LETTER
18	BHIMDA MARTINBHAI JAYANTIBHAI	190493119024	AARTI INDUSTRIES LIMITED, BHARUCH	APPRENTICE LETTER
19	MAYUR GAUTAMBHAI CHAUDHARY	190493119035	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
20	PRAFULKUMAR ISHWARBHAI GAMIT	190493119039	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
21	SMEETKUMAR KAMLESHBHAI PARMAR	190493119048	RAYZON SOLAR ENERGY, KIM.	SELECTION LETTER
22	BHAVESHKUMAR JAYESHBHAI PATIL	190493119054	MARVAL ENGINEERING PVT.LTD. SACHIN.	APPOINTMENT LETTER
23	SINGADE ANIL GANGARAM	190493119060	TIME TECHNOPLAST LTD UNIT, KHANVEL	I-CARD
24	PRADIPKUMAR RATILAL VASAVA	190493119062	ABM WOOD DECOR PVT. LTD., SURAT	APPOINTMENT LETTER

Table 4.5(4) Details of Placement, Higher study and Entrepreneurship for Batch-2017-18

BE Mechanical Engineering - CAYm2 (2020-21) (Batch: 2017-18)				
Sr · No.	Name of the Student	Enrollment No.	Name of the Firm	Documents
<b>Higher Study</b>				
1	CHAUDHARI VIJUBHAI GACHHABHAI	170490119013	SNPITRC, UMRAXH	I-CARD
2	PATRAWALA HASAN JUZER	170490119059	UNIVERSITY OF HUDDERSFIELD	CONFIRMATI ON LETTER
3	RAJWADI ROSHANKUMAR PARESHBHAI	170490119062	SNPITRC, UMRAXH	I-CARD
<b>Placement</b>				
1	AHIR PINAL GUNVANTBHAI	170490119001	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	SELECTION LETTER
2	ASTI HARSH DIPAK	170490119002	PHENIX CONSTRUCTION TECHNOLOGIES, SURAT	APPOINTMEN T LETTER
3	ASHISHKUMAR ASHOKBHAI CHAUDHARI	170490119003	BHARAT PETROLEUM CORPORATION LTD. HAZIRA, SURAT	APPOINTMEN T LETTER
4	CHAUDHARI MILANKUMAR JAYESHBHAI	170490119006	GUJARAT STATE ELECTRICITY CORPORATION LTD., SURAT	APPOINTMEN T LETTER
5	DESHMUKH MAYUR ANILBHAI	170490119020	SUMUL CO- OPERATIVE LTD. SURAT	APPOINTMEN T LETTER
6	GAMIT JAYMEET JITENDRABHAI	170490119023	GUJARAT STATE ELECTRICITY CORPORATION LTD., TAPI	APPRENTICE LETTER
7	GAMIT VISHWA DIPAKBHAI	170490119028	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	SELECTION LETTER

8	GOND ABHAYCHANDRA SUBHASHCHANDRA	170490119032	PHENIX CONSTRUCTION TECHNOLOGIES, SURAT	I CARD
9	KHARVE TUSHAR RATHNAKAR	170490119036	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	SELECTION LETTER
10	LAD HARSHKUMAR NARESHBHA	170490119038	EPAYO ELECTRICALS PVT LTD., SILVASSA	APPOINTMEN T LETTER
11	MAHYAVANSHI MOHINI DILIPBHA	170490119039	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	SELECTION LETTER
12	PATEL DIVYESHKUMAR DHANSUKHBHA	170490119047	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	SELECTION LETTER
13	PATHAN SHAHID KHAN SOHELKHAN	170490119058	MAHAVIR SYNTHESIS PVT LTD. SURAT	JOINING LETTER
14	PRAJAPATI VIKAS HIRALAL	170490119061	FOUR DOTS TECHNOLOGY, SURAT	I-CARD
15	RANA KARAN KANCHANBHA	170490119065	ANNU INSULATION & ENGG. COMPANY, KAKRAPAR	NPCIL, GATE PASS
16	RANA VALAY MUKESHBHA	170490119066	GUJARAT STATE ELECTRICITY CORPORATION LIMITED, UKAI	APPRENTICE LETTER
17	SAWALE TUSHAR SHARADBHA	170490119072	R. & S. ENGINEERING SERVICES, SURAT	APPOINTMEN T LETTER
18	PRASHANT DHARMESHBHA	170490119074	SUBHIT ENTRPRISE, SURAT	I-CARD
19	SINGH RAJNISH HARENDRA	170490119078	SAJ INDUSTRIES PVT. LTD. SURAT	OFFER LETTER
20	JADAV VINAYKUMAR D.	180493119023	TEMA INDIA LTD., BHARUCH	I-CARD
21	LUHAR YASH SANTOSHBHA	180493119026	TEMA INDIA LTD., BHARUCH	I CARD
22	MISTRY ASHISH SHASHIKANTBHA	180493119030	SHRIRAM TRANSPORT FINANCE COMPANY LIMITED, MUMBAI	CONFIRMATI ON LETTER

23	PARMAR HEMSIGNH KANHAIYALAL	180493119032	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	SELECTION LETTER
24	PARMAR PRASHANTSINH YOGENDRASINH	180493119033	ENPRO ENVIRO TECH AND ENGINEERS PVT. LTD. SURAT	I-CARD
25	PATEL RINKESH MUKUNDBHAI	180493119040	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	SELECTION LETTER
26	PATEL RONAK ARUNBHAI	180493119041	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	SELECTION LETTER
27	PAWAR MEHUL KUMAR SURENDRABHAI	180493119047	SANRAJ CORPORATION, DAMAN	I CARD
28	RATHVA JASVANT BHAVSINGH	180493119048	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	SELECTION LETTER
29	YADAV SUBHASHKUMAR RAJENDRAKUMAR	180493119058	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	SELECTION LETTER

Table 4.5(5) Details of Placement, Higher study and Entrepreneurship for Batch-2016-17

BE Mechanical Engineering - CAYm3 (2019-20) (Batch: 2016-17)				
Sr · N o.	Name of the Student	Enrollment No.	Name of the Firm	Documents
<b>Higher Study</b>				
1	KHATRI YASHKUMAR HARSHADBHAI	160490119030	SNPIT & RC, UMRAKH	I CARD
2	FALDU SAGARKUMAR JAGDISHBHAI	170493119020	UNIVERSITÄT KOBLENZ LANDAU	LETTER OF ADMISSION
3	GELANI DHANANJAY DINESHBHAI	170493119029	UNIVERSITÄT KOBLENZ LANDAU	LETTER OF ADMISSION
4	PATEL SAMIP DIPAK	170493119059	FRIEDRICH- ALEXANDER- UNIVERSITÄT, GERMANY	ENROLLMEN T CERTIFICAT E



5	SHARMA DATT HITESHKUMAR	170493119062	UNIVERSITAT DUISBURG ESSEN, GERMANY	CONFIRMATI ON LETTER
<b>Entrepreneurship</b>				
1	JARDOSH SHREYAS VIRESHKUMAR	170493119030	MR & MS CLASSY	VISITING CARD
2	VAGHELA HET ANILBHAI	170493119066	MARK CREATION, SURAT	BUSINESS CARD
<b>Placement</b>				
1	CHAUDHARI TARKIKKUMAR UMESHBHAI	160490119014	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
2	DEEPAK KUNDARAM	160490119016	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
3	GUPTA KRISHNA SHAILESH	160490119025	SWASTIK ENGINEERING, SURAT	OFFER LETTER
4	JOSHI NEEL JIGNESHKUMAR	160490119027	SWASTIK ENGINEERING, SURAT	OFFER LETTER
5	MACHHI SHIVAM RAMESHBHAI	160490119033	SWASTIK ENGINEERING, SURAT	OFFER LETTER
6	MAHYAVANSHI NILESHKUMAR GIRISHBHAI	160490119034	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
7	PATEL BHAVIN BHARATBHAI	160490119042	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
8	PATIL RAHUL RAMKRUSHNA	160490119050	SAHAJANAND MEDICAL TECHNOLOGIES PVT. LTD. SACHIN	OFFER LETTER
9	PRAJAPATI RINKESHKUMAR HARISHBHAI	160490119054	JECON ENGINEERS PVT LTD. SURAT	I CARD
10	AHIRE KAILAS GHANSHYAM	170493119001	GUJARAT INSECTICIDES LIMITED, ANKLESHWAR	COMPLETIO N CERTIFICAT E
11	CHAUDHARY KARANBHAI HASMUKHBHAI	170493119012	VEELINE MEDIA LTD., BARDOLI	APPOINTME NT LETTER

12	DADHI MAYURKUMAR SOMABHAI	170493119015	DONEAR INDUSTRIES LTD, KAMREJ, SURAT	APPOINTMENT LETTER
13	DUDHAREJIA NIKHIL JAYESHBHAI	170493119019	NAROLA INFOTECH SOLUTIONS LLP, SURAT	MAIL
14	GANDHI JENISH P.	170493119027	MICRO FAB ENG. SURAT	APPOINTMENT LETTER
15	KURWADE FENIL CHANDRASHEKHAR	170493119032	ANAND ENTERPRISES, SURAT	I CARD
16	MANNADE VISHAWATH ASHARAM	170493119037	ECOMS METALLURGICALS PVT LTD, SURAT	APPOINTMENT LETTER
17	MEHTA RAHULKUMAR GAURANGKUMAR	170493119038	QUALITY PROFESSIONALS, SURAT	I CARD
18	PAREKH UTSAV BHARATBHAI	170493119043	ASAHI INDIA GLASS LTD., PATAN	APPOINTMENT LETTER
19	SALVI SANKET SANDEEPBHAI	170493119058	SAHAJANAND MEDICAL TECHNOLOGIES PVT. LTD. SACHIN	OFFER LETTER
20	SHRUTIK M. RATHOD	170493119063	ASAHI INDIA GLASS LTD., PATAN	MAIL

Table 4.5(6) Details of Placement, Higher study and Entrepreneurship for Batch-2015-16

BE Mechanical Engineering - CAYm4 (2018-19) (Batch: 2015-16)				
Sr No.	Name of the Student	Enrollment No.	Name of the Firm	Document
Higher Study				
1	BILIMORIYA JAYMINKUMAR JAYESHBHAI	150490119008	WESTELIFF UNIVERSITY IRVINE, CA92606	I-20 LETTER
2	PRATYEKSHKUMAR RATILAL GOYANI	150490119027	RWTH AACHEN UNIVERSITY, 52056 GERMANY	ADMISSION LETTER
3	PANCHAL KRISHNA KAMLESH	150490119049	UNIVERSITY OF SALFORD, M5 4WT	CONFIRMATION LETTER

4	SAHU CHIRAG SHYAMLAL	150490119096	NIT, SURATHKAL	CCMT COUNSELLING ALLOTMENT LETTER
5	SURATI FENIL DHANSUKHBHAI	150490119110	LUTHARA INSTITUTE OF MANAGEMENT	I-CARD
6	CHAUDHARI URMIKETKUMAR RANJITBHAI	150490119116	SNPIT&RC, UMRAKH	DEGREE CERTIFICATE
7	VYAS ARK JAYESHBHAI	150490119122	FIRE SAFETY OFFICER TRAINING	SCORE CARD
<b>Placement</b>				
1	SAGAR RAMESHBHAI AJUDIYA	150490119002	SOHAM INDUSTRIAL MACHINERY LIMITED, SURAT	EXPERIENCE CERTIFICATE
2	CHAUDHARI ANKITABAHEN ARVINDBHAI	150490119003	MECHICS, SURAT	APPOINTMENT LETTER
3	DHARMA H. BRAHMBHATT	150490119009	JARIWALA & ASSOCIATES, SURAT	APPOINTMENT LETTER
4	DEEP RAMESHBHAI VADUKIYA	150490119019	VEELINE MEDIA LTD, BARDOLI	APPOINTMENT LETTER
5	DHRUVKUMAR VINODBHAI PATEL	150490119021	MEDLINE CANADA, CORPORATION	APPOINTMENT LETTER
6	ANANT NITINKUMAR DOSHI	150490119023	A.M. GEDIYA ENGINEERING, KIM, SURAT	APPOINTMENT LETTER
7	KISHAN JAYSUKHBHAI KANANI	150490119031	JARIWALA & ASSOCIATES, SURAT	APPOINTMENT LETTER
8	KHALIFA AAKIBBHAI AIYUBBHAI	150490119034	MECHICS, SURAT	APPOINTMENT LETTER
9	MAHIDA KHUSHBU GANPATSINH	150490119038	ENGINEERING CAD/CAM SOLUTION, VADODARA	APPOINTMENT LETTER
10	PANDYA SITANSHU MITESHBHAI	150490119051	J-TECH SOLUTION, SURAT	I-CARD
11	ALAYKUMAR HASMUKHBHAI PATEL	150490119053	VITAL LABORATORIES PVT. LTD. VAPI	PAY SLIP

12	KASHYAP KAMLESHBHAI PATEL	150490119065	A.M. GEDIYA ENGINEERING, KIM, SURAT	APPOINTMENT LETTER
13	RAJ R. PATEL	150490119076	JARIWALA & ASSOCIATES, SURAT	APPOINTMENT LETTER
14	PRAJAPATI BHAVESHKUMAR GANPATBHAI	150490119089	INDUSTRIAL INSPECTION SERVICES PVT. HAZIRA	I-CARD
15	DHRUV RAMESHBHAI SATANI	150490119100	MECHICS, SURAT	APPOINTMENT LETTER
16	SINGH ROBINSH RAGHUBANSH	150490119106	ENGINEERING CAD/CAM SOLUTION, VADODARA	APPOINTMENT LETTER
17	SOLANKI NEEL LAXMANSINH	150490119108	ICE MAKE LTD, AHMEDABAD	I CARD
18	TAILOR NIKUNJKUMAR HASMUKHBHAI	150490119113	ENGINEERING CAD/CAM SOLUTION	APPOINTMENT LETTER
19	JIGNESH ARVINDBHAI VASAVA	150490119118	A.M. GEDIYA ENGINEERING	APPOINTMENT LETTER
20	BHARTI VAIBHAV KAUSHIK	160493119002	JECKSON ENGINEERS & FABRICATORS, SURAT	I-CARD
21	JAY HARSHADKUMAR GEMLAHALA	160493119008	A.M. GEDIYA ENGINEERING, KIM, SURAT	APPOINTMENT LETTER
22	MAISURIYA FENIL PARESHBHAI	160493119012	SHREE CHALTHAN VIBHAG KHAND UDHYOG SAHAKARI MANDLI LTD., SURAT	APPOINTMENT LETTER
23	KAUSHIK DARSHANBHAI MORI	160493119014	MECHICS, SURAT	APPOINTMENT LETTER
24	PATEL AXAYKUMAR PRAVINBHAI	160493119016	NAMO ENGINEERING, HAZIRA	I-CARD
25	PATEL DHAVAL KUMAR	160493119017	ADECCO INDIA PVT LTD	APPOINTMENT LETTER

26	RUZAL SATISHKUMAR PATEL	160493119021	JARIWALA & ASSOCIATES, SURAT	APPOINTMENT LETTER
27	DHAVAL VIPULKUMAR SONI	160493119027	DINESH PLASTIC PRODUCTS, NAVSARI	APPOINTMENT LETTER
28	MAYURKUMAR KISHANBHAIVALVI	160493119030	A.M. GEDIYA ENGINEERING, KIM, SURAT	APPOINTMENT LETTER
29	VRUSHANK ASHISHBHAI PATEL	160493119032	MECHICS, SURAT	APPOINTMENT LETTER

#### 4.6 Professional Activities (20)

##### 4.6.1 Professional societies/chapters and organizing engineering events (5)

##### 4.6.1 (A) Availability & activities of professional societies/chapters

Table 4.6.1 (1) shows the availability and activities of professional society namely, Indian Society for Technical Education (ISTE), New Delhi. The department faculties are the Life member of ISTE, New Delhi with effect from November 2009. Table 4.6.1 (2) shows the details of ISTE membership.

Table 4.6.1(1) Details of Institute membership of ISTE, New Delhi

Sr. No.	Institute Membership	Logo
1	Indian Society for Technical Education Membership No. – IM1691	

Table 4.6.1(2) Details of ISTE membership of faculties

Sr. No.	Name of Faculty	Registration Number	Registration Year
1	Dr. Piyush Shantiswaroop Jain	LM61970	2008
2	Prof. Vishalkumar Zaverbhai Dhimmarr	LM81279	2012
3	Prof. Milan Ramanbhai Patel	LM87468	2013
4	Dr. Arif Majidbhai Varsi	LM 102410	2015
5	Prof. Priyank Pinakin Dave	LM87484	2013

6	Prof. Hitesh Amrutbhai Tailor	LM87469	2013
7	Prof. Hirenkumar Bhupendrabhai Tamboli	LM 102413	2014
8	Prof. Nileshkumar Vinodchandra Rana	LM115637	2017
9	Dr. Hitesh S. Jariwala	LM62694	2009
10	<b>Dr. Shakil A. Kagzi</b>	<b>LM129236</b>	<b>2019</b>

#### 4.6.1 (B) Number, quality of engineering events

- **ISTE Chapter: Industry/Institution Visits**

ISTE Student chapter was established at Sitarambhai Naranji Patel Institute of Technology & Research Centre in November 2009.

The aim of the ISTE Student's Chapter is to promote industrial exposure of students particularly in technical field. Industry / Institution visits organized under the Indian Society for Technical Education (ISTE) for students in past three years are listed below.

Table 4.6.1 (3) Details of Industry / Institute visits

Sr. No.	Industry / Institute Name	Date of Visit	Total no. of Students
1	SVNIT (Metal forming lab), Surat	01/03/2018	40
2	SVNIT (Metal forming Lab), Surat	14/03/2018	40
3	Surat Milk Union Limited, Surat	08/01/2019	92
4	Jay Metal Tech, Surat	18/01/2019	60
5	GIDC Makarpura, Vadodara	28/01/2019	108
6	Bharkadevi Ice-Cream Factory, Bardoli	18/01/2020	69
7	Surat Milk Union Limited, Surat	18/01/2020	78
8	Bharkadevi Ice-Cream Factory, Bardoli	24/01/2020	79
9	Shree Khedut Sahakari Khand Udhyog Mandli Ltd., Bardoli	07/03/2020	85
10	Bharkadevi Ice-Cream Factory, Bardoli	12/10/2022	73
11	Jay Metal Tech, Surat	13/10/2022	47
12	Vrindavan Industries, Sachin, Surat	23/03/2023	35

- **Engineering Events Organized by Institute.**

These are the list of activities organized by institute in 2019, 2020, 2021 and 2022.

Table 4.6.1(4) Details of Engineering Events Organized at Institute

Sr. No.	Name of Event	Date	No. of Students	Year
1	State Level Science Exhibition & Project Competition	23/24/25-01-2023	100+	2023
2	A seminar on “Intellectual Property Rights (IPRs)”	09-02-2023	250+	
3	Seminar on “Solid works-CAD & Esprit-CAM”	13-03-2023	71	
4	A workshop on “3D Modelling and Analysis in ANSYS”	05/06/07-01-2022	70	2022
5	Technical Quiz & Group Discussion	10-03-2022	57	
6	TECHNOKRUTI (State Level Festival)	27/28-04-2022	2000+	
7	Prism 2022 (Project Fair)	16/17-12-2022	2500+	
8	Training & Recruitment Awareness Webinar Series	23-03-2021 to 27-03-2021	75	2021
9	Common Aptitude Test	08-05-2021	80	
10	Technical Quiz For competitive Exam Preparation			
		22-05-2021	95	
11	Logical Reasoning Quiz for competitive Exam Preparation	15-05-2021	100	
12	Aptitude, Reasoning, Quantitative Skill analysis for placements	10-05-2020 to 18-05-2020	80	2020
13	F'NAT Test	02-03-2020	30	
14	Importance of GPSC, UPSC and other Competitive exams for engineering graduates	09-01-2020	35	

<b>15</b>	IELTS Examination pattern, preparations and benefits	27-01-2020	30	
<b>16</b>	Foreign Education	24-01-2020	70	
<b>17</b>	Introduction to Latex Program	23-08-2019	95	<b>2019</b>

#### 4.6.2 Publication of technical magazines, newsletters, etc. (5)

To motivate the students and staff, magazines and newsletters are published by Mechanical Engineering Department. The magazines are published every year while the newsletter is published every month for wide dissemination among parents, students & various stakeholders. The list of technical magazines and newsletter published till date is shown in Table 4.6.1 (1) and (2) respectively.

Table 4.6.2(1) Publication details of Technical Magazine

<b>Sr. No.</b>	<b>Technical Magazine</b>	<b>Year</b>
<b>1</b>	Mech Marvel	<b>2022</b>
<b>2</b>	Mech Marvel	<b>2021</b>
<b>3</b>	Mech Marvel	<b>2020</b>
<b>4</b>	<b>Mech Marvel</b>	<b>2019</b>

Table 4.6.2(2) Publication details of Technical Newsletter

<b>Sr. No.</b>	<b>Technical News Letter</b>	<b>Month &amp; Year</b>
<b>1</b>	MechTech Vol. 5 Issue 1	<b>July 2023</b>
<b>2</b>	MechTech Vol. 4 Issue 2	<b>Jan 2023</b>
<b>3</b>	MechTech Vol. 4 Issue 1	<b>July 2022</b>
<b>4</b>	MechTech Vol. 3 Issue2	<b>Jan 2022</b>
<b>5</b>	MechTech Vol. 3 Issue 1	<b>July 2021</b>
<b>6</b>	MechTech Vol. 2 Issue 2	<b>Jan 2021</b>



<b>7</b>	<b>MechTech Vol. 2 Issue 1</b>	<b>July 2020</b>
<b>8</b>	<b>MechTech Vol. 1 Issue 2</b>	<b>Jan 2020</b>
<b>9</b>	<b>MechTech Vol. 1 Issue 1</b>	<b>July 2019</b>

#### 4.6.3 Participation in inter-institute events by students of the program of study (10)

To Nurture the extraordinary capability of students, various activities were done for student of Mechanical Department which is listed in below table. Table 4.6.3 (1) shows Students participation in inter-institute events and Table 4.6.3 (2) shows achievements and awards of the students.

Table 4.6.3(1) Students participation in inter-institute events (outside state / within state)

<b>Sr. No</b>	<b>PEN</b>	<b>Date</b>	<b>Name of Event</b>	<b>Organizer</b>
<b>1</b>	200490119518	11-04-2022	INSPIRE'22	<b>C. K. Pithawala College of Engg. &amp; Tech. Surat</b>
<b>2</b>	200490119554	04-03-2022	FOOTPRINTS22 (Hydrex)	<b>M. S. University, Baroda</b>
<b>3</b>	200490119519	04-03-2022	FOOTPRINTS22 (Hydrex)	<b>M. S. University, Baroda</b>
<b>4</b>	200490119560	04-03-2022	FOOTPRINTS22 (Hydrex)	<b>M. S. University, Baroda</b>
<b>5</b>	200490119515	04-03-2022	FOOTPRINTS22 (Hydrex)	<b>M. S. University, Baroda</b>
<b>6</b>	200490119554	05-03-2022	FOOTPRINTS22 (Ballista)	<b>M. S. University, Baroda</b>
<b>7</b>	200490119519	05-03-2022	FOOTPRINTS22 (Ballista)	<b>M. S. University, Baroda</b>
<b>8</b>	200490119560	05-03-2022	FOOTPRINTS22 (Ballista)	<b>M. S. University, Baroda</b>
<b>9</b>	200490119515	05-03-2022	FOOTPRINTS22 (Ballista)	<b>M. S. University, Baroda</b>
<b>10</b>	200490119554	05-03-2022	FOOTPRINTS22 (Lost)	<b>M. S. University, Baroda</b>

11	200490119519	05-03-2022	FOOTPRINTS22 (Lost)	<b>M. S. University, Baroda</b>
12	200490119560	05-03-2022	FOOTPRINTS22 (Lost)	<b>M. S. University, Baroda</b>
13	200490119554	06-03-2022	FOOTPRINTS22 (Powered Epoch)	<b>M. S. University, Baroda</b>
14	200490119519	06-03-2022	FOOTPRINTS22 (Powered Epoch)	<b>M. S. University, Baroda</b>
15	200490119560	06-03-2022	FOOTPRINTS22 (Powered Epoch)	<b>M. S. University, Baroda</b>
16	200490119515	06-03-2022	FOOTPRINTS22 (Powered Epoch)	<b>M. S. University, Baroda</b>
17	200490119554	06-03-2022	FOOTPRINTS22 (12 <sup>th</sup> Battalion Team)	<b>M. S. University, Baroda</b>
18	200490119519	06-03-2022	FOOTPRINTS22 (12 <sup>th</sup> Battalion Team)	<b>M. S. University, Baroda</b>
19	200490119560	06-03-2022	FOOTPRINTS22 (12 <sup>th</sup> Battalion Team)	<b>M. S. University, Baroda</b>
20	190493119015	12-02-2022	Becoming a Project Manager	<b>Udemy</b>
21	190493119015	12-02-2022	Public Speaking for Beginners	<b>Udemy</b>
22	200490119002	07-01-2022	Engineering Workshop	<b>BIET, Hyderabad, Telangana.</b>
23	190493119015	13-06-2021	AUTOCAD: 2D & 3 D	<b>Udemy</b>
24	200490119011	21-08-2021	AI Appreciate stage	<b>Intel</b>
25	200490119011	21-08-2021	AI Aware	<b>Intel</b>
26	190493119015	09-11-2021	Python and Machine Learning Fundamentals	<b>Udemy</b>
27	190493119015	26-11-2021	Zero to Hero in Microsoft Excel	<b>Udemy</b>
28	190493119015	26-11-2021	SolidWorks Course	<b>Udemy</b>
29	200490119024	16-05-2021	National Level Quiz on Python Programming	<b>SIOE, Vadodara.</b>

30	200490119041	31-07-2021	Chemistry e-QUIZ Competition	<b>MITADT University, Pune.</b>
31	200490119517	02-08-2021	AutoCAD 2D + 3D Civil	<b>Micro CAD, Thane</b>
32	200490119038	15-08-2021	Chemistry e-QUIZ Competition	<b>MITADT University, Pune</b>
33	200490119002	15-08-2021	Chemistry e-QUIZ Competition	<b>MITADT University, Pune</b>
34	200490119041	30-08-2021	Cyber Sanjivani Competition	<b>Cyber Suraksha Setu</b>
35	200490119517	30-08-2021	Cyber Sanjivani Competition	<b>Cyber Suraksha Setu</b>
36	200490119518	30-08-2021	Cyber Sanjivani Competition	<b>Cyber Suraksha Setu</b>
37	200490119038	30-08-2021	Cyber Sanjivani Competition	<b>Cyber Suraksha Setu</b>
38	200490119011	28-09-2021	National Level Entrepreneurship Awareness Quiz	<b>MPC, Chennai</b>
39	200490119564	01-10-2021	Fundamentals of Manufacturing Processes	<b>NPTEL</b>
40	200490119517	02-10-2021	QUIZ on Swachh Bharat Mission	<b>SBJITMR, Nagpur</b>
41	190493119030	14-06-2021	Molding Process	<b>Endeavour Enterprise</b>
42	190493119022	14-06-2021	Molding Process	<b>Endeavour Enterprise</b>
43	190493119015	18-09-2021	Brainaholics of Momentum2021	<b>SCET, Surat</b>
44	190493119060	06-03-2020	Auto PSV	<b>GEC, Valsad</b>
45	190493119020	06-03-2020	Auto Psy	<b>GEC, Valsad</b>
46	190493119026	06-03-2020	Techno present	<b>GEC, Valsad</b>
47	190493119027	06-03-2020	Auto Psy	<b>GEC, Valsad</b>
48	190493119042	06-03-2020	Auto Psy	<b>GEC, Valsad</b>

49	190493119022	06-03-2020	Auto Psy	<b>GEC, Valsad</b>
50	190493119005	06-03-2020	Auto Psy	<b>GEC, Valsad</b>
51	180490119046	20-06-2020	Design of BIW Welding Fixtures for Automobile Industry	<b>DIC, GTU</b>
52	200490119518	30-09-2020	Start-up Opportunities in Electric Hybrid Vehicle for Indian Market	<b>SSIP, GTU</b>
53	180490119032	16-10-2020	Code the Hints	<b>SCET, Surat</b>
54	190493119042	06-03-2020	Techno present	<b>GEC, Valsad</b>
55	190493119027	07-03-2020	Techno present	<b>GEC, Valsad.</b>
56	180490119004	15-10-2020	Current Affairs Quiz	<b>MEC, Mehsana.</b>
57	180490119004	27-02-2019	Lathe War	<b>SSAIET, Navsari</b>
58	180490119004	29-03-2019	Robotics	<b>SSEC, Bhavnagar</b>
59	180490119031	01-03-2019	Death Race	<b>MGITER, Navsari</b>
60	180490119003	01-03-2019	Robo Hurdle	<b>MGITER, Navsari</b>
61	180490119003	01-03-2019	Death Race	<b>MGITER, Navsari</b>
62	180490119031	01-03-2019	Robo Hurdle	<b>MGITER, Navsari</b>
63	180490119031	01-03-2019	Tic-Tac-Toe	<b>MGITER, Navsari</b>
64	180490119004	18-03-2019	Basics of Robotics	<b>GHPatel, VallabhVidhyana gar</b>
65	160490119016	14-10-2019	Music Classical Instrumental Solo	<b>XITIJ,GTU</b>
66	160490119016	14-10-2019	Music –Folk Orchestra	<b>XITIJ,GTU</b>
67	170493119029	14-10-2019	Theatre -One Act Play	<b>XITIJ,GTU</b>

<b>68</b>	170493119063	14-10-2019	Theatre -One Act Play	<b>XITIJ,GTU</b>
<b>69</b>	170493119059	14-10-2019	Theatre -One Act Play	<b>XITIJ,GTU</b>
<b>70</b>	170493119019	14-10-2019	Theatre -One Act Play	<b>XITIJ,GTU</b>
<b>71</b>	170493119038	14-10-2019	Music –Folk Orchestra	<b>XITIJ,GTU</b>
<b>72</b>	170493119020	14-10-2019	Music –Folk Orchestra	<b>XITIJ,GTU</b>
<b>73</b>	170493119059	14-10-2019	Music –Folk Orchestra	<b>XITIJ,GTU</b>
<b>74</b>	170493119058	14-10-2019	Music –Folk Orchestra	<b>XITIJ,GTU</b>

Table 4.6.3 (2) Student's achievements and awards in various events

<b>Sr. No</b>	<b>PEN</b>	<b>Date</b>	<b>Name of Event</b>	<b>Organizer</b>	<b>Category</b>	<b>Rank</b>
<b>1</b>	200490119518	11-04-2022	INSPIRE'22	C. K. Pithawala College of Engg. & Tech., Surat	National Event	
<b>2</b>	200490119554	04-03-2022	FOOTPRINTS22 (Hydrex)	M. S. University, Baroda	National Event	<b>1</b>
<b>3</b>	200490119519	04-03-2022	FOOTPRINTS22 (Hydrex)	M. S. University, Baroda	National Event	<b>1</b>
<b>4</b>	200490119560	04-03-2022	FOOTPRINTS22 (Hydrex)	M. S. University, Baroda	National Event	<b>1</b>
<b>5</b>	200490119515	04-03-2022	FOOTPRINTS22 (Hydrex)	M. S. University, Baroda	National Event	<b>1</b>
<b>6</b>	200490119554	05-03-2022	FOOTPRINTS22 (Ballista)	M. S. University, Baroda	National Event	
<b>7</b>	200490119519	05-03-2022	FOOTPRINTS22 (Ballista)	M. S. University, Baroda	National Event	
<b>8</b>	200490119560	05-03-2022	FOOTPRINTS22 (Ballista)	M. S. University, Baroda	National Event	
<b>9</b>	200490119515	05-03-2022	FOOTPRINTS22 (Ballista)	M. S. University, Baroda	National Event	

10	200490119554	05-03-2022	FOOTPRINTS22 (Lost)	M. S. University, Baroda	National Event	
11	200490119519	05-03-2022	FOOTPRINTS22 (Lost)	M. S. University, Baroda	National Event	
12	200490119560	05-03-2022	FOOTPRINTS22 (Lost)	M. S. University, Baroda	National Event	
13	200490119554	06-03-2022	FOOTPRINTS22 (Powered Epoch)	M. S. University, Baroda	National Event	
14	200490119519	06-03-2022	FOOTPRINTS22 (Powered Epoch)	M. S. University, Baroda	National Event	
15	200490119560	06-03-2022	FOOTPRINTS22 (Powered Epoch)	M. S. University, Baroda	National Event	
16	200490119515	06-03-2022	FOOTPRINTS22 (Powered Epoch)	M. S. University, Baroda	National Event	
17	200490119554	06-03-2022	FOOTPRINTS22 (12 <sup>th</sup> Battalion Team)	M. S. University, Baroda	National Event	
18	200490119519	06-03-2022	FOOTPRINTS22 (12 <sup>th</sup> Battalion Team)	M. S. University, Baroda	National Event	
19	200490119560	06-03-2022	FOOTPRINTS22 (12 <sup>th</sup> Battalion Team)	M. S. University, Baroda	National Event	
20	150490119048	20-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
21	150490119107	21-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
22	150490119031	22-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
23	150490119057	23-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
24	150490119032	24-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
25	150490119051	25-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
26	170490119035	26-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
27	170490119028	27-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1
28	170490119059	28-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)	1

29	150490119048	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
30	150490119107	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
31	150490119031	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
32	150490119057	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
33	150490119032	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
34	150490119051	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
35	170490119035	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
36	170490119028	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
37	170490119059	10-03-2019	Nova Jet Propulsion Lab	Health Minister of Gujarat (Shri Kishorkumar Kanani)	Consolation
38	150490119048	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	Consolation
39	150490119107	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	Consolation

40	150490119031	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	<b>Consolation</b>	
41	150490119057	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	<b>Consolation</b>	
42	150490119032	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	<b>Consolation</b>	
43	150490119051	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	<b>Consolation</b>	
44	170490119035	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	<b>Consolation</b>	
45	170490119028	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	<b>Consolation</b>	
46	170490119059	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister of Gujarat (Shri Ishwarbhai Parmar)	<b>Consolation</b>	
47	190490119049	14-10-2019	Fine Arts-Installation	XITIJ-2019	Zone Level	3
48	190490119030	14-10-2019	Fine Arts-Installation	XITIJ-2019	Zone Level	3
49	190490119028	14-10-2019	Fine Arts-Installation	XITIJ-2019	Zone Level	3
50	150490119026	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
51	150490119027	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
52	150490119017	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
53	150490119012	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
54	150490119023	2019	ISTE Best Student Award	ISTE	State Level	1
55	170493119001	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	



56	170493119027	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
57	170493119055	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
58	160490119051	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
59	160490119053	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	<b>Consolation</b>	
60	170493119001	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	<b>Consolation</b>	
61	170493119027	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	<b>Consolation</b>	
62	170493119055	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	<b>Consolation</b>	
63	160490119051	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	<b>Consolation</b>	
64	160490119053	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	<b>Consolation</b>	
65	160490119016	14-10-2019	Classical Instrumental Solo -(Percussion)	XITIJ-2019	Zone Level	2
66	170493119058	10-14-2019	Folk Orchestra	XITIJ-2019	Zone Level	2
67	160490119016	10-14-2019	Folk Orchestra	XITIJ-2019	Zone Level	2
68	170493119020	10-14-2019	Folk Orchestra	XITIJ-2019	Zone Level	2
69	170493119059	10-14-2019	Folk Orchestra	XITIJ-2019	Zone Level	2
70	170493119038	10-14-2019	Folk Orchestra	XITIJ-2019	Zone Level	2
71	170493119019	10-14-2019	One Act Play	XITIJ-2019	Zone Level	2
72	170493119059	10-14-2019	One Act Play	XITIJ-2019	Zone Level	2
73	170493119063	10-14-2019	One Act Play	XITIJ-2019	Zone Level	2
74	170493119029	10-14-2019	One Act Play	XITIJ-2019	Zone Level	2

### 5. Faculty Information and Contributions

The list of the faculties with their respective details for CAYm3, CAYm2, CAYm1 and CAY is shown in Table 5(1)-(4).

Table 5 (1) List of faculty members for CAYm3 (2019-2020)

Sr. No	Name of the faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated (Y/N) Date of Leaving	Nature of Association (Regular/Contract)
		Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years		
1	Dr. Piyush S. Jain	Ph. D	SVNIT	2013	06-08-2008	Prof.	24-10-2013	06-08-2008	ME	Mechanical	1	6	-	Y	Regular
2	Dr. Shakil A. Kagzi	Ph. D	SVNIT	2017	20-07-2016	Asst. Prof.	01-02-2020	20-07-2016	ME	Industrial Process Equipment Design (IPED)	-	-	-	Y	Regular
3	Prof. Hitesh A. Tailor	M. Tech	UTU	2014	01-07-2011	Asst. Prof.		01-07-2011	ME	Thermal System and Design	-		-	Y	Regular

4	Prof. Vishalkumar Z. Dhimmar	M.E	GTU	2011	12-08-2011	Asst. Prof.		12-08-2011	ME	Machine Design	-	-	-	Y	Regular
5	Prof. Rinkesh B. Patel	M. Tech	SVNIT	2016	22-08-2011	Asst. Prof.		22-08-2011	ME	Turbo Machines	-	-	-	Y	Regular
6	Prof. Milan R. Patel	M.E	GTU	2012	21-07-2012	Asst. Prof.		21-07-2012	ME	Production Engineering	-	-		Y	Regular
7	Prof. Priyank P. Dave	M.E	GTU	2013	01-07-2013	Asst. Prof.		01-07-2013	ME	Energy Engineering	-	-		Y	Regular
8	Prof. Ripal C. Patel	M. Tech	Nirma	2012	29-07-2013	Asst. Prof.		29-07-2013	ME	CAD/CAM	-	-	-	N 10-06-2020	Regular
9	Prof. Arif M. Varsi	M. Tech	SVNIT	2013	01-08-2013	Asst. Prof.		01-08-2013	ME	CAD/CAM	1	-	-	Y	Regular
10	Prof. Hiren B. Tamboli	M. Tech	UTU	2014	18-08-2014	Asst. Prof.		18-08-2014	ME	Thermal System and Design	-	-	-	Y	Regular
11	Prof. Harshal T. Shukla	M. Tech	Nirma	2015	01-07-2015	Asst. Prof.		01-07-2015	ME	Thermal Engineering	-	-		N 16-06-2020	Regular
12	Prof. Piyush B. Savaj	M. Tech	SVNIT	2016	25-07-2016	Asst. Prof.		25-07-2016	ME	Turbo Machines	-	-	-	Y	Regular
13	Prof. Chirag N Chaudhari	M. Tech	SVNIT	2014	01-08-2016	Asst. Prof.		01-08-2016	ME	Thermal System Design	-	-	-	N 18-08-2021	Regular

14	Prof. Hiten J. Mistry	M.E	GTU	2016	01-08-2016	Asst. Prof.		01-08-2016	ME	Production Engineering	-	-	-	N 22-07-2021	Regular
15	Prof. Misal C. Gandhi	M.E.	GTU	2017	24-07-2017	Asst. Prof.		24-07-2017	ME	Production Engineering	-	-	-	N 30-05-2020	Contractual
16	Prof. Nilesh V. Rana	M.E.	GTU	2015	14-08-2017	Asst. Prof.		14-08-2017	ME	CAD/CAM	-	-	-	Y	Regular
17	Prof. Rikesh B. Prajapati	M. Tech	DIAT	2018	02-07-2018	Asst. Prof.		02-07-2018	ME	Modelling and Simulation	-	-	-	N 10-08-2022	Contractual

Table 5 (2) List of faculty members for CAYm2 (2020-2021)

Sr. No	Name of the faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research				
		Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years	Currently Associated (Y/N) Date of Leaving	Nature of Association (Regular/Contract)
1	Dr. Piyush S. Jain	Ph. D	SVNIT	2013	06-08-2008	Prof.	24-10-2013	06-08-2008	ME	Mechanical	4	8	-	Y	Regular
2	Dr. Shakil A. Kagzi	Ph. D	SVNIT	2017	20-07-2016	Asso. Prof.	01-02-2020	20-07-2016	ME	Industrial Process Equipment Design (IPED)	1	-	-	Y	Regular
3	Prof. Hitesh A. Tailor	M. Tech	UTU	2014	01-07-2011	Asst. Prof.		01-07-2011	ME	Thermal System and Design	-		-	Y	Regular
4	Prof. Vishalkumar Z. Dhimmar	M.E	GTU	2011	12-08-2011	Asst. Prof.		12-08-2011	ME	Machine Design	-	-	-	Y	Regular
5	Prof. Rinkesh B. Patel	M. Tech	SVNIT	2016	22-08-2011	Asst. Prof.		22-08-2011	ME	Turbo Machines	-	-	-	Y	Regular

6	Prof. Milan R. Patel	M.E	GTU	2012	21-07-2012	Asst. Prof.		21-07-2012	ME	Production Engineering	-	-		Y	Regular
7	Prof. Priyank P. Dave	M.E	GTU	2013	01-07-2013	Asst. Prof.		01-07-2013	ME	Energy Engineering	-	-		Y	Regular
8	Dr. Arif M. Varsi	Ph. D.	SVNIT	2020	01-08-2013	Asst. Prof.		01-08-2013	ME	CAD/CAM		-	-	Y	Regular
9	Prof. Hiren B. Tamboli	M. Tech	UTU	2014	18-08-2014	Asst. Prof.		18-08-2014	ME	Thermal System and Design	1	-	-	Y	Regular
10	Prof. Chirag N. Chaudhari	M. Tech	SVNIT	2014	01-08-2016	Asst. Prof.		01-08-2016	ME	Thermal System Design	-	-	-	N 18-08-2021	Regular
11	Prof. Hiten J. Mistry	M.E	GTU	2016	01-08-2016	Asst. Prof.		01-08-2016	ME	Production Engineering	-	-	-	N 22-07-2021	Regular
12	Prof. Nilesh V. Rana	M.E.	GTU	2015	14-08-2017	Asst. Prof.		14-08-2017	ME	CAD/CAM	-	-	-	Y	Regular
13	Prof. Deep M. Vyas	M. Tech.	CHAR USAT	2018	31-07-2020	Asst. Prof.		31-07-2020	ME	Advanced Manufacturing Technology	-	-	-	N 30-04-2022	Contractual
14	Prof. Vatsalkumar B. Maisuriya	M. E.	GTU	2020	01-08-2020	Asst. Prof.		01-08-2020	ME	Production Engineering	1	-	-	N 01-12-2021	Contractual
15	Prof. Divyesh S. Patel	M. E.	GTU	2020	01-12-2020	Asst. Prof.		01-12-2020	ME	Production Engineering	-	-	-	Y	Regular
16	Prof. Tinej J. Vaghela	M. E.	GTU	2019	01-12-2020	Asst. Prof.		01-12-2020	ME	Production Engineering	-	-	-	N 31-08-2022	Contractual

<b>17</b>	Prof. Sankalp P. Patel	M.E.	GTU	2019	01-12-2020	Asst. Prof.		01-12-2020	ME	Production Engineering	-	-	-	N 31-05-2021	Contractual
<b>18</b>	Prof. Krunal A. Patel	M. E.	GTU	2019	01-12-2020	Asst. Prof.		01-12-2020	ME	Production Engineering	-	-	-	N 10-06-2022	Regular
<b>19</b>	Prof. Krishna D. Modi	M. E.	GTU	2017	01-12-2020	Asst. Prof.		01-12-2020	ME	Machine Design	-	-	-	N 30-06-2023	Contractual

Table 5 (3) List of faculty members for CAYm1 (2021-2022)

Sr. No	Name of the faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research				
		Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years	Currently Associated (Y/N) Date of Leaving	Nature of Association (Regular/Contract)
1	Dr. Piyush S. Jain	Ph. D	SVNIT	2013	06-08-2008	Prof.	24-10-2013	06-08-2008	ME	Mechanical	11	8	-	Y	Regular
2	Dr. Shakil A. Kagzi	Ph. D	SVNIT	2017	20-07-2016	Asso. Prof.	01-02-2020	20-07-2016	ME	Industrial Process Equipment Design (IPED)	1	-	-	Y	Regular
3	Prof. Hitesh A. Tailor	M. Tech	UTU	2014	01-07-2011	Asst. Prof.		01-07-2011	ME	Thermal System and Design	-		-	Y	Regular
4	Prof. Vishalkumar Z. Dhimmar	M.E	GTU	2011	12-08-2011	Asst. Prof.		12-08-2011	ME	Machine Design	-	-	-	Y	Regular
5	Prof. Rinkesh B. Patel	M. Tech	SVNIT	2016	22-08-2011	Asst. Prof.		22-08-2011	ME	Turbo Machines	-	-	-	Y	Regular



6	Prof. Milan R. Patel	M.E	GTU	2012	21-07-2012	Asst. Prof.		21-07-2012	ME	Production Engineering	-	-		Y	Regular
7	Prof. Priyank P. Dave	M.E	GTU	2013	01-07-2013	Asst. Prof.		01-07-2013	ME	Energy Engineering	-	-		Y	Regular
8	Dr. Arif M. Varsi	Ph. D.	SVNIT	2020	01-08-2013	Asst. Prof.		01-08-2013	ME	CAD/CAM		-	-	Y	Regular
9	Prof. Hiren B. Tamboli	M. Tech	UTU	2014	18-08-2014	Asst. Prof.		18-08-2014	ME	Thermal System and Design	-	-	-	Y	Regular
10	Prof. Nilesh V. Rana	M.E.	GTU	2015	14-08-2017	Asst. Prof.		14-08-2017	ME	CAD/CAM				Y	Regular
11	Prof. Deep M. Vyas	M. Tech.	CHAR USAT	2018	31-07-2020	Asst. Prof.		31-07-2020	ME	Advanced Manufacturing Technology				N 30-04-2022	Contractual
12	Prof. Divyesh S. Patel	M. E.	GTU	2020	01-12-2020	Asst. Prof.		01-12-2020	ME	Production Engineering				Y	Regular
13	Prof. Krunal A. Patel	M. E.	GTU	2019	01-12-2020	Asst. Prof.		01-12-2020	ME	Production Engineering				N 10-06-2022	Regular
14	Prof. Krishna D. Modi	M. E.	GTU	2017	01-12-2020	Asst. Prof.		01-12-2020	ME	Machine Design				N 30-06-2023	Contractual
15	Prof. Tinej J. Vaghela	M. E.	GTU	2019	01-12-2020	Asst. Prof.		01-12-2020	ME	Production Engineering	-	-	-	N 31-08-2022	Contractual
16	Dr. Nirav M. Patel	Ph. D	SVNIT	2021	01-03-2021	Asst. Prof.		01-03-2021	ME	Thermal System Design				N 02-08-2023	Regular

17	Prof. Rikesh B. Prajapati	M. Tech	DIAT	2018	01-03-2021	Asst. Prof.		01-03-2021	ME	Modelling and Simulation				N 10-08-2022	Regular
18	Prof. Vivek B. Bhagat	M. Tech	CHAR USAT	2016	01-03-2021	Asst. Prof.		01-03-2021	ME	CAD /CAM				N 17-12-2022	Regular
19	Prof. Mayank B. Parmar	M.E	GTU	2020	01-03-2021	Asst. Prof.		01-03-2021	ME	Thermal Engineering				Y	Regular
20	Prof. Pragnan M. Lad	M. Tech	PDPU	2021	02-08-2021	Asst. Prof.		02-08-2021	ME	Thermal Engineering				N 05-08-2022	Regular
21	Prof. Tapan R. Chaudhari	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering				Y	Contractual
22	Prof. Lajeshkumarkar S. Mahayavanshi	M.E	GTU	2020	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering				N 30-04-2022	Contractual
23	Prof. Yashkumar A. Khengar	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering				N 30-04-2022	Regular
24	Prof. Ravikumar R. Patel	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular
25	Prof. Niharkumar M. Pavagadhi	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular
26	Prof. Brijesh kumar R. Padhiyar	M.E	GTU	2019	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular
27	Prof. Sneha N. Patel	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular

Table 5 (4) List of faculty members for CAY (2022-2023)

Sr. No	Name of the faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research				Nature of Association (Regular/Contract)
		Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years	Currently Associated (Y/N) Date of Leaving	
1	Dr. Piyush S. Jain	Ph. D	SVNIT	2013	06-08-2008	Prof.	24-10-2013	06-08-2008	ME	Mechanical	3	5	-	Y	Regular
2	Dr. Hitesh S. Jariwala	Ph. D	GTU	2021	01-03-2022	Asst. Prof		01-03-2022	ME	Mechanical Engineer	3			Y	Regular
3	Dr. Shakil A. Kagzi	Ph. D	SVNIT	2017	20-7-2016	Asso. Prof.	01-02-2020	20-7-2016	ME	Industrial Process Equipment Design (IPED)	3	-	-	Y	Regular
4	Prof. Hitesh A. Tailor	M. Tech	UTU	2014	01-07-2011	Asst. Prof.		01-07-2011	ME	Thermal System and Design	-		-	Y	Regular
5	Prof. Rinkesh B. Patel	M. Tech	SVNIT	2016	22-08-2011	Asst. Prof.		22-08-2011	ME	Turbo Machines	-	-	-	Y	Regular

6	Prof. Milan R. Patel	M.E	GTU	2012	21-07-2012	Asst. Prof.		21-07-2012	ME	Production Engineering	-	-		Y	Regular
7	Prof. Priyank P. Dave	M.E	GTU	2013	01-07-2013	Asst. Prof.		01-07-2013	ME	Energy Engineering	3	-		Y	Regular
8	Dr. Arif M. Varsi	Ph. D.	SVNIT	2020	01-08-2013	Asst. Prof.		01-08-2013	ME	CAD/CAM	2	-	-	Y	Regular
9	Prof. Hiren B. Tamboli	M. Tech	UTU	2014	18-08-2014	Asst. Prof.		18-08-2014	ME	Thermal System and Design	-	-	-	Y	Regular
10	Prof. Nilesh V. Rana	M.E.	GTU	2015	14-08-2017	Asst. Prof.		14-08-2017	ME	CAD/CAM				Y	Regular
11	Prof. Krishna D. Modi	M. E.	GTU	2017	01-12-2020	Asst. Prof.		01-12-2020	ME	Machine Design				N 30-06-2023	Contractual
12	Dr. Nirav M. Patel	Ph. D.	SVNIT	2021	01-03-2021	Asst. Prof.		01-03-2021	ME	Thermal System Design				N 02-08-2023	Regular
13	Prof. Mayank B. Parmar	M.E	GTU	2020	01-03-2021	Asst. Prof.		01-03-2021	ME	Thermal Engineering	1			Y	Regular
14	Prof. Tapan R. Chaudhari	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering				Y	Regular
15	Prof. Ravikumar R. Patel	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular
16	Prof. Niharkumar M. Pavagadhi	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular

<b>17</b>	Prof. Brijesh kumar R. Padhiyar	M.E	GTU	2019	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular
<b>18</b>	Prof. Sneh N. Patel	M.E	GTU	2021	01-12-2021	Asst. Prof.		01-12-2021	ME	Production Engineering	-	-	-	N 30-06-2023	Regular

### 5.1 Student-Faculty Ratio (SFR)

The calculation of student faculty ratio is done at the department level and it is shown in Table 5.1 (1). The Average SFR is calculated for three consecutive years. Average SFR (1) is the SFR which was submitted earlier, while Average SFR (2) is the SFR considering CAY (2022-23) as the base year. Here,

No. of UG Programs in the Department (n) = 01

No. of PG Programs in the Department (m) = 01

No. of Students	Considering CAY, CAYm1 and CAYm2	Considering CAYm1, CAYm2 and CAYm3
No. of Students in UG 2nd Year = u1 =	378	378
No. of Students in UG 3rd Year = u2 =	378	381
No. of Students in UG 4th Year = u3 =	381	364
No. of Students in PG 1st Year = p1 =	48	48
No. of Students in PG 2nd Year = p2 =	48	48

Table 5.1(1) Student Faculty Ratio

Year	CAY 2022-23	CAYm1 2021-22	CAYm2 2020-21	CAYm 3 2019- 20
u1.1(S.E)	120	120	138	120
u1.2(T.E.)	120	138	120	123
u1.3(B.E.)	138	120	123	121
UG1(Total)	378	378	381	364
p1.1(F.Y.M.E.)	24	24	24	24
p1.2(S.Y.M.E.)	24	24	24	24
PG1(Total)	48	48	48	48
Total No. of Students in the Department (S)	426	426	429	412
No. of Faculty in the Department(F)	18	27	19	17

<b>Student Faculty Ratio (SFR)</b>	23.66	15.78	22.58	<b>24.24</b>
<b>Average SFR (1)</b>		<b>20.87</b>		
<b>Average SFR (2)</b>	<b>20.67</b>			

**5.1.1 Provide the information about the regular and contractual faculty as per the format mentioned below:**

The numbers of regular and contractual faculties for each academic year in the department are shown in Table 5.1.1 (1).

Table.5.1.1 (1) numbers of regular and contractual faculty

	<b>Total number of regular faculty in the department</b>	<b>Total number of contractual faculty in the department</b>
<b>CAY(2022-23)</b>	17	01
<b>CAYm1(2021-22)</b>	22	05
<b>CAYm2(2020-21)</b>	14	05
<b>CAYm3(2019-20)</b>	15	02

**5.2 Faculty Cadre Proportion**

The calculation of faculty cadre proportion is done as per following formulation, and shown in Table 5.2(1).

The reference Faculty cadre proportion is 1(**F1**):2(**F2**):6(**F3**)

**F1:** Number of Professors required =  $1/9 \times$  Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

**F2:** Number of Associate Professors required =  $2/9 \times$  Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

**F3:** Number of Assistant Professors required =  $6/9 \times$  Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

Table 5.2(1) Faculty Cadre Proportion

Year	Professors		Associate Professors		Assistant Professors	
	Required (RF1)	Available (AF1)	Required (RF2)	Available (AF2)	Required (RF3)	Available (AF3)
<b>CAY(2022-23)</b>	2.00	1.00	4.00	1.00	14.00	15.00
<b>CAYm1(2021-22)</b>	2.00	1.00	4.00	1.00	14.00	20.00
<b>CAYm2(2020-21)</b>	2.00	1.00	4.00	1.00	14.00	12.00
<b>CAYm3(2019-20)</b>	2.00	1.00	4.00	0.00	13.00	14.00
<b>Average Numbers</b>	<b>2.00</b>	<b>1.00</b>	<b>4.00</b>	<b>0.75</b>	<b>13.75</b>	<b>15.25</b>

The cadre ratio is calculated based on the following formula -

$$\begin{aligned}
 \text{Cadre Ratio Marks} &= [(AF1/RF1) + ((AF2*0.6)/RF2) + ((AF3*0.4)/RF3)] * 12.5 \\
 &= [(1/2) + ((0.75*0.6)/4) + ((15.25*0.4)/13.75)] * 12.5 \\
 &= 13.20
 \end{aligned}$$

### 5.3 Faculty Qualification

Marks for faculty qualification is calculated based on the following formula –

$$FQ = 2.5 \cdot [(10X + 4Y) / F]$$

Average Assessment (1) is the value which was submitted earlier, while Average Assessment (2) is calculated considering CAY (2022-23) as the base year.

Where,

$X$  is no. of regular faculty with Ph.D.,

$Y$  is no. of regular faculty with M.Tech

$F$  is no. of regular faculty required to comply 20:1 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)

The faculty qualification in the department is shown in the Table 5.3 (1)

Table 5.3(1) Calculation for Faculty qualification

Years	X	Y	F	$FQ = 2.5 \cdot [(10X + 4Y) / F]$
<b>CAY(2022-23)</b>	5	13	21	12.14
<b>CAYm1(2021-22)</b>	4	23	21	15.71
<b>CAYm2(2020-21)</b>	3	16	21	11.19



<b>CAYm3(2019-20)</b>	<b>2</b>	<b>15</b>	<b>20</b>	<b>10.00</b>
<b>Average Assessment (1) (CAYm1, CAYm2, CAYm3)</b>				<b>12.30</b>
<b>Average Assessment (2) (CAY, CAYm1, CAYm2)</b>				<b>13.01</b>

#### 5.4 Faculty Retention

The number of regular faculties in respective academic years are as follows –

CAYm3 (2019-20) =15

CAYm2 (2020-21) =14

CAYm1 (2021-22) =22

CAY (2022-23) =17

The marks for the retention of the faculty are calculated as per the Table 5.4 (1). Table 5.4(2) shows the calculation of percentage retention of faculties, average retention and respective marks. Here, Average retention (1) is the retention submitted considering CAYm3 (2019-20) as base year, while Average retention (2) is the retention calculated considering CAYm2 (2020-21) as base year.

Table 5.4 (1) Points for the retention of the faculties

Item	Marks
<b>&gt;= 90% of required Faculty members retained during the period of assessment keeping CAYm2 as the base year</b>	25
<b>&gt;= 75% of required Faculty members retained during the period of assessment keeping CAYm2 as the base year</b>	20
<b>&gt;= 60% of required Faculty members retained during the period of assessment keeping CAYm2 as the base year</b>	15
<b>&gt;= 50% of required Faculty members retained during the period of assessment keeping CAYm2 as the base year</b>	10
<b>&lt;50% of required Faculty members retained during the period of assessment keeping CAYm2 as the base year</b>	10

Table 5.4 (2) Calculation of average retention of faculty and respective marks

	Whether Faculty Retained During			
	<b>CAYm3 (2019- 20)</b>	<b>CAYm 2 (2020- 21)</b>	<b>CAYm1 (2021- 22)</b>	<b>CAY (2022- 23)</b>
<b>Number of Faculty Retained</b>	15	12	10	<b>09</b>
<b>(CAY/CAYm2)*100</b>	<b>(09 / 12) * 100</b>			
<b>Faculty retention in %</b>	<b>75 %</b>			
<b>Marks to be obtained</b>	<b>20</b>			

### **5.5 Innovations by the Faculty in Teaching and Learning**

Effectiveness in teaching can be practiced by understanding the models of instructions that capture, delineate and transfer the knowledge from faculty members to the learners. These involve a deep understanding of content, lesson planning, classroom instructional strategies, assessment of understanding of students and analysis of outcome-based learning of courses. The faculties use innovative ways in teaching and learning. Some of our innovative methods adopted are digital classroom, Google classroom, E-based learning, project-based learning, virtual laboratory, WhatsApp based interaction etc. The following are the Innovative approaches adopted by the faculties in teaching and learning:

#### **A. Innovation by faculty**

Student Start-up and Innovation Policy (SSIP) are state-level policy to encourage faculties and students for research as well as student start-up. Under the SSIP policy, student projects get mentoring and funding at different phases of the project under SSIP scheme and total Rs. 125196/- was sanctioned for the same in the year 2020-2022.

#### **B. Digital classroom**

The class rooms at the institution are fitted with projectors. Projectors make learning more interactive as it enables the presentation of knowledge in various ways. All multimedia modules including videos and presentations are used during lectures. This visually appealing teaching method is becoming attractive to students. Digital classes actually help students to connect the concepts easily. Here the students' audio-visual senses are guided and this allows the students to collect the information effectively.

#### **C. e-based learning**

Faculty members and students use various online courses like NPTEL videos in their area of interest. This helps them to enrich their knowledge on current trends and also to equip themselves with inter-domain expertise. Students have been given tablets at very economical rates under NAMO tablet government scheme which helps the students to learn various E-learning courses.

#### **D. Google classroom**

Google Classroom is an application designed to improve the learning experience that is part of our teaching process. During Covid-19, it helped to connect with students 24 X 7 by

posting technical material, notes and assignments and also encourages online quizzes to be completed and evaluated.

### **E. Technical presentation**

Students are given the opportunity to deliver the presentation in the laboratory which helps them to develop their ability to gather the information and to interact with others. Moreover, to have detail understanding students can go through online videos by scanning the QR code available at each experimental setup in laboratory.

### **F. Industrial Visit / Trainings**

Industrial visits and trainings are designed for students to bridge the gap between theoretical learning and real-life practical training. During industrial visits, the students grasp the industrial processes and organisational structure. In addition to the normal classroom learning, industrial visits provide opportunities for active / interactive learning experiences beyond classroom teaching.

Different innovative approaches are adopted by the faculty members to improve the teaching-learning processes during COVID-19 pandemic period.

- During the COVID-19 period, faculty members were motivated to keep students engaged in education, though it was done online. The institute used a Google Education domain, which allowed faculty members to teach students online in an innovative way.
- To provide students with an intuitive learning environment, Jamboard (cloud-powered digital whiteboard), Google Classroom, and Google Presentation were used in conjunction with Google Meet. The Institute has purchased StreamYard, which allows faculty to create a live streaming studio for webinars in the browser itself. Fig. 5.5 (1)-(2) shows the conduction of webinar using streamyard.
- In traditional classroom teaching, faculty members use information and communication technology (ICT) to improve the teaching experience and become more effective educators. To teach the course content, faculty members use presentations, virtual labs, and animations.
- Faculty members used formative and summative assessments in both online and offline teaching modes to assess and evaluate students' progress as well as the skills and knowledge they gained in a course.

- The course work is made available and is regularly updated by faculty members on the institute website which is available for peer review and critics.
- Faculty members encourage students to study the seminars, design engineering projects, and project work that is available in the department and can be accessed through the library and course website.



Fig. 5.5 (1) Pictures of Webinar using StreamYard

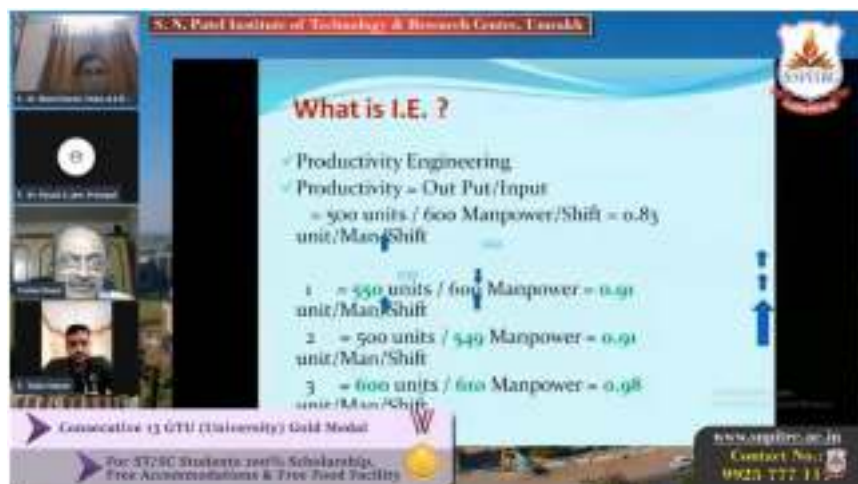


Fig. 5.5 (2) Pictures of Webinar using StreamYard

### 5.5.1 Course Webpage

The mechanical engineering department's course web page is kept up to date on the institute's website. Fig. 5.5.1 (1) shows the webpage of institute portal. It is updated on

a regular basis, with continuous input from faculty members. It contains the following information:

1. Title of course/Course code/ Teaching scheme
2. Course syllabus
3. Course outcome
4. List of books/Reference book
5. Power point presentation
6. Lecture Notes
7. Assignments/Tutorials
8. Video lectures
9. Webinar
10. Question Bank
11. Working model
12. Chart



Fig. 5.5.1 (1) Pictures of webpages of institute

### 5.5.2 Online Project Fair 2021

- Faculty members have organize project fairs for students in the department. Academic and industry experts review the final year projects. The projects are displayed and explained to the students in the department. Prizes were given to the top three projects to motivate students.
- An induction program/ bridge course has been introduced by GTU to help the newly admitted students to get accustomed to the college environment and broaden their horizons.
- Fig. 5.5.2 (1)-(2) shows the online project fair conducted in 2021.



Fig. 5.5.2 (1) Pictures of Online project Fair 2021

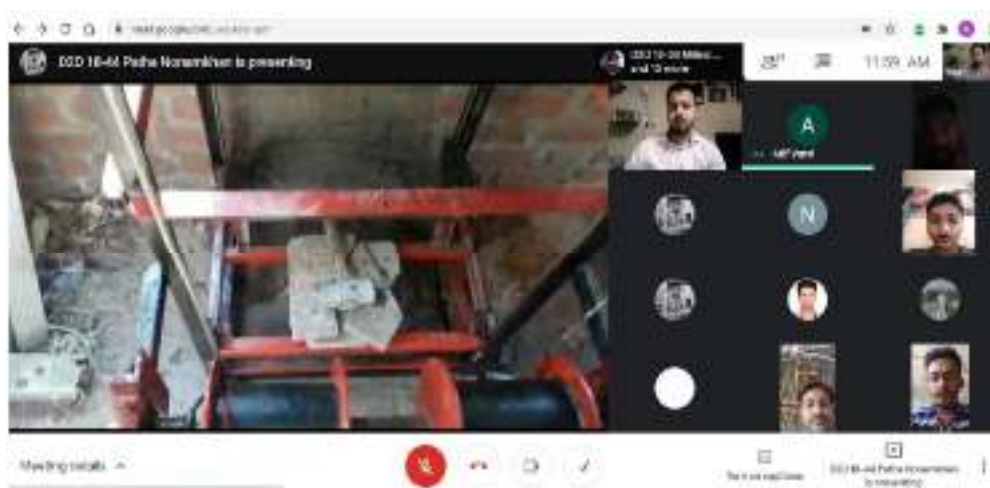


Fig. 5.5.2 (2) Pictures of Online project Fair 2021

## 5.6 Faculties participations in FDP/training activities/STTPs

The details of the FDP/STTP attended by the faculty members is shown in Table 5.6 (1).

Table 5.6(1) Details of STTP/FDP attended by faculties

Sr. no.	Faculty name	STTP/workshop/NPTL/FDP	Date	Year
1	Dr.Piyush S. Jain	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Manufacturing of composite	Aug to Oct 2019	8 week 2019-2020



		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Mechanical and manufacturing engineering	21/12/2020 To 25/12/2020	5 days 2020-2021
		Technology management	6/11/2020 To 10/11/2020	5 days 2020-2021
		Advancement in manufacturing technology for industrial application	24/8/2020 To 28/8/2020	5 days 2020-2021
		Introduction to composite	Sep to Dec 2020	12 week 2020-2021
		FRP composite	18/1/2021 To 22/1/2021	5 days 2020-2021
		3d modeling and analysis in ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		Processing of novel material	20/9/2021 To 24/9/2021	5 days 2021-2022
		3D printing and design for innovative medical devices	28/6/2021 To 2/7/2021	5 days 2021-2022
		Recent advancement in manufacturing processing	27/12/2021 To 31/12/2021	5 days 2021-2022
2	Dr. Arif M. Varsi	Outcome based education & NBA accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Design Of Experiment And Artificial and neural network	4/11/2019 To 18/11/2019	5 days 2019-2020
		Application Of Natural Fibre Reinforced Composite In Small And Medium Sector	17/6/2019 To 22/6/2019	6 days 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020



		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Computer integrated manufacturing	January To April 2021	12 week 2020-2021
		Universal human values for deeksharambh	23/11/2020 To 27/11/2020	5 days 2020-2021
		Design engineering level -1	1/2/2021 To 5/2/2021	5 days 2020-2021
		Inculcating universal human values in technical education	24/5/2021 To 28/5/2021	5 days 2020-2021
		3D printing and design for innovative medical devices	28/6/2021 To 2/7/2021	5 days 2021-2022
		Recent advancement in manufacturing processing	27/12/2021 To 31/12/2021	5 days 2021-2022
		3D modelling and analysis in ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
3	Dr. Shakil A. Kagzi	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		NBA accreditation and teaching learning in engineering	JAN TO APR 2020	12 week 2019-2020
		Universal human values for deeksharambh	23/11/2020 TO 27/11/2020	5 days 2020-2021
		Mechanical and manufacturing engineering	21/12/2020 To 25/12/2020	5 days 2020-2021
		Machining science	January To February 2021	4 week 2020-2021

		Design engineering level -1	1/2/2021 To 5/2/2021	5 days 2020-2021
		Inculcating universal human values in technical education	24/5/2021 To 28/5/2021	5 days 2020-2021
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
4	Dr. Chetankumar P. Patel	Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Universal Human Values For Deeksharambh	23/11/2020 To 27/11/2020	5 days 2020-2021
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3d modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
5	Dr. Nirav M. Patel	Introduction To Research Methodology	Aug To Oct 2021	8 week 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Inculcating universal human values in technical education	7/6/2021 To 11/6/2021	5 days 2021-2022
6	Prof. Vishalkumar Z. Dhimmar	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Engineering drawing and computer graphics	Sep to Dec 2019	12 week 2019-2020
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Inculcating universal human values in technical education	24/5/2021 To	5 days 2020-2021

			28/5/2021	
		3D printing and design for innovative medical devices	28/6/2021 To 2/7/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Nano-technology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
7	Prof. Milan R. Patel	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Fundamental of manufacturing process	Sep to Dec 2020	12 week 2020-2021
		Advancement in manufacturing technology for industrial application	24/8/2020 To 28/8/2020	5 days 2020-2021
		Inculcating universal human values in technical education	26/10/2020 To 30/10/2020	5 days 2020-2021
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
8	Prof. Priyank P. Dave	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Technologies for clean renewable energy production	September To November 2020	8 week 2020-2021
		Design engineering level -1	1/2/2021 To 5/2/2021	5 days 2020-2021

		Inculcating universal human values in technical education	26/10/2020 To 30/10/2020	5 days 2020-2021
		Implementation of emerging waste to energy technologies	15/11/2021 To 19/11/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
<b>9</b>	<b>Prof. Hitesh A. Tailor</b>	Outcome Based education & NBA accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Basic of tribology and its industrial engineering application	4/1/2021 To 8/1/2021	5 days 2020-2021
		Inculcating universal human values in technical education	24/5/2021 To 28/5/2021	5 days 2020-2021
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
<b>10</b>	<b>Prof. Hiren B. Tamboli</b>	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Refrigeration and air conditioning	Sep to Dec 2020	8 week 2020-2021
		Flow energy and combustion	21/12/2020	5 days

			To 25/12/2020	2020-2021
		Universal human values for deeksharambh	23/11/2020 To 27/11/2020	5 days 2020-2021
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
<b>11</b>	Prof. Rinkesh B. Patel	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Fluid mechanics	September To November 2020	8 week 2020-2021
		Universal human values for deeksharambh	23/11/2020 To 27/11/2020	5 days 2020-2021
		Nano-technogy materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>12</b>	Prof. Nilesh V. Rana	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Computer integrated manufacturing	January To April 2020	12 week 2019-2020
		Product design and manufacturing	January To April 2020	12 week 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To	3 days 2019-2020

			30/5/2020	
		Solar energy technologies and application	21/9/2020 To 25/9/2020	5 days 2020-2021
		Computer integrated manufacturing	January To April 2020	12 week 2020-2021
		Computer assisted designing and machining	31/5/2021 To 12/6/2021	13 days 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>13</b>	Prof. Rikesh B. Prajapati	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>14</b>	Prof. Hiten J. Mistry	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
<b>15</b>	Prof. Chirag N. Chaudhari	Outcome Based Education & NBA Accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role of production engineer in advanced welding technology with NDT method	12/2/2020 To 13/2/2020	2 days 2019-2020
		Hands on with creating and managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020

<b>16</b>	Prof. Misal C. Gandhi	Outcome Based Education &NBA accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role Of Production Engineer In Advanced Welding Technology With NDT Method	12/2/2020 To 13/2/2020	2 days 2019-2020
<b>17</b>	Prof. Piyush B. Savaj	Outcome Based Education &NBA accreditation	3/5/2019 To 4/5/2019	2 days 2018-2019
		Role Of Production Engineer In Advanced Welding Technology With NDT Method	12/2/2020 To 13/2/2020	2 days 2019-2020
<b>18</b>	Prof Harshal T. Shukla	Role Of Production Engineer In Advanced Welding Technology With NDT Method	12/2/2020 To 13/2/2020	2 days 2019-2020
<b>19</b>	Prof. Ripal C. Patel	Role Of Production Engineer In Advanced Welding Technology With NDT Method	12/2/2020 To 13/2/2020	2 days 2019-2020
<b>20</b>	Prof. Vatsalkumar B. Maisuriya	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Travel consultant	14/9/2020 To 29/9/2020	15 days 2020-2021
		Robotics	14/12/2020 To 18/12/2020	5 days 2020-2021
		Welding process NDT evaluation	12/4/2021 To 17/4/2021	5 days 2020-2021
<b>21</b>	Prof. Vivek B. Bhagat	Inculcating Universal Human Values In Technical Education	24/5/2021 To 28/5/2021	5 days 2020-2021
		E-spirit cam software	10/5/2021 To 20/5/2021	10 days 2020-2021
		Computer assisted designing and machining	31/5/2021 To 12/6/2021	13 days 2021-2022
		3D printing and design for innovative medical devices	28/6/2021 To 2/7/2021	5 days 2021-2022
		Introduction to research	August To October 2021	8 week 2021-2022

		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>22</b>	Prof. Mayank B. Parmar	Implementation Of Emerging Waste to Energy Technologies	15/11/2021 To 19/11/2021	5 days 2021-2022
		Introduction to research	AUG TO OCT 2021	8 week 2021-2022
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>23</b>	Prof. Pragnan M. Lad	Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>24</b>	Prof. Niharkumar M. Pavagadhi	Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>25</b>	Prof. Lajeshkumar K. Mahayavanshi	Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>26</b>	Prof. Tinej J. Vaghela	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>27</b>	Prof. Krishna D. Modi	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020



		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>28</b>	Prof.Krunal A. Patel	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>29</b>	Prof. Deep M. Vyas	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>30</b>	Prof. Divyesh S. Patel	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>31</b>	Prof. Tapan R. Chaudhari	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020
		Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>32</b>	Prof. Yashkumar A. Khengar	Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022

<b>33</b>	Prof. Ravikumar R. Patel	Nanotechnology materials characterization synthesis and application	6/9/2021 To 10/9/2021	5 days 2021-2022
		3D modelling and analysis in Ansys	5/1/2022 To 7/1/2022	3 days 2021-2022
<b>34</b>	Prof. Sankalp P. Patel	Hands On With Creating And managing online teaching tools for teachers	28/5/2020 To 30/5/2020	3 days 2019-2020

Considering FDP mentioned in Table 5.6 (1) the points of each faculties are calculated, based on the following steps –

- A Faculty scores maximum five points for participation
- Participation in 2 to 5 days Faculty development program: 3 Points
- Participation > 5 days Faculty development program: 5 points

Details of points gained by the faculty members is shown in Table 5.6 (2)

Table 5.6 (2) Points gained by each faculty members

<b>Sr. no</b>	<b>Name Of Faculty</b>	<b>CAY m1 (2021-22)</b>	<b>CAY m2 (2020-21)</b>	<b>CAY m3 (2019-20)</b>	<b>CAY m4 (2018-19)</b>
<b>1</b>	Dr. Piyush S. Jain	5	5	5	<b>3</b>
<b>2</b>	Dr. Arif M. Varsi	5	5	5	<b>3</b>
<b>3</b>	Dr. Shakil A. Kagzi	5	5	5	<b>3</b>
<b>4</b>	Dr. Chetankumar P. Patel	5	3	-	-
<b>5</b>	Dr. Nirav P. Patel	5	-	-	-
<b>6</b>	Prof. Vishalkumar Z. Dhimmar	5	5	5	<b>3</b>
<b>7</b>	Prof. Milan R. Patel	5	5	3	<b>3</b>
<b>8</b>	Prof. Priyank P. Dave	5	5	3	<b>3</b>
<b>9</b>	Prof. Hitesh A. Tailor	5	5	3	<b>3</b>
<b>10</b>	Prof. Hiren B. Tamboli	5	5	3	<b>3</b>
<b>11</b>	Prof. Rinkesh B. Patel	5	5	3	<b>3</b>
<b>12</b>	Prof. Nilesh V. Rana	5	5	5	<b>3</b>
<b>13</b>	Prof. Rikesh B. Prajapati	5	-	3	<b>3</b>
<b>14</b>	Prof. Hiten J. Mistry	5	-	3	<b>3</b>

15	Prof. Chirag N Chaudhari	-	-	3	3
16	Prof. Misal C. Gandhi	-	-	3	3
17	Prof. Piyush B. Savaj	-	-	3	3
18	Prof. Ripal C. Patel	-	-	3	3
19	Prof. Vatsalkumar B. Maisuriya	-	5	3	-
20	Prof. Tinej J. Vaghela	5	-	3	-
21	Prof. Krishna D. Modi	5	-	3	-
22	Prof. Krunal A. Patel	5	-	3	-
23	Prof. Deep M. Vyas	5	-	3	-
24	Prof. Divyesh S. Patel	-	-	3	-
25	Prof. Tapan R. Chaudhari	5	-	3	-
	Sum of Points	90	58	79	48
	RF= Number of Faculty required to comply with 20:1 Student- Faculty Ratio as per Table 5.1	23.6	21.5	21.3	21.3
	Assessment = $3 \times$ (Sum/0.5*RF) (Marks limited to 15)	22.82	13.52	22.25	13.52
	Average		17.58		
	Average	19.53			

## 5.7 Research and Development

### 5.7.1 Academic Research

Number of quality publications in referred/SCI Journals, citations, Books/Book Chapters, patent etc. published in each academic year is shown Table 5.7.1 (1)-(2). The details of book chapters and journal paper published during this tenure is shown in Table 5.7.1 (3) and (4) respectively. The details of publications faculty wise is shown in Table 5.7.1 (5).

Table 5.7.1(1) List of paper publications by faculties

Academic year	CAY (2022- 23)	CAY (2021- 22)	CAYm1 (2020- 21)	CAYm2 (2019- 20)
<b>No. Of Patent Applied</b>	-	-	-	-
<b>No. Of publications</b>	16	5	16	8
<b>No. Of Book Chapter</b>	1	-	1	-

Table 5.7.1 (2) Number of Patent Applied

Sr. No.	Name of Faculty/Students	Title of Invention	Application No.	Status
1		None		

Table 5.7.1(3) Books chapters published

Sr. No.	Name of Faculty	Title of Book	Title of Chapter	Publisher	Year of Publication
1.	Dr. Chetan kumar Patel	Polymer based advanced functional material for energy environmental application	Polymer based advanced functional material for energy environmental application	Springer	2022
2	Dr. Piyush Jain, Dr. Hitesh Jariwala	Trends in Applications of Polymers and Polymer Composites	A Comprehensive Review on Natural Fiber Reinforced Polymer Composites and Its Applications	AIP Publishing , US	2022

Table 5.7.1(4) Summary of publications

Sr. No.	Name of Staff	No. Of papers published during last three academic years			
		International Journals	National Journals	International Conference	National Conference
1	Dr. Piyush Jain	14	-	-	-
2	Dr. Shakil Kagzi	5	-	-	-
3	Dr. Chetankumar Patel	7	-	-	-
4	Dr. Arif Varsi	3	-	-	-
5	Prof. Priyank P. Dave	2	-	-	-
6	Dr. Hitesh S. Jariwala	3	-	-	-
7	Prof. Milan R. Patel	1	-	-	-
8	Prof. Vishal Z. Dhimmar	1	-	-	-
9	Dr. Nirav Patel	2	-	-	-
10	Prof. Mayank B. Parmar	1	-	-	-
11	Prof. Pragnan Lad	1	-	-	-
12	Prof. Vatsal Maisuriya	4	-	-	-
13	Prof. Hiren Tamboli	-	1	-	-

The details of publications faculty wise is shown in Table 5.7.1 (5)

Table 5.7.1(5) Details of publications

Sr. No	Name of Staff	Title of paper	DOI/Google Scholar Link	Year	Total citations
1	Dr. Piyush S. Jain	Theoretical and experimental investigations for geometrical error during hemispherical cavity machining on CO2 laser	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=6telq-kAAAAJ&amp;citation_for_view=6telq-kAAAAJ:9ZIFYXVOiuMC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=6telq-kAAAAJ&amp;citation_for_view=6telq-kAAAAJ:9ZIFYXVOiuMC</a>	2022-23	1
2	Dr. Piyush S. Jain	Sudden deaths due to accidental leakage of Lindane from a storage tank in a village, Sitapur, Uttar Pradesh, India, 2020: A field epidemiological investigation	<a href="https://scholar.google.com/citations?user=6telq-kAAAAJ&amp;hl=en&amp;oi=ao">https://scholar.google.com/citations?user=6telq-kAAAAJ&amp;hl=en&amp;oi=ao</a>	2022-23	0
3	Dr. Piyush S. Jain	A Comprehensive Review on Natural Fiber Reinforced Polymer Composites and Its Applications	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=6telq-kAAAAJ&amp;citation_for_view=6telq-kAAAAJ:4DMP91E08xMC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=6telq-kAAAAJ&amp;citation_for_view=6telq-kAAAAJ:4DMP91E08xMC</a>	2022-23	0
4	Dr. Piyush S. Jain	An analysis of the effect of various parameters on surface roughness, spring back and thinning while performing single point incremental forming on polypropylene sheet	<a href="https://doi.org/10.1177/09544089211047203">https://doi.org/10.1177/09544089211047203</a>	2021-22	4
5	Dr. Piyush S. Jain	Mathematical analysis to predict tensile strength of banana/glass hybrid polymer composite	<a href="https://doi.org/10.1002/pc.26152">https://doi.org/10.1002/pc.26152</a>	2021-22	1

6	Dr. Piyush S. Jain	A Review on Mechanical Behaviour of Short Fiber Reinforced Polymer Composites and Its Applications	<a href="https://doi.org/10.1177/0731684419828524">https://doi.org/10.1177/0731684419828524</a>	2021-22	0
7	Dr. Piyush S. Jain	An investigation on mechanical properties in randomly oriented short natural fiber reinforced composites	<a href="https://doi.org/10.1016/j.matpr.2020.05.452">https://doi.org/10.1016/j.matpr.2020.05.452</a>	2021-22	18
8	Dr. Piyush S. Jain	Experimental investigations of various joinery methods on repaired AISI 304 A plate with Nitinol wire	<a href="https://doi.org/10.1016/j.matpr.2020.07.522">https://doi.org/10.1016/j.matpr.2020.07.522</a>	2020-21	2
9	Dr. Piyush S. Jain	Comprehensive study of laser cladding by nitinol wire	<a href="https://doi.org/10.1016/j.matpr.2020.05.631">https://doi.org/10.1016/j.matpr.2020.05.631</a>	2020-21	2
10	Dr. Piyush S. Jain	Experimental and statistical analysis of strength of glass fiber reinforced polymer composite for different fiber architecture	<a href="https://doi.org/10.1002/pc.25911">https://doi.org/10.1002/pc.25911</a>	2020-21	7
11	Dr. Piyush S. Jain	Investigation of Different Factors Influencing the Springback, Surface Roughness, and Thinning for Polyvinyl Chloride during Single Point Incremental Forming	<a href="https://www.jstor.org/stable/27033977">https://www.jstor.org/stable/27033977</a>	2020-21	3
12	Dr. Piyush S. Jain	Analysis of unidirectional aligned Banana and Glass fibre reinforced polyester composite for tensile and flexural strength	<a href="https://doi.org/10.37591/joppc.v8i2.3936">https://doi.org/10.37591/joppc.v8i2.3936</a>	2020-21	7
13	Dr. Piyush S. Jain	Experimental Comparison Between Friction Stir Welding and Underwater Friction Stir Welding on Al6061 Alloys	<a href="https://doi.org/10.1007/978-981-15-3639-7_20">https://doi.org/10.1007/978-981-15-3639-7_20</a>	2020-21	1
14	Dr. Piyush S. Jain	A review on mechanical behaviour of natural fiber reinforced polymer composites and its applications	<a href="https://doi.org/10.1177/0731684419828524">https://doi.org/10.1177/0731684419828524</a>	2019-20	117

15	Dr. Chetankumar P. Patel	Regulated, Unregulated, and Particulate Emissions from Biodiesel Blend Fueled Transportation Engine	<a href="https://doi.org/10.1115/1.4048939">https://doi.org/10.1115/1.4048939</a>	2020-21	7
16	Dr. Chetankumar P. Patel	Microscopic Spray Characteristics of Biodiesels Derived from Karanja, Jatropha and Waste Cooking Oils	<a href="https://doi.org/10.1115/1.4047408">https://doi.org/10.1115/1.4047408</a>	2020-21	2
17	Dr. Chetankumar P. Patel	Effect of exhaust gas recirculation composition on soot in ECN spray A conditions	<a href="https://doi.org/10.2516/ogst/2020028">https://doi.org/10.2516/ogst/2020028</a>	2020-21	10
18	Dr. Chetankumar P. Patel	Adaptation of Methanol–Dodecanol–Diesel Blend in Diesel Genset Engine	<a href="https://doi.org/10.1115/1.4043390">https://doi.org/10.1115/1.4043390</a>	2019-20	39
19	Dr. Chetankumar P. Patel	Performance and emission evaluation of a small-bore biodiesel compression-ignition engine	<a href="https://doi.org/10.1016/j.energy.2019.07.015">https://doi.org/10.1016/j.energy.2019.07.015</a>	2019-20	19
20	Dr. Chetankumar P. Patel	HRTEM evaluation of primary soot particles originated in a small-bore biofuel compression-ignition engine	<a href="https://doi.org/10.1016/j.applthermaleng.2019.113899">https://doi.org/10.1016/j.applthermaleng.2019.113899</a>	2019-20	19
21	Dr. Chetankumar P. Patel	Experimental investigations of noise and vibration characteristics of gasoline-methanol blend fuelled gasoline direct injection engine and their relationship with combustion.	<a href="https://doi.org/10.1016/j.applthermaleng.2019.113754">https://doi.org/10.1016/j.applthermaleng.2019.113754</a>	2019-20	34
22	Dr. Shakil A. Kagzi	Investigation of Fused Deposition Modelling Process Parameters in 3D Printing for Composite Material (Poly Lactic Acid and Banana Fibre)	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=IPTJ0GEAAA&amp;AJ&amp;citation_for_view=IPTJ0GEAAA:roLk4NBRz8UC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=IPTJ0GEAAA&amp;AJ&amp;citation_for_view=IPTJ0GEAAA:roLk4NBRz8UC</a>	2022-23	
23	Dr. Shakil A. Kagzi	Mathematical modelling to predict springback in bimetallic material including material anisotropy during bending	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=IPTJ0GE">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=IPTJ0GE</a>	2022-23	



			AAAAJ&citation_for_view=IPTJ0GEAA AAJ:LkGwnXOMwfcC		
24	Dr. Shakil A. Kagzi	Theoretical and experimental investigations for geometrical error during hemispherical cavity machining on CO2 laser	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=IPTJ0GEAAAAJ&amp;citation_for_view=IPTJ0GEAAAJ:_FxGoFyzp5QC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=IPTJ0GEAAAAJ&amp;citation_for_view=IPTJ0GEAAAJ:_FxGoFyzp5QC</a>	2022-23	
25	Dr. Shakil A. Kagzi	An analysis of the effect of various parameters on surface roughness, springback and thinning while performing single point incremental forming on polypropylene sheet	<a href="https://doi.org/10.1177/0954408921104720">https://doi.org/10.1177/0954408921104720</a>	2021-22	2
26	Dr. Shakil A. Kagzi	Investigation of Different Factors Influencing the Springback, Surface Roughness, and Thinning for Polyvinyl Chloride during Single Point Incremental Forming	DOI:10.4271/05-13-03-0023	2020-21	0
27	Dr. Arif M. Varsi	Theoretical and experimental investigations for geometrical error during hemispherical cavity machining on CO2 laser	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=JOc5wJsAAAAJ&amp;citation_for_view=JOc5wJsAAAJ:Tyk-4Ss8FVUC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=JOc5wJsAAAAJ&amp;citation_for_view=JOc5wJsAAAJ:Tyk-4Ss8FVUC</a>	2022-23	0
28	Dr. Arif M. Varsi	Influence of Resolution on Surface Roughness During CO2 Laser Beam Machining	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=JOc5wJsAAAAJ&amp;citation_for_view=JOc5wJsAAAJ:IjCSPb-OGc4C">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=JOc5wJsAAAAJ&amp;citation_for_view=JOc5wJsAAAJ:IjCSPb-OGc4C</a>	2022-23	
29	Dr. Arif M. Varsi	Experimental and statistical study on kerf taper angle during CO2 laser cutting of thermoplastic material	<a href="https://doi.org/10.2351/1.5087846">https://doi.org/10.2351/1.5087846</a>	2019-20	3
30	Prof. Priyank P. Dave	Design and Development of a Novel Hybrid Gasifier for High Ash Content Coal as feed stock	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=oU5QBg">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=oU5QBg</a>	2022-23	0

			wAAAAJ&citation_for_view=oU5QBgwAAAAJ:2osOgNQ5qMEC		
31	Prof. Priyank P. Dave	Determination of optimally feasible operating parameters for gasification of high-ash-content coal	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=oU5QBgwAAAAJ&amp;citation_for_view=oU5QBgwAAAAJ:9yKSN-GCB0IC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=oU5QBgwAAAAJ&amp;citation_for_view=oU5QBgwAAAAJ:9yKSN-GCB0IC</a>	2022-23	0
32	Dr. Hitesh S. Jariwala	Strength optimization of unidirectional banana/glass fiber hybrid composites using full factorial method and theoretical method	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=uCLMIIMAAAAJ&amp;citation_for_view=uCLMIIMAAAAJ:WF5omc3nYNoC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=uCLMIIMAAAAJ&amp;citation_for_view=uCLMIIMAAAAJ:WF5omc3nYNoC</a>	2022-23	0
33	Dr. Hitesh S. Jariwala	A Comprehensive Review on Natural Fiber Reinforced Polymer Composites and Its Applications	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=uCLMIIMAAAAJ&amp;citation_for_view=uCLMIIMAAAAJ:eQOLeE2rZwMC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=uCLMIIMAAAAJ&amp;citation_for_view=uCLMIIMAAAAJ:eQOLeE2rZwMC</a>	2022-23	0
34	Dr. Hitesh S. Jariwala	Experimental Investigations of Jet Expansion for Hydraulic Nozzles of Different Materials	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=uCLMIIMAAAAJ&amp;citation_for_view=uCLMIIMAAAAJ:W7OEmFMyl1HYC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=uCLMIIMAAAAJ&amp;citation_for_view=uCLMIIMAAAAJ:W7OEmFMyl1HYC</a>	2022-23	0
35	Prof. Milan R. Patel	Investigation of Fused Deposition Modelling Process Parameters in 3D Printing for Composite Material (Poly Lactic Acid and Banana Fibre).	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=-68h9EUAAAAJ&amp;citation_for_view=-68h9EUAAAAJ:Y0pCki6q_DkC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=-68h9EUAAAAJ&amp;citation_for_view=-68h9EUAAAAJ:Y0pCki6q_DkC</a>	2022-23	0
36	Prof. Mayankkumar B. Parmar	Pyrolysis Of Pellets Prepared From Groundnut Shell and Crude Glycerol: In-Situ Utilization Of Pyro-Gas and Characterization Of Products	<a href="https://digital.detritusjournal.com/file/get?code=3c685d21-ca7a-4dab-83f2-49131f439997">https://digital.detritusjournal.com/file/get?code=3c685d21-ca7a-4dab-83f2-49131f439997</a>	2022-23	0

37	Prof. Parganan M. Lad	Study on PCM Assisted Constant Temperature Water Heating System	10.1088/1757-899X/1146/1/012025	2020-21	2
38	Dr. Nirav M. Patel	Experimental investigations on a variable channel width double layered mini-channel heat sink	<a href="https://doi.org/10.1016/j.ijheatmasstransfer.2020.120633">https://doi.org/10.1016/j.ijheatmasstransfer.2020.120633</a>	2020-21	21
39	Dr. Nirav M. Patel	Investigations on a variable channel width double-layered mini-channel heat sink using advanced coolants	<a href="https://doi.org/10.1007/s10973-020-09904-4">https://doi.org/10.1007/s10973-020-09904-4</a>	2019-20	3
40	Prof. Vatsal B. Maisuriya	Experimental and statistical analysis of strength of glass fiber reinforced polymer composite for different fiber architecture	<a href="https://doi.org/10.1002/pc.25911">https://doi.org/10.1002/pc.25911</a>	2020-21	7
41	Prof. Vatsal B. Maisuriya	A review on tensile and flexural properties of natural/glass fiber reinforced polymer composites	<a href="https://doi.org/10.1177/0731684418799528">https://doi.org/10.1177/0731684418799528</a>	2019-20	
42	Prof. Vatsal B. Maisuriya	Design and development of belt type oil Skimmer	10.17577/IJERTCONV5IS07031	2020-21	7
43	Prof. Vatsal B. Maisuriya	Analysis of unidirectional aligned Banana and Glass fibre reinforced polyester composite for tensile and flexural strength	<a href="https://doi.org/10.1177/0731684419828524">https://doi.org/10.1177/0731684419828524</a>	2020-21	3
44	Prof. Hiren B. Tamboli	Analysis of liquid nitrogen based summer air conditioning system	NA	2020-21	0
45	Prof. Vishal Z. Dhimmarr	Investigation of Fused Deposition Modelling Process Parameters in 3D Printing for Composite Material (Poly Lactic Acid and Banana Fibre).	<a href="https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=-68h9EUAAAAJ&amp;citation_for_view=-68h9EUAAAAJ:Y0pCki6q_DkC">https://scholar.google.com/citations?view_op=view_citation&amp;hl=en&amp;user=-68h9EUAAAAJ&amp;citation_for_view=-68h9EUAAAAJ:Y0pCki6q_DkC</a>	2022-23	0

The details of faculty awarded with Ph. D. or ongoing Ph. D. program is shown in Table 5.7.1(6) and Details of Ph.D. scholars guided by the faculties are shown in Table 5.7.1 (7).

Table 5.7.1 (6) Number of research scholars received Ph.D during past three years

Sr. No.	Year	Internal	
		Ongoing	Awarded
1	2022-2023	3	-
2	2021-2022	4	-
3	2020-2021	2	1
4	2019-2020	1	0

Table 5.7.1 (7) Information of Ph.D. guided by faculties

Sr. No.	Name of the Research Scholar	Title of Thesis	Year of Completion	Name of Guide
1	Hitesh S. Jariwala	Experimental and analytical study to investigate strength of banana –glass hybrid composites	21/12/2021	Dr. Piyush S. Jain
2	Nikunj Kumar H. Patel	Experimental investigations on the mechanical properties of randomly distributed Short fiber reinforced composites	16/2/2022	Dr. Piyush S. Jain
3	Kavita K. Kriplani	Experimental Investigations on Repaired AISI 304 A by Optimized Parameters of Various Welding Techniques Using Nitinol Wire	28/2/2022	Dr. Piyush S. Jain
4	Amit B. Galphade	Investigation on thermo-acoustic performance of a muffler in spark ignition engine	17/5/2023	Dr. Piyush S. Jain

### 5.7.2 Sponsored Research

The following table 5.7.2 (1) shows the list of funds received by the institute. SSIP 2.0 centre is established in the institute this year. Rupees four lakhs grant per year (under sharing basis) has been approved by Government of Gujarat for next four years.

Table 5.7.2(1) List of Research fund received from various agency

Academic Year	Fund received (₹)		Funding agency	Total (₹)
	Faculty	Fund		
CAYm1(2021-22)	Prof Milan R Patel	100196	SSIP- Surat, GTU	125196/-
CAYm2(2020-21)	Prof Milan R Patel	25000		

### 5.7.3 Development Activities

#### 5.7.3. (A) Research/Project laboratories

The Project Laboratory has been developed in research lab (workshop building) of Mechanical Engineering Department for design engineering and project work. Moreover, Computer centre has been facilitating in Room no. A30 for the students. Some additional Equipment are available such as Vertical machining centre, Casting tools, etc. which can be used for project or design engineering work.

Table 5.7.3 (A) (1) Details of facility available in Research Laboratory

Sr. No.	Name of the Laboratory	Items	Utilization of facilities
1	Computer Room	AutoCAD	Preparation of Drawing and drafting
2	Computer Room	MS/Office	Preparation of report writing
3	Computer Room	Solid works	Software for design and drafting

#### 5.7.3. (B) Instructional materials

Course brochure is developed by faculty member of mechanical engineering department to make student aware about their curriculum, course outcome, Programmed out come and programmed specific outcome. Further, various laboratory faculty in-charge has developed required instructional material which is mentioned in following Table 5.7.3 (B) (1).

Table 5.7.3 (B) (1) List of Instructional Materials developed in the department (2019-22)

Sr. No.	Name	Sem	Subject Code	Subject Name
1	Prof. Vishal Z Dhimmar	7 Old	2171909	Machine Design
		4	3141907	Fundamentals of Machine Design
2	Dr. Chetan P. Patel	5	3151909	Heat Transfer
		1 and 2	3110006	Basic Mechanical Engineering
		ME Sem 1	3710812	Computational Method for Mechanical Engineering
3	Dr. Shakil A. Kagzi	6	3161922	Advanced Manufacturing Processes

		7 Old	2171913	Metal Forming Analysis
		7 New	3171931	Nanotechnology and surface Engineering
		ME Sem 2	3722801	Mechanics of Metal Forming
		ME Sem 2	3722802	Advance Welding Technology
4	Prof. Milan R. Patel	5	3151912	Manufacturing Technology
		ME Sem 2	3722812	Flexible Manufacturing System
5	Dr. Arif M. Varsi	5	3151911	Dynamics of Machinery
		7 Old	2171903	Computer Aided Manufacturing
		6	3161917	Computer Aided Manufacturing
		ME Sem 2	3722808	Product Automation and CNC Technology
6	Prof. Priyank P. Dave	8 Old	2181910	Renewable Energy Engineering
		ME Sem 3	3730009	Waste to Energy
7	Prof. Hitesh A. Tailor	1 and 2	3110013	Engineering Graphics & Design
		3	3131906	Kinematics and Theory of Machines
		6	3161924	Entrepreneurship and E-business
8	Prof. Hiren B. Tamboli	1 and 2	3110013	Engineering Graphics & Design
		3	3131905	Engineering Thermodynamics
9	Prof. Rinkesh B. Patel	5	3151913	Oil Hydraulics And Pneumatics
		4	3141906	Fluid Mechanics and Hydraulics Machines
		5	3151910	Operation Research
10	Prof. Nilesh V. Rana	6	3161903	Computer Aided Design
11	Prof. Rikesh B. Prajapati	7 New	3171506	Project Management
12	Prof. Vivek B. Bhagat	7 New	3171917	Design of Machine elements
13	Prof. Mayank B. Parmar	4	3141901	Mechanical Measurement and Metrology
14	Dr. Nirav M. Patel	7 New	3171910	Power Plant Engineering
15	Prof. Pragnan M. Lad	7	3171918	Refrigeration and Air conditioning

### 5.7.3 (C) List of Working Models/chart/monogram

The list of working models available at the department along with their details are as shown in Table 5.7.3 (C) (1).

List of chart displayed in the department is shown in Table 5.7.3 (C) (2).

Table 5.7.3 (C) (1) List of working models

Sr. No.	Working Models/chart/monogram	Reason(s) for creating facility	Utilization
1	<ul style="list-style-type: none"><li>• Kinematic pairs scientific instrument</li><li>• Band brake Engineering models</li><li>• Universal coupling Engineering models</li><li>• Knuckle joint Engineering models</li><li>• Projection of straight line apparatus.: Engineering models</li><li>• Cam and follower scientific instrument</li><li>• Internally expanding brake Engineering models</li><li>• Plate clutch Engineering models</li><li>• Claw clutch Engineering models</li><li>• Scotch yoke mechanism Engineering models</li><li>• Gib and cotter joint Engineering models</li><li>• Band &amp; block brake Engineering models</li></ul>	Demonstration purpose, Visualization of mechanism,	For theory and practical purpose in Kinematics and Theory of Machine
2	Enlarge frame of Iron Carbon Diagram	Better understanding of various transformation of iron carbon alloys	For theory and practical purpose in Material Science and Metallurgy
3	Models of Geometrical Entities	Better visualization & understanding of Geometrical Entities	For theory and practical purpose in Engineering Graphics

4	<ul style="list-style-type: none"> <li>• Cotter Joint</li> <li>• Flexible coupling</li> <li>• Socket and spigot</li> <li>• Oldham coupling</li> </ul>	Better understanding of rational design	For theory and practical purpose in Design of Machine Elements
5	<ul style="list-style-type: none"> <li>• Sectional working model of 2 stroke diesel engine</li> <li>• Sectional working model of 2 stroke petrol engine</li> <li>• Sectional working model of 4 stroke diesel engine</li> <li>• Sectional working model of 4 stroke petrol engine</li> </ul>	Better understanding of Various process of IC engine	For theory and practical purpose in I. C. Engine
6	<ul style="list-style-type: none"> <li>• Cochran boiler model</li> <li>• Lancashire boiler model</li> <li>• Babcock and Wilcox boiler</li> <li>• steam engine model with boiler</li> </ul>	Better understanding of process of boiler and understanding of boiler mounting and accessories	For theory and practical purpose in Basic Mechanical Engineering

Table 5.7.3 (C) (2) List of chart

Sr. No	Chart name
1	Reciprocating pump
2	Loss due to friction in pipe
3	Loss due to pipe fitting
4	Centrifugal pump test rig
5	Pitot tube apparatus
6	Reynolds apparatus
7	Discharges over notches
8	Metacentric height apparatus
9	Reciprocating air compressor
10	Impact of jet on vanes
11	Francis turbine
12	Pelton wheel turbine



#### 5.7.4 Consultancy (from Industry): NIL

### 5.8 Faculty Performance Appraisal and Development System (FPADS)

Faculty members in our institution are responsible for a variety of tasks related to multiple responsibilities. They must innovate and conduct research to keep themselves up to date, remain informed with technology changes, and gain skills in order to properly integrate the curriculum. They are also expected to provide services to industry and the environment to better understand and contribute to the solution of real-world problems. Moreover, other responsibilities involve administrative duties and collaboration with other faculties, Head of Departments, and the Institute's Head. Hence, an appropriate faculty performance assessment system is very much essential to optimize individual faculty contributions to institutional performance. For continuous improvement of faculty, a well-defined framework is implemented by the Internal Quality Assessment Committee of the institute. Our institute faculty appraisal system is well defined and transparent. Faculties are required to fill out the appraisal report every year in the month of May-June. The whole appraisal system is transparent and time-bound.

The key points involved for the faculty Performance Appraisal Report are as under:

- ❖ Teaching Process
- ❖ Departmental Activities
- ❖ Institute Activity
- ❖ STTP/FDP organized/attended
- ❖ Academic research
- ❖ Research Guidance
- ❖ Contribution to Society

The sample appraisal report of a faculty is shown in Fig. 5.8(1)-(2). This appraisal report from all faculty members are reviewed by appraisal review committee. The members of the review committee are shown in Table 5.8 (1). And correspondingly actions are being taken.

Table 5.8 (1) Committee members for review of appraisal form

Sr. No.	Designation of Appraisal Review Committee	Name of Member
1	Chairman	Shri Kiritbhai Patel
2	Management Nominee	Shri Bharatbhai Patel
3	Member	Dr. Piyush Jain

## Faculty Performance Appraisal Form

<b>Name</b>	
<b>Present Position</b>	
<b>Department</b>	
<b>Academic Year</b>	
<b>Teaching-Process</b>	
<b>Qualification</b>	
<b>Date of joining</b>	

### A. Teaching Process

Sr. No	Exam	Semester	Course Code/Name	No. of Scheduled Classes	No. of actually held Classes	Students Appeared	Students Passed	Result (%)
1								
2								

### B. Departmental Activities

Sr. No	Semester	Activity
1		
2		
3		
4		

### C. Institute Activities

Sr. No	Semester	Activity
1		

### D. STTP/FDP Organized/Attended

D.1 Workshops/FDP/Conference approved by AICTE/UGC/GTU Attended as a Participant

Sr. No	Workshop/FDP/Conference Name	Organizing Institute	Duration	No. of days
1				

D.2 Workshops/FDP/Conference approved by AICTE/UGC/GTU Conducted as Coordinator/Organizing Member

Sr. No	Workshop/FDP/Conference Name	Role	Duration	No. of days
1				
2				

Fig. 5.8 (1) Sample appraisal form - First page of appraisal form of a faculty member

**E. Academic Research**

Publications in SCIE/Scopus/UGC/Repute Conference/book chapter approved by AICTE/ISTE/GTU etc.

Sr. No	Title	Category	Author	Journal/Conference Name with volume article page etc
1				

**F. Research Guidance**

Sr. No	Title of Project/Dissertation	BE/ME/Ph.D./DE
1		

**G. Contribution to Society**

Sr. No	Year	Activity
1		

**H. Research Projects Funded by Any Government Body**

S. No.	Research Project title	Sanctioned Organization	Amount	Remarks
1				

**I. Any Award/Recognition/Fellowship by Any Government Body**

S. No.		Award/Recognition/Fellowship	Organization	Date and Details	Remarks
1					

Faculty Sign: \_\_\_\_\_

HOD sign: \_\_\_\_\_

Principal Sign: \_\_\_\_\_

Approved by the head of department	Yes	No
Comment by head of Department		
Comment by Head of Institute		

Fig. 5.8 (2) Sample appraisal form - Second page of appraisal form of a faculty member

## 5.9 Visiting/Adjunct/Emeritus Faculty etc

Details of visiting faculty during different academic years are listed in Table 5.9(1)

Table 5.9 (1) Details of visiting faculty during the academic years

Sr. No.	Name	Designation	Education Qualification	Teaching/ Industry experience	Subject Taught/ Modern Tools	Details
1	Dr. Hitesh S. Jariwala	Visiting Faculty	Ph. D.	Academic : 17.5 Years	CAD Software/ Composite materials	2 hr. Per week. Total of 52 hr. Per academic year Interaction in CAYm3(2019-20), CAYm2 (2020-21) and CAYm1 (2021-22)
2.	Mr. Neelaykumar Saileshbhai Patel	Visiting Faculty	M. E. (Ph. D. Perusing)	Academic : 2 Years	CAD Software	2 hr. Per week. Total of 52 hr. Per academic year Interaction in A.Y. CAY (2022-23)

**6. Facilities and technical support (80)****6.1. Adequate and well-equipped laboratories and technical manpower (30)**

The department has an adequate number of laboratories for efficient curriculum delivery. Labs are spacious and well-equipped, offering excellent facilities for performing practical, projects, and research work. There are a total of 17 labs accessible for conducting experiments. All of the laboratories are kept up to date with records such as dead stock registers, SOPs, log books, and lab occupancy. The department's computer lab is equipped with high configurations of computers. The details of the laboratories along with the facilities available are provided in the table 6.1(1).

Table 6.1(1) List of adequate and well-equipped laboratories

Sr. No.	Name of the Laboratory	No. of Students per Setup (Batch size)	Name of the Important Equipment	Weekly Utilization status (all the Courses for which the Lab is Utilized)	Technical Manpower Support		
					Name of the Technical Staff	Designation	Qualification
1	Heat and Mass Transfer Laboratory	25	1. Composite wall Apparatus 2. Thermal conductivity of insulation powder 3. Thermal conductivity of metal rod. 4. Critical heat flux Apparatus. 5. Stefan Boltzmann Apparatus 6. Emissivity Measurement Apparatus 7. Forced Convection Apparatus. 8. Natural Convection Apparatus. 9. Pin fin Apparatus. 10. Shell and tube heat exchanger as water to water type. 11. Parallel flow/counter flow apparatus.	Odd 12 hours	Mrs. Bijal N. Vyas	Lab Assistant	Diploma in Mechanical
2		25	1. 4-stroke 4-cylinder	Odd			

	Internal Combustion Engine Laboratory		Petrol Engine test Rig (Morse test). 2. Single-cylinder diesel engine test rig 3. Compression ratio. valve lift in 4s engine 4. Single cylinder 4s petrol engine. 5. Single cylinder 2s petrol engine. 6. Variable Compression ratio engine. 7. Sectional view of 4s single-cylinder petrol engine. 8. Sectional view of 2s single-cylinder petrol engine. 9. Valve timing Diagram of 4s single cylinder petrol engine. 10. Port timing Diagram of 2s single cylinder petrol engine 11. Digital Anemometer.	12 hours	Mrs. Bijal N.Vyas	Lab Assistant	Diploma in Mechanical
3	Manufacturing Technology Laboratory	25	1. TIG Machine. 2. MIG Machine. 3. Arc Welding Machine.	Odd 12 hours	Mr. Jignesh P. Soni	Workshop Instructor	ITI
4	Computer-Aided Design Laboratory	25	1. Computer with suitable graphics facility. 2. Pro/Engineering University plus site Licenses. 3. Perpetual licenses of Solidworks (60 Nos.)	Even 12 hours	Mr. Ritesh A. Desai	Lab Assistant	Diploma in Mechanical
5	Computer-Aided Manufacturing Laboratory	25	Jyoti Make CNC Vertical Machining Center.	Even 12 hours	Mr. Kanti M. Parmar	Lab Assistant	ITI
6	Dynamics of Machinery Laboratory	25	1. Static and Dynamic balancing apparatus. 2. Whirling of shaft apparatus. 3. Universal vibration apparatus.	Odd 12 hours	Mr. Ritesh A. Desai	Lab Assistant	Diploma in Mechanical

7	Manufacturing Processes Laboratory	25	1. Center Lathe-14 Nos. 2. Shaper Machine -2 Nos. 3. Universal Gear Head Milling Machine-1 Nos. 4. Power Press 20L Radial Drill Machine 1 Nos. 5. Pillar drill machine 1 Nos.	Even 12 hours	Mr. Ajay I. Patel	Workshop Instructor	ITI
8	Refrigeration and Air-Conditioning Laboratory	25	1. Educational variable compression recycles test rig. 2. Educational Air-Conditioning test.	Odd 12 hours	Mr. Ritesh A. Desai	Lab Assistant	Diploma in Mechanical
9	Theory of Machine Laboratory	25	1. Motorize gyroscope Apparatus. 2. Governor apparatus CAM analysis. Apparatus. 3. Tachometer. 4. Generation of gear tooth profile. 5. Epicyclic gear train apparatus. 6. Digital Tachometer.	Odd 12 hours	Mrs. Bijal N. Vyas	Lab Assistant	Diploma in Mechanical
10	Production Technology Laboratory	25	1. Lathe tools dynamometer-2 Nos	Odd 12 hours	Mrs. Kanti M. Parmar	Workshop Instructor	ITI
11	Kinematics and Motion Laboratory	25	1. Kinematic pairs. 2. Band brake. 3. Universal coupling. 4. Knuckle joint. 5. Projection of Straight line apparatus. 6. Cam and follower instrument. 7. Internally expanding brake. 8. Gear set. 9. Plate clutch. 10. Claw Clutch. 11. Scotch Yoke Mechanism. 12. Gib and cotter joint. 14. Band & block brake. 15. Cotter Joint. 16. Flexible coupling. 17. Centrifugal Pump. 18. Socket and spigot. 19. Oldham coupling.	Odd 12 hours	Mrs. Bijal N. Vyas	Lab Assistant	Diploma in Mechanical

12	Fluid Power Engineering Laboratory	25	<ol style="list-style-type: none"> <li>1. Impact of Jet on Vanes</li> <li>2. Centrifugal Pump Test Rig</li> <li>3. Reciprocating Pump Test Rig</li> <li>4. Pelton Wheel Turbine Test Rig</li> <li>5. Frances Turbine Test Rig</li> <li>6. Double Stage Air Compressor Test</li> </ol>	Odd 12 hours	Mr. Ritesh A. Desai	Lab Assistant	Diploma in Mechanical
13	Material Science and Metallurgy Laboratory	25	<ol style="list-style-type: none"> <li>1. Radical' Inverted Binocular Microscope</li> <li>2. Digital Eyepiece Camera</li> <li>3. Std Samples of Metallurgical Microstructure (set of 23)</li> <li>4. Double Disc Polishing Machine</li> <li>5. Digital Muffle Furnace</li> <li>6. Rockwell Hardness tester with Dial</li> </ol>	Odd 12 hours	Mrs. Bijal N. Vyas	Lab Assistant	Diploma in Mechanical
14	Mechanical Measurement and Metrology Laboratory	25	<ol style="list-style-type: none"> <li>1. Vernier Calliper (150 mm)</li> <li>2. Vernier Calliper (200mm)</li> <li>3. Vernier Calliper (300mm)</li> <li>4. Outside micrometer (0-25mm)</li> <li>5. Outside micrometer (25-50mm)</li> <li>6. Outside micrometer (50-75mm)</li> <li>7. Inside micrometer (25-50mm)</li> <li>8. Depth vernier caliper (150mm)</li> <li>9. Magnetic stand Dial gauge (0.01mm)</li> <li>10. Gauge Block Set (83 pieces)</li> <li>11. Height Gauge (300 mm)</li> <li>12. Pitch Gauge</li> <li>13. Thickness gauge</li> <li>14. Spirit Level</li> </ol>	Even 12 hours	Mrs. Bijal N. Vyas	Lab Assistant	Diploma in Mechanical



			15. Telescopic Gauge 16. Sine bar (200mm) 17. V-Block (50×38×38) 18. Digimatic Micrometer 19. Digital Caliper IP54 12/300 mm 20. Bevel Protector 21. Gear Tooth Vernier Caliper				
15	Fluid Mechanics Laboratory	25	1. Metacentric Height Apparatus. 2. Bernoulli's Theorem Apparatus. 3. Discharge Through Venturi meter. 4. Orifice meter. 5. Losses due to friction in pipelines. 6. Discharge over notches 7. Reynolds's Apparatus 8. Losses due to pipe Fittings Sudden 9. Enlargement, and Contraction 10. Pitot Tube Setup	Even 12 hours	Mr. Ritesh A. Desai	Lab Assistant	Diploma in Mechanical
16	Basic Mechanical Engineering Laboratory	25	1. Sectional working model of 2 Stroke Diesel Engine 2. Sectional working model of 2 Stroke Petrol I Engine 3. Sectional working model of 4 Stroke Diesel Engine 4. Sectional working model 5. Lancashire Boiler model 6. Babcock and Wilcox Boiler model 7. Babcock and Wilcox boiler 8. Centrifugal pump 9. Kaplan turbine 10. Pelton turbine 11. Francis turbine 12. Steam engine model with boiler 13. Steam engine D	1 <sup>st</sup> year 12 hours	Mrs. Bijal N. Vyas	Lab Assistant	Diploma in Mechanical

			slide valve 14. Steam engine model 15. Shaper machine model				
17	Workshop	25	1. Carpentry vice (fitted to workbench) 24 sets. 2. Standard wood working tools 3. Fitting vice (fitted to workbench) 26 Nos 4. Arc welding transformer with cables and holders 1 No's. 5. Welding accessories like welding shield 2 No's, 6. Chipping hammer 20 No's, 7. Wire brush 20 No's and Tongs 20 No's. 8. Oxygen and acetylene gas cylinders each 1 No's. 9. Blowpipe and other welding outfit. 2 No's.	1 <sup>st</sup> year 12 hours	Mr. Hardip D. Patel	Workshop Instructor	ITI

### Availability of Qualified Technical Supporting Staff

All the laboratories in the department are well equipped with sufficient technical supporting staff to conduct experiments as per the curriculum. The details of the technical supporting staff with their designation and qualification are provided in Table 6.1(2).

Table 6.1(2) List of technical supporting staff

Sr. No	Name of Supporting Staff	Qualification of Supporting Staff	Designation of Supporting Staff
1	Mr. Ritesh A. Desai	Diploma in Mechanical	Lab Assistant
2	Mr. Bijal N. Vyas	Diploma in Mechanical	Lab Assistant
3	Mr. Jignesh P. Soni	ITI (Draftsman) (Fitter)	Workshop Instructor
4	Mr. Ajay I. Patel	ITI (Turner)	Workshop Instructor
5	Mr. Kanti M. Parmar	ITI (Fitter)	Workshop Instructor
6	Mr. Hardip D. Patel	ITI (Fitter)	Workshop Instructor

## 6.2 Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (25)

The department has additional laboratory facilities besides the curriculum to conduct the project and research. The details of the additional laboratory and the available facilities are provided in table 6.2(1). The details of correlation of additional facilities with PO's and PSO's are provided in table 6.2(2). The details of utilization of additional facilities are provided in Table 6.2(3).

Table 6.2 (1) List of additional facilities

Sr. No	Equipment Name	Details	Reason (s) for Creating Facility	Utilization	Areas in which Students are Expecting to have Enhanced learning	Relevance to Pos / PSOs
1	Foundry operation	1. Crucible Furnace 2. Cope and Drag box 3. Pattern 4. Green sand	To use 1. Molding 2. Liquid 3. Pouring 4. Mold Removing process	1. For Project work 2. For conducting beyond syllabus Experiments	To Learn Metal Castings. Liquid Pouring, Mold and removing the Mold Material or Casting process	PO 1, 2, 3, 4, 9, 10, 11, 12 PSO 1 PSO 2
2	VMC-Machine	1. Jyoti make Vertical Machining Center 2. Air Compressor 3. Air Dryer- 20 C. F. M 4. Elec. Automatic Regulator	To Use 1. Drilling, 2. Boring, 3. Counter Boring 4. Spot Facing 5. Countersinking, 6. Tapping, 7. Trepanning 8. Grinding, and 9. Lapping Operations	1. For Project work 2. For conducting beyond syllabus Experiments	To Learn the Drilling. Boring Counter boring, Spot Facing, Countersinking, Reaming, Tapping, Trepanning, Grinding, and Lapping Operations	PO 1, 2, 3, 4, 5, 9, 10, 11, 12 PSO 1 PSO 2
3	Vibratory Setup	Vibration table with the electric motor	To perform casting and welding process with vibration	1. For Project work 2. For conducting beyond syllabus Experiments	To learn and perform the importance of vibrations during casting and welding processes.	PO 1, 2, 3, 4, 9, 10, 11, 12 PSO 1 PSO 2
4	Stir Casting Setup	Stirrer equipped with the electric motor	To perform stir casting process	1. For Project work 2. For conducting beyond syllabus Experiments	To perform the stir-casting process	PO 1, 2, 3, 4, 9, 10, 11, 12 PSO 1 PSO 2

5	Single Point Incremental Forming setup	Sheet metal forming setup	To form the sheet components	1. For Project work 2. For conducting beyond syllabus Experiments	To learn and perform the incremental sheet metal forming operations on VMC	PO 1, 2, 3, 4, 5, 9, 10, 11, 12 PSO 1 PSO 2
6	Hot Incremental sheet forming	Sheet metal forming setup with heating facility	To form the sheet metal components with heating	1. For Project work 2. For conducting beyond syllabus Experiments	To learn and perform the Hot incremental sheet metal forming operations on VMC	PO 1, 2, 3, 4, 5, 9, 10, 11, 12 PSO 1 PSO 2
7	Friction Stir Welding setup	Friction Stir welding setup	To weld the metal components with a stirrer	1. For Project work 2. For conducting beyond syllabus Experiments	To learn and perform the welding operation with a rotating Stirrer on VMC	PO 1, 2, 3, 4, 5, 9, 10, 11, 12 PSO 1 PSO 2

Table 6.2(2) Mapping of additional facilities with PO's and PSO's

PO/PSO Facility	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
Foundry operation	√	√	√	√					√	√	√	√	√	√
VMC- Machine	√	√	√	√	√				√	√	√	√	√	√
Vibratory Setup	√	√	√	√					√	√	√	√	√	√
Stir Casting Setup	√	√	√	√					√	√	√	√	√	√
Single Point Incremental Forming setup	√	√	√	√	√				√	√	√	√	√	√
Hot Incremental sheet forming	√	√	√	√	√				√	√	√	√	√	√
Friction Stir Welding setup	√	√	√	√	√				√	√	√	√	√	√

Table 6.2(3) Utilization of additional facilities

Sr. No	Facilities	Student PEN	Student Name	Projects conducted on additional facilities
1	Foundry	120490119060	Patel Sagarkumar Surendrabhai	Experimental study of gating system for casting process and control measures taken to minimize the defects for aluminium.
2	Vibratory Setup	150490728017	Patel Nirmal Baldevbhai	Experimental investigation of the effects of vibration on mechanical properties of DSS2205.
		170490728019	Tailor Akshaykumar Dilipbhai	Experimental investigation on the effect of vibration on mechanical properties of duplex stainless steel UNS S32101 welded joint using GTAW.
		140490119076	Patel Divang I.	Investigation on effect of mold vibration on mechanical properties of aluminium during sand casting.
3	Stir Casting Setup	170490728023	Vashi Raghav Jayantibhai	Experimental investigation for influence of mechanical vibration on hybrid aluminium composite in gravity die casting.
		110490119028	Patel Raj Manishkumar	Investigation of mechanical properties of Al & Si composite.
		150490119101	Savaliya Bhumitkumar Labhubhai	Effect of die casting parameters on the aluminum alloy LM6 in Gravity Die Casting
4	Single Point Incremental Forming setup	160490728010	Patel Sankalpkumar Piyushbhai	Analysis of spring back effect in single point incremental forming on polymer.
		180490728005	Malek Nurulabsar Jafarhasan	Experimental investigation of formability in single point incremental forming of two dissimilar materials
		190490728005	Chaudhari Urmiket Ranjitbhai	Investigation on forming behaviour of hard to form material during single point incremental forming.
5	Hot Incremental sheet forming	200490728004	Khatri Yash Harshadbhai	Investigation on the effect of process parameter during hot incremental sheet forming of hard to form materials.
6	Friction Stir Welding setup	150490728009	Mahela Jaydeep Chimanbhai	Experimental study on the formability of Taylor welded blank produced using friction stir welding.
		170490728021	Vaghela Tinej Jagdishbhai	Experimental analysis on the effect of parameters on welding strength of underwater FSW of aluminium alloy.
		180490728008	Solanki Vikaskumar Chandrakant	Experimental comparison between friction stir welding and underwater friction stir welding on aluminium alloy & magnesium alloy with zinc interlayer.
		100490119055	Bharvad Mehulbhai Bachubhai	Experimental analysis of Friction stir welding.

		110490119058	Oza Priyankkumar Sureshbhai	Experimental Analysis of Friction Stir Welding of Aluminium Alloy with Using Different Tools
		130493119015	Patel Hardik Nileshbhai	Experimental analysis of single-pass and multi-pass Friction Stir Welding

**Additional facilities created for improving the quality of learning experience:**

**1. Teaching aids – chalk/white-board, multimedia projectors, etc.**

Details of teaching aids – chalk/white-board, multimedia projectors, etc. is provided Table 6.2 (4).

Table 6.2(4) Details of Teaching aids and Quantity

S NO	TEACHING AIDS	QUANTITY
1	Chalk board	1-No in each classroom
2	Seminar Hall	2 Nos
3	Overhead projectors	5 Nos
4	Learning resources	One for each course

**2. Acoustics, classroom, conditions of chairs/benches, air circulation, lighting exits, ambiance, and such other amenities/facilities**

Details of acoustics, classroom, conditions of chairs/benches, air circulation, lighting exits, ambiance, and such other amenities/facilities is provided in Table 6.2 (5).

Table 6.2(5) Details of classroom, conditions and facility

ROOM DESCRIPTION Class Room Number	CONDITIONS OF CHAIRS AND BENCHES	AIR CIRCULATION, LIGHTING, EXITS, AMBIANCE
W1	In Good Condition	<ul style="list-style-type: none"> <li>All the doors and windows in the rooms are wide to receive daylight and aeration.</li> <li>All the doors are sufficiently wide and available in adequate numbers to evacuate people inside in case of an emergency.</li> <li>The buildings are designed by professional architects, who give utmost care to providing academic ambiance in all the rooms.</li> </ul>
W2		
W3		
W4		
W5		
W6		
W7		
A32-R		
A32-L		
A32-S		
Workshop Drawing Hall		
A33 Drawing Hall		
A30 CAD Lab		
Research Lab		
Workshop Seminar Hall		

### 3. Additional facilities created for the students:

Additional facilities created for the students is provided Table 6.2 (6).

Table 6.2(6) Utilization of additional facilities

Sr. No	Additional Facilities	Details	Reasons for creating facilities	Utilization	Areas in Which students are expected to utilize
1	Tutorial Classes	Conducted for analytical courses	To improve problem solving skills for the students	As needed	Subjects opted by students
2	Expert Lectures	Conducted for the particular subject topic	To enhance student knowledge	As needed	Courses specified in Curriculum
3	Surveillance Cameras	IP cameras	To enhance the security of the department	12 Nos	Security purpose
4	Washrooms / Slope Steps	Each one	For differently-abled students	For regular usage	To ensure that the differently abled students access the campus hassle-free

### 6.3 Laboratories: Maintenance and Overall Ambience (10)

All the instruments of laboratories are regularly serviced, and necessary maintenance is carried out as required. All the laboratories are well maintained with documents like maintenance forms and maintenance logbooks. Lab technicians of each laboratory regularly assess all instruments, inform the lab in charge if any fault is found, and follow the maintenance procedure. The details of the infrastructure and facilities of the department are provided in Table 6.3(1). The details of the ambience of the department are provided in Table 6.3(2).

Table 6.3(1) Infrastructure and Facilities of the Department

Sr. No	Infrastructure and Facility	Maintenance and Overall Ambience
1	Laboratories	Regular maintenance of the machine is carried out. The budget is prepared based on academic requirements.
2	Equipment	Regular maintenance and records of equipment are maintained.
3	Computers	Lab instructor of the computer laboratory is responsible for the maintenance of systems and software.

4	Library	A faculty member is assigned as in-charge of the institute library. Students and faculty members of the department will make use of the books available.
5	Internet	Internet-related matters are maintained by computer instructors.
6	Electricity	Electrical maintenance will be carried out by electrical technician.

Table 6.3(2) Ambience of the Mechanical Engineering Department

1	All the Laboratories in the department are well equipped with components and equipment required for conducting experiments given in the Syllabus and beyond.
2	The lab has a good ambience and equipment, which are arranged properly so students feel very comfortable doing their experiments.
3	All the labs are equipped with good technical supporting staff available during working hours and beyond.
4	Projector and air-conditioning facilities in Research & Development Laboratory and CAD/CAM Laboratories.
5	Display of Vision, Mission, PO's, PEO's and display charts of the laboratories is maintained.
6	Preventive maintenance of the equipment is carried out on a regular basis. In case of major failure/repair, the service is carried out by external service providers.
7	At various locations, RO water plants provide drinking water facilities for students.
8	Cleanliness is maintained in the department by disposing of all the waste material on a daily basis with the help of sufficient manpower.
9	First Aid facility is maintained and monitored regularly.
10	All the labs have white-board/green board and Wi-Fi internet facilities.
11	Additional lab sessions are provided depending on the progress in the course practical work.

The process to conduct the maintenance of lab instruments and computers of the department is provided in the following chart. - Figure 6.3.(1) and Figure 6.3.(2)



### Process for conducting maintenance and repairs of lab equipments in the Department

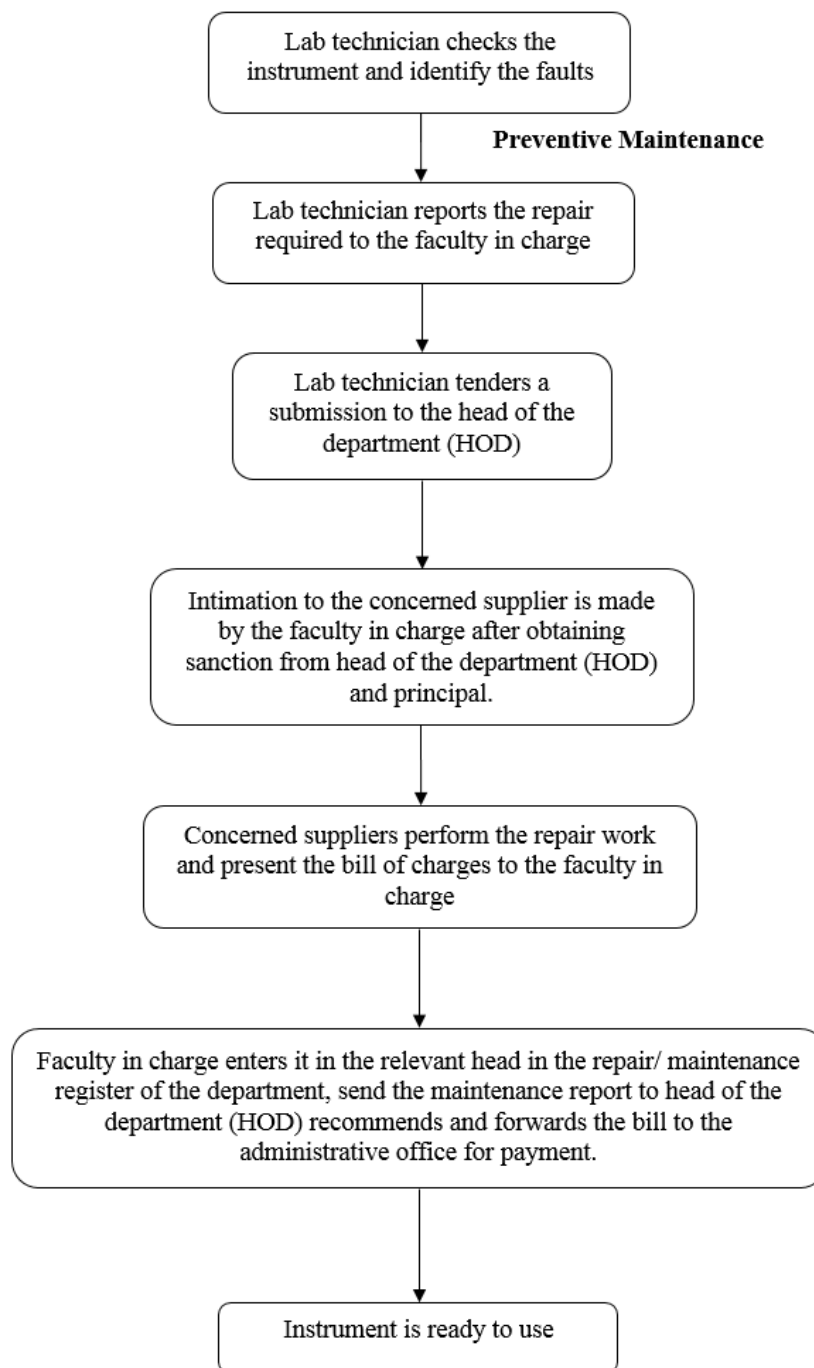


Figure 6.3. (1) Process for conducting maintenance and repairs of lab equipment in the department.

### Process for conducting maintenance and Repairs of the Computers in the Labs and Department

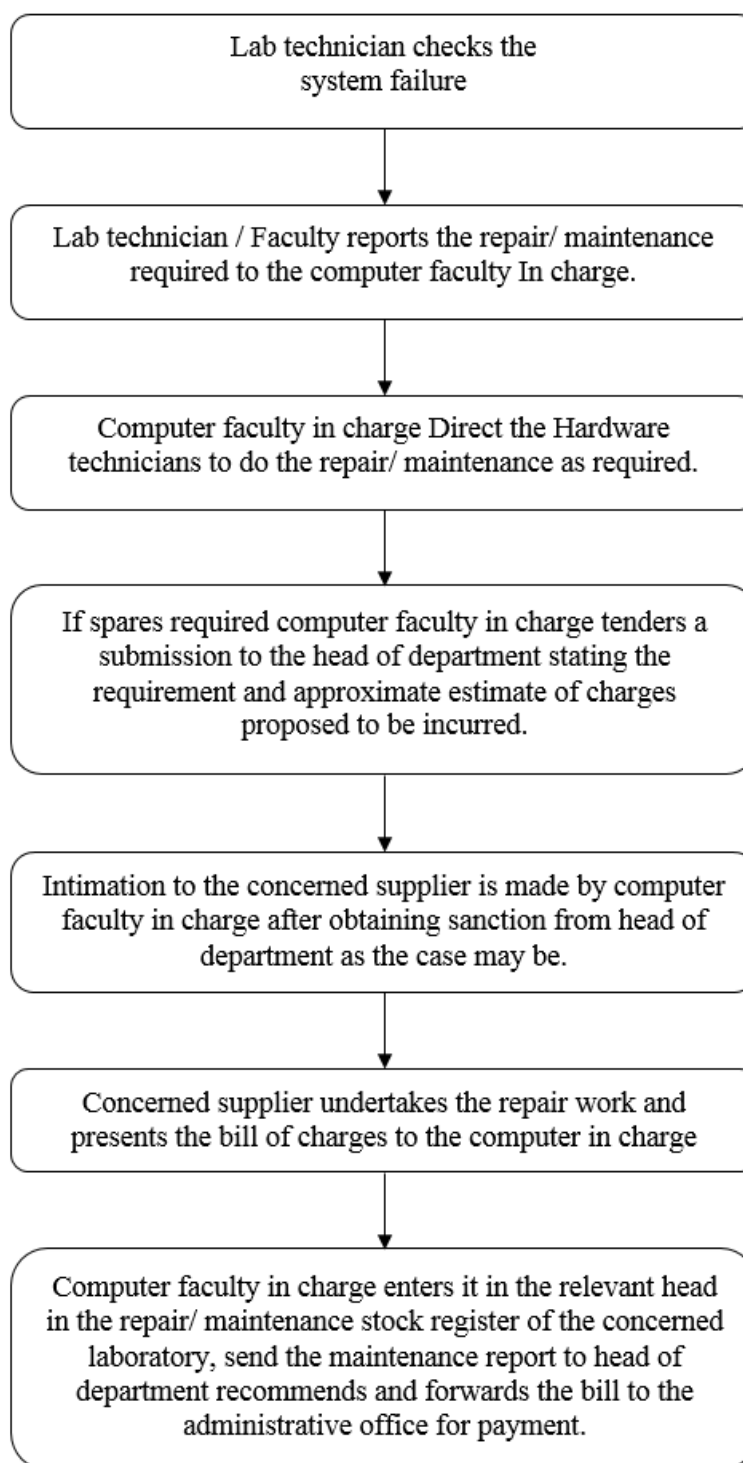


Figure 6.3. (2) Process for conducting maintenance and repairs of the computers in the labs and department.

#### 6.4 Project Laboratory (5)

The primary purpose of the project laboratory in our Mechanical Department is to provide the space and resources students need to complete their main project and mini-project work. The laboratory also serves as a meeting location for groups of students working on team projects. The old project reports and models are kept in the project lab premises. Most students utilized this project laboratory to work on supplemental learning projects to enhance their understanding of class and lab assignments. This Project Laboratory is used by third-year (sixth-semester), fourth-year (seventh- and eighth-semester) students, and research persons. The details of utilization of project lab is provided in table 6.4 (1).

Table 6.4(1) Utilization of Project Lab

Sr. No	Student PEN	Student Name	Project Title
1	100490119023	Sangdot Rasendrasinh Harendrabhai	Design and experimental analysis of solar cookers.
2	120490119014	Patel Jaykumar Yogeshbhai	Design and development of rice transplanter machine.
3	100490119052	Agravat Akash Bharatkumar	To design and development of cassava grating machine.
4	110490119027	Patel Tarangbhai Kanjibhai	Development of ball coal pulveriser machine.
5	100490119026	Jariwala Madhav Manojkumar	To manufacture induction furnace considering 10 kg capacity.
6	160493119012	Maisuriya Fenil Pareshbhai	Experimental investigation and parametric optimization of abrasive jet machining for glass using the Taguchi method.
7	140490119020	Chauhan Jainishkumar Vijaybhai	Design and development of floor cleaner machine.
8	150493119010	Maisuriya raj Vinodchandra	Design and modification of single-seating scooter.

#### 6.5 Safety Measures in Laboratories (10)

The department has sufficient safety measures in the classroom as well as in various laboratories, as provided in Table 6.5 (1). The detailed safety measure in each laboratory is provided in Table 6.5 (2).

Table 6.5 (1) Safety measures in the laboratory

Sr. No	Safety Measures
1	MCB and ELCB provide the safety of equipment and wires. MCB protects short circuits. Fuses provide protection from over currents. Every piece of equipment is supplied with proper earthing to protect from internal faults.
2	As the college has a multi-block academic ambience, precautions have been taken for the proper earthing.
3	All the academic floors have two or more entrances /exits, so in case of fire, immediate evacuation is possible.
4	The installed fire extinguishers were inspected and refilled after regular interval time.
5	The department is provided with first aid boxes in places identified to be critical. The medical aid facility is also provided in the campus, and for any serious medical issues, the hospital is located within our college campus.
6	Welding is performed under the supervision of lab technicians, and all safety measures are taken during the welding process.
7	Machines have safety covers over the movable parts to insure the safety of the operator.
8	Vibration damping pads are used during the installation of machines.
9	Proper gap is insured between the machines.
10	Additional safety equipment is utilized based on specific experiment requirements.

Table 6.5 (2) Specific Safety Measures in Various Laboratory

Sr. No	Name of the Laboratory	Safety Measures
1	Heat & Mass Transfer Laboratory	1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory. 2. First Aid Box 3. Fire Extinguishers.
2	Internal Combustion Engine Laboratory	1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory. 2. First Aid Box 3. Fire Extinguishers.
3	Manufacturing Technology	1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory. 2. Apron

		<ul style="list-style-type: none"> <li>3. Hand Gloves</li> <li>4. Welding goggles</li> <li>5. Safety shoes</li> <li>6. First Aid Box</li> <li>7. Fire Extinguishers.</li> <li>8. MCB switch</li> </ul>
4	Computer-Aided Design Laboratory	<ul style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers.</li> <li>4. Antivirus</li> </ul>
5	Dynamics of Machine Laboratory	<ul style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers.</li> </ul>
6	Manufacturing Process I Laboratory	<ul style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. Apron</li> <li>3. Hand Gloves</li> <li>4. Welding goggles</li> <li>5. Safety shoes</li> <li>6. First Aid Box</li> <li>7. Fire Extinguishers.</li> <li>8. MCB switch</li> </ul>
7	Refrigeration & Air Conditioning Laboratory	<ul style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers.</li> </ul>
8	Theory of Machine Laboratory	<ul style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers.</li> </ul>
9	Production Technology Laboratory	<ul style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. Apron</li> <li>3. Hand Gloves</li> <li>4. Welding goggles</li> <li>5. Safety shoes</li> <li>6. First Aid Box</li> <li>7. Fire Extinguishers.</li> </ul>

10	Kinematics of Machine Laboratory	<ol style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers.</li> </ol>
11	Fluid Power Engineering Laboratory	<ol style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers.</li> </ol>
12	Material Science Metallurgy Laboratory	<ol style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers</li> </ol>
13	Fluid Mechanics Laboratory	<ol style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers</li> </ol>
14	Elements of Mechanical Engineering Laboratory	<ol style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers</li> </ol>
15	Workshop Laboratory	<ol style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. Apron</li> <li>3. Hand Gloves</li> <li>4. Welding goggles</li> <li>5. Safety shoes</li> <li>6. First Aid Box</li> <li>7. Fire Extinguishers.</li> <li>8. MCB switch</li> </ol>
16	Mechanical Measurement and Metrology Laboratory	<ol style="list-style-type: none"> <li>1. Specific safety rules in the form of Do's and Don'ts are displayed in the laboratory.</li> <li>2. First Aid Box</li> <li>3. Fire Extinguishers</li> </ol>

**7. Continuous improvement (50)****7.1 Actions taken based on the results of the evaluation of each of the POs and PSOs (20)**

A review of the POs and PSOs attainment levels revealed the program's weak points. Measures to improve the attainment level of POs and PSOs for the assessment years have been identified and are being implemented. The DAAC evaluated the attainment levels of POs and PSOs and determined whether there was a positive or negative difference between the target and achieved attainment levels. They recommend and list various actions that must be taken in order to improve attainment levels for the next academic cycle and achieve continuous and overall program improvement.

For consecutive batches, attainment was determined based on the batch of students admitted in a given year and who graduated within the previous four academic years; the batches considered are as follows:

1. 2016-Batch, admitted in 2016-17 and graduated in 2019-20 (CAYm3).
2. 2017-Batch, admitted in 2017-18 and graduated in 2020-21 (CAYm2).
3. 2018-Batch, admitted in 2018-19 and graduated in 2021-22 (CAYm1).
4. 2019-Batch, admitted in 2019-20 and graduated in 2022-23 (CAY).

Thus, the attainment for the CAYm3, CAYm2, CAYm1, and CAY were taken as the batch attainment, i.e., 2016-Batch, 2017-Batch, 2018-Batch, and 2019-Batch. As a result, the necessary actions for improvement were implemented in the next batches.

1. The PO and PSO attainment level for 2016-Batch students and the actions taken for improvement on 2017-Batch Students are shown in Table 7.1.(1) and 7.1.(2), respectively.
2. The PO and PSO attainment level for 2017-Batch students and the actions taken for improvement on 2018-Batch Students are shown in Table 7.1.(3) and 7.1.(4), respectively.
3. The PO and PSO attainment level for 2018-Batch students and the actions taken for improvement on 2019-Batch Students are shown in Table 7.1.(5) and 7.1.(6), respectively.

4. The PO and PSO attainment level for 2019-Batch students and the actions taken for improvement on 2020-Batch Students are shown in Table 7.1.(7) and 7.1.(8), respectively.

Table 7.1. (1) PO Attainment Levels 2016 batch and Actions for Improvement in 2017 Batch

POs	Target Level	Attainment Level	Observations
<b>PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</b>			
PO1	1.66	1.89	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• The lateral entry students need assistance to get a solid foundation in mathematics or science at the initial stage of their engineering program.</li> <li>• Students need help understanding basic science and engineering concepts to fundamental engineering problems.</li> </ul>
<b>Actions taken on 2017 Batch:</b>			
<ol style="list-style-type: none"> <li>1. Various you-tube videos were suggested to watch prepared by institute faculty for improvement in engineering mathematics concepts and fundamental engineering knowledge.</li> <li>2. Conducted webinar entitled “Friction Stir Welding” on 05-06-2020 delivered by Dr. Shailesh Pandya, Assistant Professor, SVNIT, Surat, for students to understand the concept and engineering knowledge of the unique form of welding called friction stir welding.</li> <li>3. Conducted GUJCOST sponsored workshop entitled, “Application of natural fiber reinforced composites in the small and medium sector” from 17-06-2019 to 18-06-2019 delivered by Dr. A. A. Shaikh, Professor, Mechanical Engg. Department, SVNIT, Surat, Dr. Piyush Gohil, Associate Professor, M. S. University, Vadodara, and Dr. Vijaykumar Chaudhary Professor &amp; Head, CHARUSAT, Changa for students to understand the engineering concepts of composite materials &amp; their applications</li> </ol>			



and to learn various fabrication, testing, and characterization techniques of composites.			
<b>PO2: Problem Analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.</b>			
PO2	1.50	1.74	<p>The target level is attained. The following observations, however, were made:</p> <ul style="list-style-type: none"> <li>• Students find identification and analysis the engineering problem challenging, and they need more research exposure.</li> <li>• Students are not inclined towards the exploration of literature and reference books in relation to engineering sciences. Some students from lateral entry find it difficult to analyze and solve engineering problems.</li> </ul>
<b>Actions taken on 2017 Batch :</b> <ol style="list-style-type: none"> <li>1. The students are assigned various engineering problems to be analyzed and solved through Design Engineering and final-year IDP/UDP projects.</li> <li>2. Students were suggested to refer the reference books available in the library for problem analysis.</li> <li>3. Weak students are identified every semester based on the internal assessment conducted. Additional classes are conducted for weak students.</li> </ol>			
<b>PO3: Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</b>			
PO3	1.48	1.82	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Students need to improve their ability to adopt and solve the design engineering problems.</li> <li>• Students need guidance to correlate various design issues in the context of existing socio-economic problems.</li> </ul>

**Actions taken on 2017 Batch:**

Expert lectures were given to cover a variety of aspects of designing solutions for various design problems in relation to mechanical engineering.

1. Conducted a webinar entitled “Design Thinking Methodology for Innovation in Engineering” on 17-06-2020 delivered by Mr. Rohit Swarup, Founder Director – Explorra, Managing Trustee – IRF, and Mr. Karmjitsinh Bihola, Sr. Manager Innovation & Startup, Explorra – IRF for students to understand the fundamentals of Design Engineering and Design Thinking Methodology implementation for innovative problems in engineering.
2. Conducted webinar on “3D CAD/CAE Software: Solid Works” on 14-05-2020 delivered by Mr. Jitendrasinh, Sr. Application Engineer, SOPAN Institute of Engineering & Design for students to solve various design-related problems.
3. Conducted webinar entitled “AutoCAD Fusion 360 and its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre for students to understand the 3D design modeling and assembly.

**PO4: Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems.**

PO4	1.38	1.69	<p>The target level is marginally attained. However, the following observations were made:</p> <ul style="list-style-type: none"><li>• Students lack the intellectuality to comprehend complex analytical and design problems.</li><li>• The students require to extend their ability to analyze and solve problems experimentally as well as analytically.</li><li>• Students need more exposure to existing experimental techniques to correlate research-based knowledge for solving complex engineering problems.</li></ul>
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**Actions taken on 2017 Batch :**

1. More emphasis is given to solving complex analytical and design problems during regular lectures.
2. Conducted Industrial Visit at “Surat District Co-operative Milk Producers' Union Ltd (SUMUL), Surat” on 18-01-2020 in relation to the subject of Refrigeration and Air conditioning (RAC) in which students learned about the complex working and processing of VCR systems and automated process plan.
3. Conducted webinar entitled “AutoCAD Fusion 360 and its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre in which students learned to create the complex geometries and to analyze the complex design assembly problems.

**PO5: Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.**

PO5	1.19	1.54	<p>The target level is attained.</p> <ul style="list-style-type: none"><li>• Some students are not able to effectively use modern analytical software and CAD tools.</li><li>• More attention is needed to be given to the latest software used for design and analysis in relation to the various industries.</li><li>• Solving design problems using modern tools and analytical methods was found to be difficult.</li></ul>
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**Actions taken on 2017 Batch:**

1. Conducted webinar on “3D CAD/CAE Software: Solid Works” on 14-05-2020 delivered by Mr. Jitendrasinh, Sr. Application Engineer, SOPAN Institute of Engineering & Design for students to understand the modern tool used for designing: solid works.
2. Conducted webinar entitled “AutoCAD Fusion 360 and its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre for students to learn the modern tool used for industrial designing purpose: AutoCAD.

3. Conducted webinar entitled “Idea to MVP (Minimum Viable Product)” on 13-06-2020 delivered by Mr. Pancham Baraiya, Start-ups Mentor, Innovator & Strategic Planner, GTU Start-up & Innovation Centre, Surat.
4. Conducted webinar entitled “Manufacturing Process & ESPRIT CAM Software” on 09-06-2020 delivered by Mr. Mahek Mistry, Director, Sopan Group, Surat for the students to learn about the modern CAM tool used for manufacturing process.

**PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.**

PO6	1.18	1.49	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Many students find it difficult to understand the relevance of their academic learning to societal needs.</li> <li>• Students need exposure to understand the standard safety measures and procedures adopted at various professional engineering practices.</li> </ul>
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**Actions taken on 2017 Batch:**

1. Projects pertaining to the latest problems of society were analyzed with frequent interactions with industrial experts.
2. Industrial visits were organized for the students to understand various manufacturing processes, safety measures, and professional engineering practices followed at the industries.
  - Conducted industrial visit at “Jay Metal Tech”, Surat on 18-01-2019 in relation to the subject of Manufacturing Process.
  - Conducted Industrial Visit at “Surat District Co-operative Milk Producers' Union Ltd (SUMUL), Surat” on 18-01-2020 concerning the subject of Refrigeration and Air conditioning (RAC).
  - Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 24-01-2020 about the subject of Refrigeration and Air conditioning (RAC).

**PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**

PO7	1.09	1.44	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Students are often negligent towards environmental issues and lack an understanding of sustainable technological development.</li> <li>• Students need the acquaintance to explore environment-friendly alternatives over the conventional techniques that are adopted for professional engineering practices.</li> <li>• Students need to understand the impact of various aspects of industrial processing and methodology on the environment and sustainable development.</li> </ul>
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**Actions taken on 2017 Batch:**

1. Conducted tree plantation as a part of world environment day celebration on 05-06-2020 at SNPIT&RC followed by a speech on the theme of “Beat Plastic pollution” by Prof. Hitesh Tailor, Assistant Professor, SNPIT&RC to improve the awareness about environment and sustainability amongst the students.
  2. Conducted GUJCOST sponsored workshop entitled, “Application of natural fiber reinforced composites” from 17-06-2019 to 22-06-2019 delivered by Dr. A. A. Shaikh, Professor, Mechanical Engg. Department, SVNIT, Surat, Dr. Piyush Gohil, Associate Professor, M. S. University, Vadodara, and Dr. Vijaykumar Chaudhary Professor & Head, Charusat, Changa for the participants to understand the environmentally benefitted natural fibre reinforced composites.
- Conducted following an industrial visit to understand the impact of various aspects of industrial processing and methodology on environment and sustainability.
3. Conducted industrial visit at “Jay Metal Tech”, Surat on 18-01-2019 in relation to the subject of Manufacturing Process.
  4. Conducted Industrial Visit at “Surat District Co-operative Milk Producers' Union Ltd (SUMUL), Surat” on 18-01-2020 in relation to the subject of Refrigeration and Air conditioning (RAC).

5. Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 24-01-2020 in relation to the subject of Refrigeration and Air conditioning (RAC).			
<b>PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</b>			
PO8	0.99	1.29	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>Students are not understanding the professional ethics, norms, and codes used to improve the quality and standard of engineering practices.</li> <li>The students are not clear about the importance of ethical practice in engineering education.</li> </ul>
<b>Actions taken on 2017 Batch:</b>			
<ol style="list-style-type: none"> <li>Conducted webinar on “Concept of quality engineering and TQM” on 25-05-2020 delivered by Dr. Tushar Desai, Professor, MED, SVNIT for students to learn about the standards and ethics to be maintained for quality engineering processes.</li> <li>Organized an online project fair on 02-05-2021 at SNPIT&amp;RC for students to have exposure to academic experts and to receive reviews/suggestions for students to learn professional ethics, responsibilities, and norms of the engineering practice.</li> <li>Additional webinar entitled “New National Education Policy 2020” on 22-09-2020 delivered by the internal faculties of SNPIT&amp;RC i.e., Dr. Koshal Kishor and Dr. Mayuri Prajapati for students to introduce the standards, norms, and ethical principles of new education.</li> </ol>			
<b>PO9: Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.</b>			
PO9	1.20	1.55	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>Students find it difficult to work effectively in a multidisciplinary environment and to understand the importance of teamwork for scenarios that involve multiple analyses.</li> <li>The absence of coordination among the team members during the project work has been observed sometimes.</li> </ul>

**Actions taken on 2017 Batch:**

1. To work effectively as an individual and as a member of the team, Design Engineering and final-year projects were assigned to students.
2. Organized online project fair on 02-05-2021 at SNPIT&RC in which the final year students presented their project work as an individual or in a group in front of experts and received of received reviews/suggestions for their final year project. This helps students to learn to work with team members of different capabilities and backgrounds.
3. Active learning assignments were given to the students to develop and improve their ability to work as individuals and in the team.

**PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.**

PO10	1.16	1.50	<p>The target level is attained.</p> <ul style="list-style-type: none"><li>• The students' skills in communication presentation and report writing need to be improved further.</li><li>• Students find it difficult to generate technical reports based on engineering problems.</li><li>• Students find it challenging to present technical activities properly to the engineering community.</li></ul>
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**Actions taken on 2017 Batch:**

1. The training and recruitment awareness webinar was organized by SNPIT&RC from 23-03-2021 to 27-03-2021 to improve communication skills and student performance for on-campus or off-campus recruitments.
2. Organized an online project fair on 02-05-2021 at SNPIT&RC for students to improve communication and presentation skills through discussion with experts and learning new outcomes about the ongoing projects.
3. Through laboratory sessions, technical report writing and presentation of results were emphasized.

**PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.**

PO11	1.26	1.81	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Students are less exposed to the overall management and financial aspects of an engineering project.</li> <li>• Many Students are required to improve their leadership ability to manage technical projects effectively.</li> <li>• Students need exposure to gain an understanding in applying design and analysis knowledge for better project economics.</li> </ul>
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**Actions taken on 2017 Batch:**

1. In the subjects like Design Engineering and IDP/UDP, students learn about economics and business opportunities.
2. Organized an online project fair on 02-05-2021 for students to have exposure to academic experts and to receive reviews/suggestions to improve their project management abilities.

**PO12: Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.**

PO12	1.26	1.54	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• The pre-final year and final year course gaps are to be fulfilled in such a way that it serves as a resource for solving contemporary issues and lifelong learning.</li> <li>• Adaptation of new technologies will improve lifelong learning.</li> <li>• The importance of life-long learning methods is required to be imparted to students.</li> </ul>
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**Actions taken on 2017 Batch:**

The following activities are performed with a view of improving the skills and abilities of the students in terms of life-long learning and understanding.

1. The training and recruitment awareness seminar was organized by SNPIT&RC from 23-03-2021 to 27-03-2021 to improve student performance for on-campus or off-campus recruitments.
2. Conducted webinar on “3D CAD/CAE Software: Solid Works” on 14-05-2020 delivered by Mr. Jitendrasinh, Sr. Application Engineer, SOPAN Institute of Engineering & Design.
3. Conducted webinar entitled “Entrepreneurship Development” on 19-05-2020 delivered by Mr. Amit Yadav, CEO, Dechcept Private Limited.
4. Conducted Industrial Visit at “Surat District Co-operative Milk Producers' Union Ltd (SUMUL), Surat” on 18-01-2020 in relation to the subject of Refrigeration and Air conditioning (RAC).
5. Conducted webinar entitled “AutoCAD Fusion 360 and its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre.

Table 7.1. (2) PSO Attainment Levels for 2016 Batch and Actions for Improvement in 2017 Batch

PSOs	Target Level	Attainment Level	Observations
<b>PSO1: Able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.</b>			
PSO1	1.48	1.76	The target level is marginally attained. <ul style="list-style-type: none"><li>• The students require more practice to understand and analyze the concepts and fundamentals of mechanical engineering subjects.</li><li>• The students need to have more exposure to how to correlate their fundamental knowledge to the various applications of thermal, fluid, energy design and production engineering.</li></ul>

**Actions taken on 2017 Batch:**

1. Assignments and question banks were given to students for better understanding for the subjects of thermal, fluid, energy design and production engineering.
2. Conducted GUJCOST sponsored workshop entitled, “Application of natural fibre reinforced composites” from 17-06-2019 to 18-06-2019 delivered by Dr. A. A. Shaikh, Professor, Mechanical Engineering Department, SVNIT, Surat, Dr. Piyush Gohil, Associate Professor, M. S. University, Vadodara and Dr. Vijaykumar Chaudhary Professor & Head, Charusat, Changa for students to understand and analyze the fundamentals of production engineering.
3. Conducted webinar entitled “Friction Stir Welding” on 05-06-2020 delivered by Dr. Shailesh Pandya, Assistant Professor, SVNIT, Surat for students to understand and analyze the fundamentals of production engineering.

**PSO2: Able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.**

PSO2	1.34	1.62	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• Students needed to have better exposure to the latest tools and techniques developed/used by various industries in relation to the various applications.</li> <li>• The students need to improve the ability to apply the subjective knowledge to the relevant targeted applications or industries.</li> </ul>
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**Actions taken on 2017 Batch:**

Following actions were taken to improve the abilities of the students to analyze and solve the problems using various computational and mathematical tools.

1. Conducted webinar on “3D CAD/CAE Software: Solid Works” on 14-05-2020 delivered by Mr. Jitendrasinh, Sr. Application Engineer, SOPAN Institute of Engineering & Design.
2. Conducted webinar entitled “AutoCAD Fusion 360 & its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre.

3. Conducted webinar entitled “Manufacturing Process & ESPRIT CAM Software” on 09-06-2020 delivered by Mr. Mahek Mistry, Director, Sopan Group, Surat.

Table 7.1. (3) PO Attainment Levels of 2017 Batch and Actions for Improvement in 2018 Batch

POs	Target Level	Attainment Level	Observations
<b>PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</b>			
PO1	1.80	1.91	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• Students require a fundamental knowledge bridge to transit from the school level to the initial engineering stage as a prerequisite.</li> <li>• Students need assistance applying basic science and engineering concepts to solve fundamentally novel engineering problems.</li> <li>• Some lateral entry students are not exposed to fundamental mathematics /Science subjects before joining their engineering course.</li> </ul>
<b>Actions taken on 2018 Batch:</b>			
<ol style="list-style-type: none"> <li>1. The bridge course/Induction program is organized by the institute before the commencement of the actual semester to provide adequate time for the new students to transition to engineering courses. The program consists of initial, regular, and closing phases. It includes a module on physical activities, creative arts, universal human values, literacy, proficiency modules, lectures by eminent people, and a visit to the local area and industry.</li> <li>2. Conducted online STTP (Short term training Program) entitled “Nanotechnology: Materials, Characterization, Synthesis and Applications” from 06-09-2021 to 12-09-2021 for the students to understand the engineering concepts associated with</li> </ol>			

Nanotechnology and its applications about the subject of Nanotechnology and Surface Engineering.			
3. Conducted webinar entitled “Industrial engineering” on 15-09-2020 delivered by Dr. Tushar N. Desai, Professor, Mechanical Engineering Department, SVNIT, Surat, to develop the knowledge of Industrial Engineering among the students.			
4. Various you-tube videos were suggested to watch prepared by institute faculty for improvement in engineering mathematics concepts.			
<b>PO2: Problem Analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.</b>			
PO2	1.62	1.76	<p>The target level is marginally attained. However, the following observations were made:</p> <ul style="list-style-type: none"> <li>• Students find it difficult to identify, analyze and solve the concentrated engineering problem.</li> <li>• Students need exposure to the exploration of literature and reference books in to improve the problem-solving abilities.</li> <li>• Research exposure to the students is more required.</li> </ul>
<b>Actions taken on 2018 Batch:</b>			
1. To identify, formulate and analyse engineering science problem, various problems were assigned to students through design Engineering (DE) and final year projects.			
2. Students were suggested to refer the reference books available in the library for problem analysis.			
3. The problem analysis abilities were enhanced through active learning assignments included in most of the subjects.			
<b>PO3: Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</b>			
PO3	1.60	1.83	The target level is attained.

			<ul style="list-style-type: none"> <li>• Students find it difficult to solve the complex and innovative design engineering problems.</li> <li>• To enhance the abilities of students in the direction of getting innovative design and development solutions, they are needed to be provided with exposure to advanced design solution techniques.</li> </ul>
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**Actions taken on 2018 Batch:**

1. Conducted a webinar entitled “Design Thinking Methodology for Innovation in Engineering” on 17-06-2020 delivered by Mr. Rohit Swarup, Founder Director – Explorra, Managing Trustee – IRF and Mr. Karmjitsinh Bihola, Sr. Manager Innovation & Startup, Explorra – IRF for students to understand the fundamentals of Design Engineering and Design Thinking Methodology implementation for innovative problems in engineering.
2. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harshit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre for students to develop their design and modeling skills.

**PO4: Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems.**

PO4	1.50	1.72	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Students find it challenging to solve the complex engineering problems by applying the research-based knowledge and need better exposure to overcome it.</li> <li>• Students required the development of mindset to carry out elaborate literature review and propose suitable design of experiments.</li> </ul>
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**Actions taken on 2018 Batch:**

1. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harshit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre for solving the complex problems associated with various engineering applications.
2. Conducted online summer internship entitled “Computer Assisted design and machining (CADM-2021)” from 31-05-2021 to 12-06-2021 in association with SOPAN Institute of Engineering & Design Centre for understanding and solving the complex engineering problems in relation to the subject of CAD-CAM.

**PO5: Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.**

PO5	1.29	1.56	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• It is observed that Up-gradation soft-tools and resources are necessary to meet the industry standards and research.</li> </ul>
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**Actions taken on 2018 Batch:**

1. Conducted webinar on “3D CAD/CAE Software: Solid Works” on 14-05-2020 delivered by Mr. Jitendrasinh, Sr. Application Engineer, SOPAN Institute of Engineering & Design for students to solve the various problems by modern design software.
2. Conducted webinar entitled “AutoCAD Fusion 360 and its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre for students to understand the 3D design modeling and assembly.
3. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harsit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre to bridge the gap between academic and industrial practice regarding 3D Modelling and Analysis with the help of technical software.

**PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.**

PO6	1.28	1.50	The target level is attained.
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			<ul style="list-style-type: none"> <li>Students need exposure to understand the standard safety measures and standard procedures adopted at various professional engineering practices.</li> <li>Students are to be encouraged for solving and improving the health issues associated with society.</li> </ul>
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#### **Actions taken on 2018 Batch:**

Following industrial visits were organized for the students to understand various manufacturing processes, safety measures and professional engineering practices followed at the industries.

1. Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 18-01-2020 for students to get aware of the professional practice and safety followed for the food and health industries. A total of 69 students of 2<sup>nd</sup> year B.E. Mechanical engineering students have visited the industry.
2. Conducted Industrial Visit at “Shree Khedut Sahakari Khand Udhog Mandli Ltd.” on 07-03-2020 for students to understand various safety precautions followed at industries for performing various manufacturing processes.
3. Celebrated “Yoga day” online mode during 01-06-2021 to 21-06-2021 to encourage the students for solving and improving the health issues associated with society.

**PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**

PO7	1.18	1.44	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>Need to improve global and Environmental awareness programs for sustainable development.</li> </ul>
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#### **Actions taken on 2018 Batch:**

1. Celebrated “World Environment Day” at SNPIT&RC Cricket Ground on 05-06-2020 to encourage the students for understanding the responsibility towards the environment and sustainability.

Conducted following an industrial visit to understand the impact of various aspects of industrial processing and methodology on the environment and sustainability.

2. Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 18-01-2020 for students to get aware of the professional practice and safety followed for the food and health industries. A total of 69 students of 2<sup>nd</sup> year B.E. Mechanical engineering students have visited the industry.
3. Conducted Industrial Visit at “Shree Khedut Sahakari Khand Udhog Mandli Ltd.” on 07-03-2020 for students to understand various safety precautions followed at industries for performing various manufacturing processes.

**PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.**

PO8	1.07	1.27	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• Students are to be encouraged to take part in interdisciplinary competitions to understand and experience the importance of ethical principles.</li> <li>• The students are needed to get an awareness about the importance of ethics in profession life as well as for their overall character building.</li> </ul>
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**Actions taken on 2018 Batch:**

1. Conducted webinar on “Santitization of Mind” on 06-06-2020 delivered by Gyanvatsal Swami, popular motivational speaker and social reformer from Akshardham, BAPS Swaminarayan mandir for students to learn about the Work-Life balance, Ethics in Profession, Character building, etc.
  2. To encourage students to Participation in Co-Curricular activities and Games and promote commitment to ethical principles and an understanding of sportsmanship and that participation is more important than winning.
- March 2022: A total of 05 Students participated in different activities under the event “FOOTPRINTS 2022” organized by M. S. University, at Baroda.

**PO9: Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.**

PO9	1.30	1.54	The target level is attained.
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			<ul style="list-style-type: none"> <li>It is vital to improve the ability of the students to work in groups by providing them exposure as well as a platform to work as a team for the completion of tasks.</li> </ul>
<b>Actions taken on 2018 Batch:</b> <p>Various cultural events like ‘XITIJ-2019’, and technical events like ‘Technokruti 2019’ are organized by SNPIT&amp;RC where students work in teams and gain managerial and organizational skills.</p> <ol style="list-style-type: none"> <li>Conducted “GTU Zonal Youth Festival (Zone-5) XITIJ: 2019” from 19-09-2019 to 21-09-2019 at SNPIT&amp;RC organized by Gujarat Technological University (GTU) at zonal level (zone-5, Surat).</li> <li>Organized a technical event “Technokruti 2019” during 21-02-2019 &amp; 22-02-2019 at the SNPIT&amp;RC.</li> <li>Organized a technical event “Technokruti 2022” during 28-04-2022 &amp; 29-04-2022 at the SNPIT&amp;RC.</li> </ol>			
<b>PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.</b>			
PO10	1.26	1.48	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>The students' communication, presentation, and report-writing skills need to be enhanced further.</li> </ul>
<b>Actions taken on 2018 Batch:</b> <p>Students are encouraged to participate in different curricular, co-curricular and extra-curricular events within and outside the institute at the state and national level to learn and improve communication skills.</p> <ol style="list-style-type: none"> <li>Organized a technical event “Technokruti 2022” from 28-04-2022 to 29-04-2022 at the SNPIT&amp;RC.</li> <li>Organized a technical event “Technokruti 2019” during 21-02-2019 to 22-02-2019 at the SNPIT&amp;RC.</li> </ol>			
<b>PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to</b>			

**one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.**

PO11	1.36	1.78	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>Few courses in the curriculum cover management principles and how to apply them to one's work, including financial consequences and multi-disciplinary project management.</li> </ul>
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**Actions taken on 2018 Batch:**

1. In the subjects like Design Engineering and IDP/UDP, students learn about economics and business opportunities.
2. Active learning assignments were given to the students to develop and improve their ability to work as individuals and in the team.

**PO12: Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.**

PO12	1.36	1.54	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>To make students aware of the latest technological change that exists in the professional practice they are to be provided with the actual exposure of various engineering organizations.</li> <li>Adaptation of new technologies will improve lifelong learning.</li> </ul>
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**Actions taken on 2018 Batch:**

The following activities are performed with a view of improving the skills and abilities of the students in terms of life-long learning and understanding.

1. Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 18-01-2020 for students to get aware of the professional practice and safety followed for the food and health industries. A total of 69 students of 2<sup>nd</sup> year B.E. Mechanical engineering students have visited the industry.

2. Conducted Industrial Visit at “Shree Khedut Sahakari Khand Udhyog Mandli Ltd.” on 07-03-2020 for students to understand various safety precautions followed at industries for performing various manufacturing processes.
3. Conducted webinar on “3D CAD/CAE Software: Solid Works” on 14-05-2020 delivered by Mr. Jitendrasinh, Sr. Application Engineer, SOPAN Institute of Engineering & Design for students to solve the various problems by modern design software.
4. Conducted webinar entitled “AutoCAD Fusion 360 and its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre for students to understand the 3D design modeling and assembly.
5. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harsit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre to bridge the gap between academic and industrial practice regarding 3D Modelling and Analysis with the help of technical software.

Table 7.1.(4) PSO Attainment Levels for 2017 Batch and Actions for Improvement in 2018 Batch

PSOs	Target Level	Attainment Level	Observations
<b>PSO1: Able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.</b>			
PSO1	1.61	1.80	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• The students require more practice to understand and analyze the concepts and fundamentals of mechanical engineering subjects.</li> <li>• The students need to have more exposure to how to correlate their fundamental knowledge to the various applications of thermal, fluid, energy design, and production engineering.</li> </ul>
<b>Actions taken on 2018 Batch:</b>			
1. Conducted online STTP (Short term training Program) entitled “Nanotechnology: Materials, Characterization, Synthesis and Applications” from 06-09-2021 to 10-09-			

<p>2021 for the students to understand the engineering concepts associated with Nanotechnology and its applications in relation to the subject of Nanotechnology and Surface Engineering.</p> <p>2. Conducted webinar entitled “Industrial engineering” on 15-09-2020 delivered by Dr. Tushar N. Desai, Professor, Mechanical Engineering Department, SVNIT, Surat to develop the knowledge of Industrial Engineering among the students.</p> <p>3. Assignments and question banks were given to students for a better understanding of the subjects of thermal, fluid, energy design, and production engineering.</p>			
<p><b>PSO2: Able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.</b></p>			
PSO2	1.45	1.64	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>Students needed to have better exposure to the latest tools and techniques developed/used by various industries in relation to the various applications.</li> <li>The students need to improve their ability to apply subjective knowledge to the relevant targeted applications or industries.</li> </ul>
<p><b>Actions taken on 2018 Batch:</b></p> <p>The following actions were taken to improve the abilities of the students to analyze and solve the problems using various computational and mathematical tools.</p> <p>1. Conducted webinar on “3D CAD/CAE Software: Solid Works” on 14-05-2020 delivered by Mr. Jitendrasinh, Sr. Application Engineer, SOPAN Institute of Engineering &amp; Design for students to solve the various problems by modern design software.</p> <p>2. Conducted webinar entitled “AutoCAD Fusion 360 and its applications as engineering tool” on 01-06-2020 delivered by Mr. Darpan Vaghasiya, CAD trainer, Khodiyar CAD Centre for students to understand the 3D design modeling and assembly.</p> <p>3. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harsit Patel, Sr. Application Engineer SOPAN Institute of Engineering &amp; Design Centre to bridge the gap between academic</p>			

and industrial practice regarding 3D Modelling and Analysis with the help of technical software.

Table 7.1. (5) PO Attainment Levels of 2018 Batch and Actions for Improvement in 2019 Batch

POs	Target Level	Attainment Level	Observations
<b>PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</b>			
PO1	1.91	1.92	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Students require a fundamental knowledge bridge to transit from the school level to the initial stage of engineering as a prerequisite.</li> <li>• Students need assistance to apply basic concepts of science and engineering to solve fundamentally novel engineering problems.</li> <li>• Some lateral entry students are not exposed to fundamental mathematics /Science subjects before joining their engineering course.</li> </ul>
<b>Actions taken on 2019 Batch:</b>			
<ol style="list-style-type: none"> <li>1. Bridge course/Induction program is organized by the institute before the commencement of the actual semester to provide adequate time for the new students for transition to engineering courses. The program consists of an initial phase, regular phase and closing phase and it includes a module on physical activities, creative arts, universal human values, literacy, proficiency modules, lectures by eminent people, and visit to local area and industry.</li> <li>2. Conducted online Expert Lecture entitled “Operational research” on 06-10-2021 delivered by Dr. D. B. Naik, Ex. Professor &amp; Head, Training &amp; Placement, SVNIT, Surat for the students to understand the engineering concepts in relation to the subject of Operational Research.</li> </ol>			

<p>3. Conducted webinar entitled “Industrial engineering” on 15-09-2020 delivered by Dr. Tushar N. Desai, Professor, Mechanical Engineering Department, SVNIT, Surat to develop the knowledge of Industrial Engineering among the students.</p> <p>4. Various you-tube videos were suggested to watch prepared by institute faculty for improvement in engineering mathematics concepts.</p>			
<p><b>PO2: Problem Analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.</b></p>			
PO2	1.75	1.80	<p>The target level is marginally attained. However, the following observations were made:</p> <ul style="list-style-type: none"> <li>• Students find it difficult to identify, analyze and solve the concentrated engineering problem.</li> <li>• Students need exposure to the exploration of literature and reference books in to improve their problem-solving abilities.</li> <li>• Research exposure to the students is more required.</li> </ul>
<p><b>Actions taken on 2019 Batch:</b></p> <p>1. To identify, formulate and analyze engineering science problems, various problems were assigned to students through design Engineering (DE) and final-year projects.</p> <p>2. Students were suggested to refer the reference books available in the library for problem solution.</p> <p>3. The problem analysis abilities were enhanced through active learning assignments included in some of the subjects.</p>			
<p><b>PO3: Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</b></p>			
PO3	1.71	1.81	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• Students find it difficult to solve complex and innovative design engineering problems.</li> </ul>

			<ul style="list-style-type: none"> <li>To enhance the abilities of students in the direction of getting innovative design and development solutions, they are needed to be provided with exposure to advanced design solution techniques.</li> </ul>
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**Actions taken on 2019 Batch:**

1. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harshit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre for students to develop their design and modeling skills.
2. The department focuses on design engineering courses and their outcomes on a variety of design aspects such as public health, safety, cultural, societal, and environmental needs. From the third semester onwards, students are trained in stages until the sixth semester on various aspects of design in design engineering 1A, 1B, 2A, and 2B.

**PO4: Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems.**

PO4	1.50	1.68	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>Students find it challenging to solve complex engineering problems by applying research-based knowledge and need better exposure to overcome them.</li> <li>Students required the development of a mindset to carry out elaborate literature reviews and propose suitable designs of experiments.</li> </ul>
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**Actions taken on 2019 Batch:**

1. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harshit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre for solving the complex problems associated with various engineering applications.

2. Conducted an online Expert Lecture entitled “Operational research” on 06-10-2021 for the students to understand the complex problems associated with the subject of Operational Research.

**PO5: Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.**

PO5	1.54	1.77	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• However, it is believed that the Up-gradation of soft tools and resources is necessary to meet the industry standards and research.</li> </ul>
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**Actions taken on 2019 Batch:**

1. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harsit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre to bridge the gap between academic and industrial practice regarding 3D Modelling and Analysis with the help of technical software.
2. Students are exposed to various E-resources & online video lectures delivered by agencies like Swayam NPTEL courses related to modern tools and techniques for engineering applications.

**PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.**

PO6	1.31	1.51	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• Students need exposure to understand the standard safety measures and standard procedures adopted at various professional engineering practices.</li> <li>• Students are to be encouraged for solving and improving the health issues associated with society.</li> </ul>
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**Actions taken on 2019 Batch:**



Industrial visits were organized for the students to understand various manufacturing processes, safety measures, and professional engineering practices followed at the industries.

1. Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 12-10-2022 for students to get aware of the professional practice and safety followed for the food and health industries. A total of 73 students of 4<sup>th</sup> year B.E. Mechanical engineering students have visited the industry.
2. Conducted Industrial Visit at “Shree Khedut Sahakari Khand Udhog Mandli Ltd.” on 07-03-2020 for students to understand various safety precautions followed at industries for performing various manufacturing processes.
3. Celebrated “Yoga Day” online mode from 01-06-2021 to 21-06-2021 to encourage the students for solving and improving the health issues associated with society.

**PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**

PO7	1.26	1.49	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Need to improve global and Environmental awareness programs for sustainable development.</li> </ul>
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**Actions taken on 2019 Batch:**

1. Celebrated “World Environment Day” at SNPIT&RC Cricket Ground on 05-06-2022 to encourage the students for understanding the responsibility towards the environment and sustainability.

Conducted following an industrial visit to understand the impact of various aspects of industrial processing and methodology on the environment and sustainability.

2. Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 12-10-2022 for students to get aware of the professional practice and safety followed for the food and health industries. A total of 73 students of 4<sup>th</sup> year B.E. Mechanical engineering students have visited the industry.
3. Conducted Industrial Visit at “Shree Khedut Sahakari Khand Udhog Mandli Ltd.” on 07-03-2020 for students to understand various safety precautions followed at industries for performing various manufacturing processes.

**PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.**

PO8	1.14	1.34	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>Students are to be encouraged to take part in interdisciplinary competitions to understand and experience the importance of ethical principles.</li> <li>The students are needed to get an awareness of the importance of ethics in professional life as well as for their overall character building.</li> </ul>
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**Actions taken on 2019 Batch:**

1. Conducted webinar on “Santitization of Mind” on 06-06-2020 delivered by Gyanvatsal Swami, popular motivational speaker and social reformer from Akshardham, BAPS Swaminarayan mandir for students to learn about the Work-Life balance, Ethics in Profession, Character building, etc.
2. Conducted seminar entitled “Career Guidance for Government Jobs” on 22-10-2021 delivered by Mr. Harendra Singh Tomar, Director of Examshala for students to understand the importance of ethics and responsibilities of an engineer in Government Jobs.
3. Conducted technical quiz on 10-03-2022 by Prof. Vivekkumar B. Bhagat, Assistant Professor, MED to make students aware of the ethics and standard practice to be followed for technical quizzes related to mechanical engineering.

**PO9: Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.**

PO9	1.36	1.60	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>It is vital to improve the ability of the students to work in groups by providing them exposure as well as a platform to work as a team for the completion of tasks.</li> </ul>
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**Actions taken on 2019 Batch:**

Various cultural events like ‘XITIJ-2019’, and technical events like ‘Technokruti 2022’ are organized by SNPIT&RC where students work in teams and gain managerial and organizational skills.

1. Conducted “GTU Zonal Youth Festival (Zone-5) XITIJ: 2019” from 19-09-2019 to 21-09-2019 at SNPIT&RC organized by Gujarat Technological University (GTU) at zonal level (zone-5, Surat).
2. Organized a technical event “Technokruti 2022” on 28-04-2022 & 29-04-2022 at the SNPIT&RC.

**PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.**

PO10	1.31	1.49	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• The student's communication, presentation, and report-writing skills need to be enhanced further.</li> </ul>
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**Actions taken on 2019 Batch:**

Students are encouraged to participate in different curricular, co-curricular, and extra-curricular events within and outside the institute at the state and national levels to learn and improve communication skills.

1. Organized a technical event “Technokruti 2022” from 28-04-2022 to 29-04-2022 at the SNPIT&RC.
2. Conducted Group Discussions sessions on 10-03-2022 by Prof. Vivekkumar B. Bhagat, Assistant Professor, MED.

**PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.**

PO11	1.44	1.73	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>• Few courses in the curriculum cover management principles and how to apply them to one's work, including financial consequences and multi-disciplinary project management.</li> </ul>
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**Actions taken on 2019 Batch:**

1. In the subjects like Design Engineering and IDP/UDP, students learn about economics and business opportunities.

2. Active learning assignments were given to the students to develop and improve their ability to work as individuals and in the team.

**PO12: Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.**

PO12	1.45	1.52	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• To make students aware of the latest technological change that exists in the professional practice they are to be provided with the actual exposure of various engineering organizations.</li> <li>• Adaptation of new technologies will improve lifelong learning.</li> </ul>
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**Actions taken on 2019 Batch:**

1. Conducted Industrial Visit at “Bharkadevi Ice-cream factory” on 12-10-2022 for students to get aware of the professional practice and safety followed for the food and health industries. A total of 73 students of 4<sup>th</sup> year B.E. Mechanical engineering students have visited the industry.
2. Conducted Industrial Visit at “Shree Khedut Sahakari Khand Udhyog Mandli Ltd.” on 07-03-2020 for students to understand various safety precautions followed at industries for performing various manufacturing processes.
3. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harsit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre to bridge the gap between academic and industrial practice regarding 3D Modelling and Analysis with the help of technical software.

Table 7.1.(6) PSO Attainment Levels of 2018 Batch and Actions for Improvement in 2019 Batch

PSOs	Target Level	Attainment Level	Observations
<b>PSO1: Able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.</b>			
PSO1	1.69	1.81	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• The students require more practice to understand and analyze the concepts and fundamentals of mechanical engineering subjects.</li> <li>• The students need to have more exposure to how to correlate their fundamental knowledge to the various applications of thermal, fluid, energy design, and production engineering.</li> </ul>
<b>Actions taken on 2019 Batch:</b> <ol style="list-style-type: none"> <li>1. Conducted an online Expert Lecture entitled “Operational research” on 06-10-2021 for the students to understand the engineering concepts in relation to the subject of Operational Research.</li> <li>2. Conducted webinar entitled “Industrial engineering” on 15-09-2020 delivered by Dr. Tushar N. Desai, Professor, Mechanical Engineering Department, SVNIT, Surat to develop the knowledge of Industrial Engineering among the students.</li> <li>3. Assignments and question banks were given to students for a better understanding of the subjects of thermal, fluid, energy design, and production engineering.</li> </ol>			
<b>PSO2: Able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.</b>			
PSO2	1.53	1.63	<p>The target level is marginally attained.</p> <ul style="list-style-type: none"> <li>• Students needed to have better exposure to the latest tools and techniques developed/used by various industries in relation to the various applications.</li> </ul>
<b>Actions taken on 2019 Batch:</b>			

The following actions were taken to improve the abilities of the students to analyze and solve problems using various computational and mathematical tools.

1. Conducted online workshop entitled “3D Modelling and Analysis in ANSYS” from 05-01-2022 to 07-01-2022 delivered by Mr. Harshit Patel, Sr. Application Engineer SOPAN Institute of Engineering & Design Centre to bridge the gap between academic and industrial practice regarding 3D Modelling and Analysis with the help of technical software.

Table 7.1. (7) PO Attainment Levels of 2019 Batch and Actions for Improvement in 2020 Batch

POs	Target Level	Attainment Level	Observations
<b>PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</b>			
PO1	1.91	1.77	<p>The target level is not attained.</p> <ul style="list-style-type: none"> <li>• Students need assistance to apply basic concepts of science and engineering to solve fundamentally novel engineering problems.</li> <li>• Some lateral entry students are not exposed to fundamental mathematics /Science subjects before joining their engineering course.</li> </ul>
<b>Actions taken on 2020 Batch:</b>			
<ol style="list-style-type: none"> <li>1. Various you-tube videos were suggested to watch prepared by institute faculty for improvement in engineering mathematics concepts.</li> <li>2. Weak students are identified each semester and question banks were given as well as make-up lectures were conducted to improve their understanding.</li> </ol>			
<b>PO2: Problem Analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.</b>			
PO2	1.75	1.65	The target level is not attained.

			<p>Students find it difficult to identify, analyze and solve the concentrated engineering problem.</p> <ul style="list-style-type: none"> <li>• Students need exposure to the exploration of literature and reference books in to improve their problem-solving abilities.</li> <li>• Research exposure to the students is more required.</li> </ul>
<b>Actions taken on 2020 Batch:</b> <ol style="list-style-type: none"> <li>1. To identify, formulate and analyze engineering science problems, various problems were assigned to students through design Engineering (DE).</li> <li>2. Students were suggested to refer the reference books available in the library for problem analysis.</li> </ol>			
<b>PO3: Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</b>			
PO3	1.74	1.67	<p>The target level is not attained.</p> <ul style="list-style-type: none"> <li>• Students find it difficult to solve complex and innovative design engineering problems.</li> <li>• To enhance the abilities of students in the direction of getting innovative design and development solutions, they are needed to be provided with exposure to advanced design solution techniques.</li> </ul>
<b>Actions taken on 2020 Batch:</b> <ol style="list-style-type: none"> <li>1. Conducted seminar entitled “SolidWorks- CAD and ESPIRIT- CAM” on 13-03-2023 delivered by Mr. Keyur Chavda, Marketing Executive, SOPAN Institute of Pvt. Ltd. for students to develop their design and modeling skills.</li> <li>2. The department focuses on design engineering courses and their outcomes on a variety of design aspects such as public health, safety, cultural, societal, and environmental needs. From the third semester onwards, students are trained in stages until the sixth semester on various aspects of design in design engineering 1A, 1B, 2A, and 2B.</li> </ol>			

<b>PO4: Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems.</b>			
PO4	1.54	1.52	<p>The target level is marginally not attained.</p> <ul style="list-style-type: none"> <li>Students find it challenging to solve complex engineering problems by applying research-based knowledge and need better exposure to overcome them.</li> </ul>
<b>Actions taken on 2020 Batch:</b> <ol style="list-style-type: none"> <li>Conducted seminar entitled “SolidWorks- CAD and ESPIRIT- CAM” on 13-03-2023 delivered by Mr. Keyur Chavda, Marketing Executive, SOPAN Institute of Pvt. Ltd. for solving the complex problems associated with various engineering applications.</li> </ol>			
<b>PO5: Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.</b>			
PO5	1.59	1.60	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>However, it is believed that the Up-gradation of soft tools and resources is necessary to meet the industry standards and research.</li> </ul>
<b>Actions taken on 2020 Batch:</b> <ol style="list-style-type: none"> <li>Conducted seminar entitled “SolidWorks- CAD and Espirit- CAM” on 13-03-2023 delivered by Mr. Keyur Chavda, Marketing Executive, SOPAN Institute of Pvt. Ltd. to bridge the gap between academic and industrial practice regarding 3D Modelling and Analysis with the help of technical software and to provide a demonstration to the students on the aspects of doing performance work on open source and scientific tool.</li> </ol>			
<b>PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.</b>			
PO6	1.39	1.45	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>Students need exposure to understand the standard safety measures and standard</li> </ul>



			procedures adopted at various professional engineering practices.
<b>Actions taken on 2020 Batch:</b> Industrial visits were organized for the students to understand various manufacturing processes, safety measures, and professional engineering practices followed at the industries.			
1. Conducted Industrial Visit at “Jay Metal Tech” on 13-10-2022 for students to get aware of the professional practice and safety measures associated with manufacturing industries. A total of 47 students of 3 <sup>rd</sup> year B.E. Mechanical engineering students have visited the industry. 2. Conducted Industrial Visit at “Vrindavan Industries, Sachin” on 23-03-2023 for students to get aware of the professional practice and safety measures associated with fabrication processes. Total 35 students of 3 <sup>rd</sup> year B.E. Mechanical engineering students have visited the industry.			
<b>PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.</b>			
PO7	1.22	1.31	The target level is attained. <ul style="list-style-type: none"> <li>Need to improve global and Environmental awareness programs for sustainable development.</li> </ul>
<b>Actions taken on 2020 Batch:</b> Conducted following an industrial visit to understand the impact of various aspects of industrial processing and methodology on the environment and sustainability.			
1. Conducted Industrial Visit at “Jay Metal Tech” on 13-10-2022 for students to get aware of the professional practice and safety measures associated with manufacturing industries. A total of 47 students of 3 <sup>rd</sup> year B.E. Mechanical engineering students have visited the industry. 2. Conducted Industrial Visit at “Vrindavan Industries, Sachin” on 23-03-2023 for students to get aware of the professional practice and safety measures associated with fabrication processes. Total 35 students of 3 <sup>rd</sup> year B.E. Mechanical engineering students have visited the industry.			

**PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.**

PO8	1.17	1.27	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>The students are needed to get an awareness of the importance of ethics in professional life as well as for their overall character building.</li> </ul>
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**Actions taken on 2020 Batch:**

- Conducted awareness and training program on “Intellectual Property Rights (IPR)” on 09-02-2023 delivered by Mr. Amol Ravindra Patil, Examiner of Patents and Designs, NIPAM officer, Indian Patent Office, Mumbai, Government of India for students to get exposure to different types of IPRs and they would be enlightened and motivated to convert their ideas into innovation and further transformation into IP assets through protection of their IP rights by following standard practice and ethics.

**PO9: Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.**

PO9	1.42	1.48	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>It is vital to improve the ability of the students to work in groups by providing them exposure as well as a platform to work as a team for the completion of tasks.</li> </ul>
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**Actions taken on 2020 Batch:**

Technical events like ‘Technokruti 2022’ are organized by SNPIT&RC where students work in teams and gain managerial and organizational skills.

- Organized a technical event “Technokruti 2022” on 28-04-2022 & 29-04-2022 at the SNPIT&RC.
- Organized a sports week between 16-03-2023 to 21-03-2023 in which students took part as individuals or team members, which provides students a platform to work as a team for the completion of tasks.

**PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.**

PO10	1.38	1.42	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>The student's communication, presentation, and report-writing skills need to be enhanced further.</li> </ul>
<b>Actions taken on 2020 Batch:</b> <p>Students are encouraged to participate in different curricular, co-curricular and extra-curricular events within and outside the institute at the state and national level to learn and improve communication skills.</p> <ol style="list-style-type: none"> <li>Organized a technical event “Technokruti 2022” from 28-04-2022 to 29-04-2022 at the SNPIT&amp;RC.</li> <li>Conducted awareness and training program on “Intellectual Property Rights (IPR)” on 09-02-2023 delivered by Mr. Amol Ravindra Patil, Examiner of Patents and Designs, NIPAM officer, Indian Patent Office, Mumbai, Government of India for students to get the awareness about the documentation and procedure for filing different types of patent applications such design patent, full patent specifications and trademark.</li> </ol>			
<b>PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</b>			
PO11	1.48	1.60	<p>The target level is attained.</p> <ul style="list-style-type: none"> <li>Few courses in the curriculum cover management principles and how to apply them to one's work, including financial consequences and multi-disciplinary project management.</li> </ul>
<b>Actions taken on 2020 Batch:</b> <ol style="list-style-type: none"> <li>In the subjects like Design Engineering, students learn about economics and business opportunities.</li> </ol>			
<b>PO12: Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.</b>			
PO12	1.47	1.43	<p>The target level is marginally not attained.</p>

			<ul style="list-style-type: none"> <li>To make students aware of the latest technological change that exists in the professional practice they are to be provided with the actual exposure of various engineering organizations.</li> <li>Adaptation of new technologies will improve lifelong learning.</li> </ul>
<b>Actions taken on 2020 Batch:</b> <p>The following activities are performed with a view of improving the skills and abilities of the students in terms of life-long learning and understanding.</p> <ol style="list-style-type: none"> <li>Conducted Industrial Visit at “Jay Metal Tech” on 13-10-2022 for students to get aware of the professional practice and safety measures associated with manufacturing industries. A total of 47 students of 3<sup>rd</sup> year B.E. Mechanical engineering students have visited the industry.</li> <li>Conducted Industrial Visit at “Vrindavan Industries, Sachin” on 23-03-2023 for students to get aware of the professional practice and safety measures associated with fabrication processes. Total 35 students of 3<sup>rd</sup> year B.E. Mechanical engineering students have visited the industry.</li> <li>Conducted awareness and training program on “Intellectual Property Rights (IPR)” on 09-02-2023 delivered by Mr. Amol Ravindra Patil, Examiner of Patents and Designs, NIPAM officer, Indian Patent Office, Mumbai, Government of India.</li> </ol>			

Table 7.1. (8) PSO Attainment Levels 2019 Batch and Actions for Improvement in 2020 Batch

PSOs	Target Level	Attainment Level	Observations
<b>PSO1: Able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.</b>			
PSO1	1.68	1.62	<p>The target level is marginally not attained.</p> <ul style="list-style-type: none"> <li>The students need to have more exposure to how to correlate their fundamental knowledge to the various applications of thermal, fluid, energy design, and production engineering.</li> </ul>

**Actions taken on 2020 Batch:**

1. Assignments and question banks were given to students for a better understanding of the subjects of thermal, fluid, energy design, and production engineering.

**PSO2: Able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.**

PSO2	1.55	1.49	<p>The target level is marginally not attained.</p> <ul style="list-style-type: none"> <li>• Students needed to have better exposure to the latest tools and techniques developed/used by various industries in relation to the various applications.</li> </ul>
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**Actions taken on 2020 Batch:**

The following actions were taken to improve the abilities of the students to analyze and solve problems using various computational and mathematical tools.

1. Conducted seminar entitled “SolidWorks- CAD and Espirit- CAM” on 13-03-2023 delivered by Mr. Keyur Chavda, Marketing Executive, SOPAN Institute of Pvt. Ltd. to bridge the gap between academic and industrial practice regarding 3D Modelling and Analysis with the help of technical software and to provide a demonstration to the students on the aspects of doing performance work on open source and scientific tool.

The overall trend and comparison of attainment levels for 2019-2020, 2020-2021, 2021-2022, and 2022-2023 are shown in Fig. 7.1.1. It has been observed that POs 1, 2, 3, 4, 5, 11,12 and PSOs 1, 2 have been majorly attained. However, in comparison of the Attainment levels of the POs above, the attainment levels for some other POs, such as 6, 7, 8, 9, and 10, have not been significantly good, owing to less sociocultural interactions of students in the academic atmosphere, and the raging COVID pandemic. However, gradual improvement is seen in these as well. Moreover, these POs are primarily of social or managerial nature. While students have been faring well in the technical spheres, lack of exposure to social challenges an engineer faces is the reason behind this shortfall. To combat this challenge, group activities, counseling sessions, interactions, and technical tours are encouraged, where emphasis is laid on the environmental, social, and political impacts of engineering facilities. Extracurricular activities such as group discussions and technical and cultural events are held to hone students' communication skills while teaching them to work as a team.

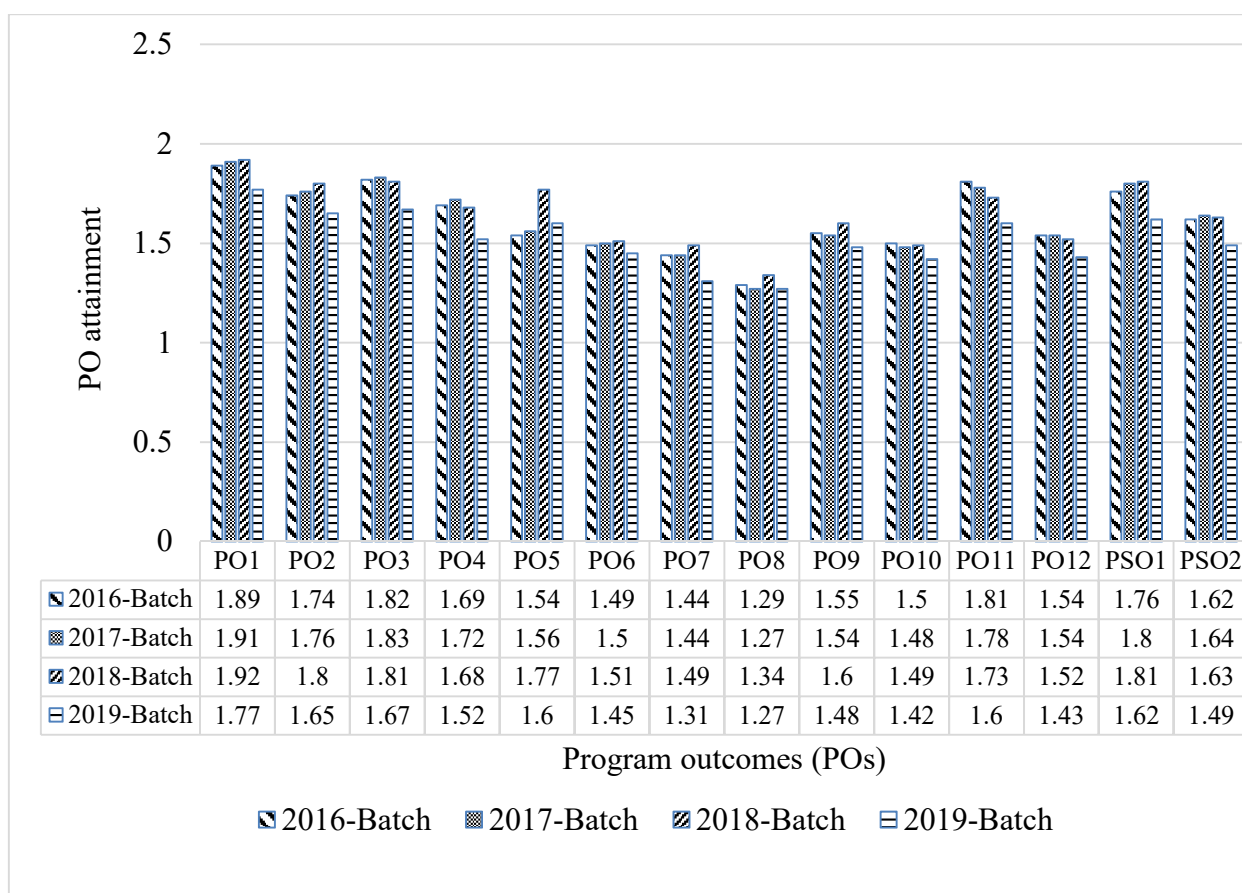


Fig. 7.1.1 Comparison of Attainment levels for CAYm3 (2019-2020), CAYm2 (2020-2021), CAYm1 (2021-2022), CAY (2022-2023)

## 7.2 Academic Audit and actions taken thereof during the period of Assessment (10)

The academic audit is the primary technique to assess the continuous progression of the institute with the objective of driving excellence in academic performance. It reveals the level of proficiency of educational institutions in terms of quality of teaching-learning and administrative process as well as unveils whether the institution is deviating from the fundamental objective of bringing continuous overall improvement. If needed, the necessary actions can be taken immediately. Herein the overall improvement of the institute is analyzed in terms of improvement in the teaching-learning and evaluation process, curricular aspects, and student progression. Therefore, the academic audit is conducted at the university level and Institute level, as shown in Fig. 7.2.1 and discussed in subsequent sections.

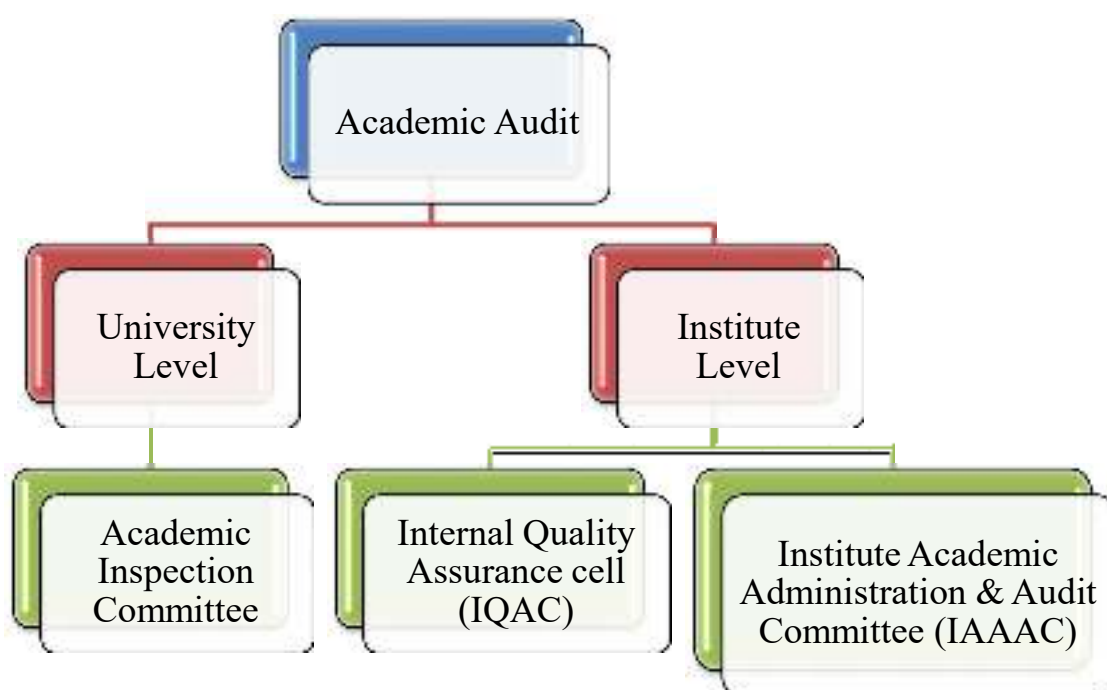


Fig. 7.2.1 Academic Audit Levels

### 7.2.1 Academic Audit at University Level

The academic audit is carried out by Gujarat Technical University (GTU) through the academic inspection committee. The inspection team comprises the convener and two highly qualified and experienced faculty members of any institute affiliated with GTU and are appointed by the university. The university decides the timing as well as the frequency of the audit. Usually, an academic audit takes place on a short prior notice to effectively examine the non-representations, change, or violation of norms and standards, academic malpractices, etc. The academic audit at the university level is conducted on the basis of

various components shown in Table 7.2.1. However, these components are subjected to changes as decided by the university. After a detailed inspection of the Institution, the Academic Inspection Committee (AIC) prepares an academic inspection report and submits it to the institute through the GTU portal for further improvement.

Table 7.2.1 Components of Academic Inspection at the University Level

Sr. No.		Key Indicators
<b>1. Teaching-Learning and Evaluation</b>		
<b>1.</b>	(A)	<b>Name of the Trust Name of the Institute/College with Official Address</b>
	(B)	<b>Programmes offered by the Institute/College</b>
<b>2.</b>		<b>Academic calendar of the Institute/College</b>
<b>3.</b>	(A)	<b>Percentage of Syllabus Coverage</b>
	(B)	<b>Percentage of Students' Attendance</b>
<b>4.</b>		<b>List of number of mentors and students</b>
	(A)	<b>Number of Students from outside the state</b>
	(B)	<b>Number of Foreign Students</b>
<b>5.</b>		<b>Orientation/refresher programmes attended by faculty members</b>
<b>6.</b>		<b>Lectures /seminar/workshops/ conferences attended by faculty members (National/International)</b>
<b>7.</b>		<b>Detail of faculty members who have received award/recognition</b>
<b>7.</b>	(A)	<b>h- Index &amp; i- Index of Faculties</b>
<b>8.</b>		<b>Faculty invited as resource person/ Participated in the event / Industrial engagement / International experience in teaching</b>
<b>9.</b>		<b>Faculty exchange programme with national and international bodies, if any</b>
<b>10.</b>		<b>No. of adjunct faculty/visiting professor in the Institute/College</b>
<b>11.</b>		<b>List of ICT resources used for teaching-learning process</b>
<b>12.</b>		<b>Highly specialized lab facilities created</b>
<b>13.</b>		<b>Any workshop/training programme conducted</b>
<b>14.</b>		<b>Expert lectures/seminar/ workshops/ conferences organized by Institute/College</b>
<b>15.</b>		<b>How do you nurture creativity amongst students?</b>



16.	<b>Any consultancy activity by the Faculty/ Institute/College</b>
16 (A)	<b>Grant Received by Faculties</b>
17.	<b>Details of MoU signed</b>
<b>2. Curricular Aspects</b>	
18.	<b>Distribution of courses as per CBCS system</b>
19.	<b>Analysis of feedback of curriculum given by students, teachers and other stakeholders</b>
20.	<b>Flexibility in curriculum of the Institute/College</b>
21.	<b>New programmes/courses added</b>
<b>3. Student Support and progression</b>	
22.	<b>Number of students in Master Degree and Ph.D. programmes</b>
23.	<b>Result of the students</b>
24.	<b>Students/teacher ratio of the Institute/College</b>
25.	<b>Demand ratio for various programmes</b>
26.	<b>List of Students who have qualified national level competitive examinations</b>
27. (A)	<b>Participation of students in NSS/NCC or cultural activities</b> <b>Participation in Technical events (i.e. Hackathon)</b>
28.	<b>Placement of the students</b>
29.	<b>Involvement of your Institute/College with community</b> <b>Membership with Professional Bodies and Activities</b>
30.	<b>Any innovative practice of the Institute/College</b>
31.	<b>Future plans of the Institute/College</b>
32.	<b>Institute/College strength Institute/College weakness (Three points only)</b>
33.	<b>Expert's suggestions for further improvement</b>

The sample of the GTU Academic inspection report is shown in Fig. 7.2.2. It includes the remarks from the academic inspection committee and necessary actions to be taken. The institute after receiving the academic inspection report, analyzes it thoroughly and prepares a compliance report to be submitted to GTU. The suggestions for improvements given by the Academic inspection committee are noted by the institute and implemented accordingly.



### 7.2.2 Academic Audit at Institute Level

The academic audit at the institute level is carried out according to the instructions and suggestions specified by Internal Quality Assessment Cell (IQAC). Following the instructions from IQAC, the Institute Academic Administration & Audit Committee (IAAAC) conduct the academic audit of various departments of the institute. IAAAC committee comprises the principal of the institute as a primary member, Professor/Associate professor invited from another institute as a chairman, and all departmental HODs of the institute as members. The IQAC has suggested that IAAAC should conduct the academic audit once an academic year. The IQAC has finalized that the components to be inspected during the academic audit at the institute level should be similar to the university-level academic audit. Therefore, during the academic audit, IAAAC examines the teaching-learning and evaluation process, curricular aspects, and student progression for all the specific departments. The components included in the academic audit conducted at the institute level are detailed in Table 7.2.2. After the detailed inspection, IAAAC prepares the internal academic audit report (at the institute level). The internal audit report format was kept similar to the GTU academic audit report, as suggested by IQAC. IAAAC analyzes and gives suggestions regarding any inconsistencies or lapses found in various sections of the educational responsibilities of the department.

Table 7.2.2 (1) Components of Academic Inspection at Institute Level

Sr. No.		Key Indicators
<b>1. Teaching-Learning and Evaluation</b>		
1.	(A)	<b>Name of the Department</b>
2.		<b>Academic calendar of the Department</b>
3.	(A) (B) (C)	<b>Percentage of Syllabus Coverage</b> <b>Percentage of Students' Attendance</b> <b>Subject Course File</b>
4.	(A) (B)	<b>List of number of mentors and students</b> <b>Number of Students from outside the state</b> <b>Number of Foreign Students</b>
5.		<b>Orientation/refresher programs attended by faculty members</b>
6.		<b>Lectures /seminar/workshops/ conferences attended by faculty members (National/International)</b>
7.		<b>Detail of faculty members who have received award/recognition</b>

8.	<b>Faculty invited as resource person/ Participated in the event / Industrial engagement / International experience in teaching</b>
9.	<b>List of ICT resources used for teaching-learning process</b>
10.	<b>Any workshop/training program conducted</b>
11.	<b>Expert lectures/seminar/ workshops/ conferences organized by Department</b>
12.	<b>Any consultancy activity by the Faculty/ Institute/College</b>
13.	<b>Details of MoU signed</b>
<b>2. Curricular Aspects</b>	
14.	<b>Distribution of courses as per CBCS system</b>
15.	<b>Analysis of feedback of curriculum given by students, teachers and other stakeholders</b>
16.	<b>Flexibility in curriculum of the Institute/College</b>
<b>3. Student Support and progression</b>	
17.	<b>Number of students in Master Degree and Ph.D. programs</b>
18.	<b>Result of the students</b>
19.	<b>Students/teacher ratio of the Institute/College</b>
20.	<b>List of Students who have qualified national level competitive examinations</b>
21. (A)	<b>Participation of students in NSS/NCC or cultural activities</b>
(B)	<b>Participation in Technical events</b>
22.	<b>Placement of the students</b>
23.	<b>Involvement of your Department with community</b> <b>Membership with Professional Bodies and Activities</b>
24.	<b>Any innovative practice of the Department</b>
25.	<b>Departmental strength and Departmental</b>
26.	<b>Expert's suggestions for further improvement</b>

### 7.3 Improvement in Placement, Higher Studies and Entrepreneurship (10)

It is always a challenge for the Mechanical Engineering department to place all its students within the stipulated time of study. The branch usually, is recognized as practice-driven, so fresher can be seen as good resources for multinational and national companies.

The placement index for CAY, LYG, LYGm1, LYGm2, and LYGm3 is shown in Table 7.3 (1). It is observed that the placement ratio is improved in last three consecutive years. The placement in CAY is ongoing and expected to rise further.

Table 7.3. (1) Improvement in Placement, Higher Studies and Entrepreneurship

Item	CAY <sup>#</sup> (2022- 23)	LYG (2018- 19) CAYm1 2021-22	LYGm1 (2017- 18) CAYm2 2020-21	LYGm2 (2016- 17) CAYm3 2019-20	LYGm3 (2015- 16) CAYm4 2018-19
<b>Total No. of Final Year Students (N)</b>	106	77	95	89	<b>108</b>
<b>No. of students placed in companies or Government Sector (X)</b>	8	24	29	20	<b>29</b>
<b>No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (Y)</b>	-	2	3	5	<b>7</b>
<b>No. of students turned entrepreneur in engineering/technology (Z)</b>	-	0	0	2	<b>0</b>
<b>X+Y+Z</b>	8	26	32	27	<b>36</b>
<b>Placement Index:(X+Y+Z)/N</b>	-	0.347	0.337	0.303	<b>0.333</b>
<b>Average placement=(P1 +P2 + P3)/3</b>		0.329			
<b>Assessment Points = 40 * average placement</b>		<b>13.16</b>			

# Placement for the CAY (2022-23) is ongoing.

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Table 7.3 (2) Details of Placement, Higher study and Entrepreneurship for CAY (2022-23)

<b>BE Mechanical Engineering - CAY (2022-23) (Batch: 2019-20)</b>				
<b>S r. N o.</b>	<b>Name of the Student</b>	<b>Enrollment No.</b>	<b>Name of the Firm</b>	<b>Documents</b>
<b>Placement</b>				
<b>1</b>	<b>CHAITANYA DILIPBHAI CHAUDHARI</b>	<b>19049011901 1</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>EMAIL FROM INDUSTRY</b>
<b>2</b>	<b>BHAUTIK JORUBHAI KHASIYA</b>	<b>19049011902 2</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>EMAIL FROM INDUSTRY</b>
<b>3</b>	<b>PRANAV PRAKASHBHAI PATEL</b>	<b>19049011904 2</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>EMAIL FROM INDUSTRY</b>
<b>4</b>	<b>ABHISHEK ANOJBHAI SINGH</b>	<b>19049011904 6</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>EMAIL FROM INDUSTRY</b>
<b>5</b>	<b>VYAS PARTH JITENDRA</b>	<b>20049011951 8</b>	<b>JAK MACHINERY, SURAT</b>	<b>APPOINTMEN T LETTER</b>
<b>6</b>	<b>MAJITHIYA MEET PRATAPBHAI</b>	<b>20049011955 4</b>	<b>TECHNORAILL- MARUTI ARCHITECTURAL PRODUCTS PVT LTD, ENA, PALSANA</b>	<b>APPOINTMEN T LETTER</b>
<b>7</b>	<b>PATEL YUVRAJ KISHORBHAI</b>	<b>20049011958 1</b>	<b>MEINHARDT GROUP, BANGALORE</b>	<b>APPOINTMEN T LETTER</b>
<b>8</b>	<b>PATIL VIPUL NARAYAN</b>	<b>20049011958 6</b>	<b>MEINHARDT GROUP, BANGALORE</b>	<b>APPOINTMEN T LETTER</b>

Table 7.3 (3) Details of Placement, Higher study and Entrepreneurship for  
CAYm1 (2021-22)

<b>BE Mechanical Engineering - CAYm1 (2021-22) (Batch: 2018-19)</b>				
<b>Sr. No.</b>	<b>Name of the Student</b>	<b>Enrollment No.</b>	<b>Name of the Firm</b>	<b>Documents</b>
<b>Higher Study</b>				
<b>1</b>	THUMMAR FENIL ISHWARBHAI	180490119046	NORDHAUSEN UNIVERSITY OF APPLIED SCIENCES, GERMANY	<b>ADMISSION LETTER</b>
<b>2</b>	TANK VIRAJ HARSHUKHBHAI	190493119061	INDIAN INSTITUTE OF TECHNOLOGY, HYDERABAD	<b>ADMISSION LETTER</b>
<b>Placement</b>				
<b>1</b>	UJJAVAL JITUBHAI CHAUDHARI	180490119011	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>2</b>	ARJUNBHAI POSLYABHAI GAMIT	180490119015	ABM WOOD DECOR PVT. LTD., SURAT	<b>APPOINTMENT LETTER</b>
<b>3</b>	MEHULBHAI MOHANBHAI GAMIT	180490119017	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>4</b>	RONALD HARILAL GAMIT	180490119018	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>5</b>	SWAPNILBHAI SUNILBHAI GAMIT	180490119019	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>6</b>	HARDIKKUMAR MANOJBHAI GODAVALE	180490119020	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>7</b>	PRAVIN SURENDRA GUPTA	180490119021	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>8</b>	DARSHAN RAMESHBHAI PARMAR	180490119025	RAYZON SOLAR ENERGY, KIM.	<b>SELECTION LETTER</b>
<b>9</b>	RAVI BHARATBHAI PRAJAPATI	180490119037	QUALITY GEARS, VALSAD	<b>I-CARD</b>
<b>10</b>	RAJANKUMAR KAPILDEV MAHTO	180490119038	MACLEODS PHARMACEUTICAL LTD, DAMAN	<b>APPOINTMENT LETTER</b>

<b>11</b>	<b>SAJANKUMAR KAPILDEV MAHTO</b>	<b>18049011904 1</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>12</b>	<b>MAYUR RANDHIRBHAI SALVE</b>	<b>18049011904 2</b>	<b>BHARAT PETROLEUM CORPORATION LTD.</b>	<b>APPOINTMEN T LETTER</b>
<b>13</b>	<b>SONU RAMKUMAR SHARMA</b>	<b>18049011904 3</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>14</b>	<b>HARDIK MANISHKUMAR KANIA</b>	<b>19049311900 8</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>15</b>	<b>DARSHAN RAJESHBHAI TAILOR</b>	<b>19049311901 8</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>16</b>	<b>KARANKUMAR PRAFULBHAI TIMBADIYA</b>	<b>19049311901 9</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>17</b>	<b>VASAVA BHAVESH JAGDISHBHAI</b>	<b>19049311902 0</b>	<b>BANCO GASKETS (INDIA) LTD. BHARUCH</b>	<b>APPRENTICE LETTER</b>
<b>18</b>	<b>BHIMDA MARTINBHAI JAYANTIBHAI</b>	<b>19049311902 4</b>	<b>AARTI INDUSTRIES LIMITED, BHARUCH</b>	<b>APPRENTICE LETTER</b>
<b>19</b>	<b>MAYUR GAUTAMBHAI CHAUDHARY</b>	<b>19049311903 5</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>20</b>	<b>PRAFULKUMAR ISHWARBHAI GAMIT</b>	<b>19049311903 9</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>21</b>	<b>SMEETKUMAR KAMLESHBHAI PARMAR</b>	<b>19049311904 8</b>	<b>RAYZON SOLAR ENERGY, KIM.</b>	<b>SELECTION LETTER</b>
<b>22</b>	<b>BHAVESHKUMAR JAYESHBHAI PATIL</b>	<b>19049311905 4</b>	<b>MARVAL ENGINEERING PVT.LTD. SACHIN.</b>	<b>APPOINTMEN T LETTER</b>
<b>23</b>	<b>SINGADE ANIL GANGARAM</b>	<b>19049311906 0</b>	<b>TIME TECHNOPLAST LTD UNIT, KHANVEL</b>	<b>I-CARD</b>
<b>24</b>	<b>PRADIPKUMAR RATILAL VASAVA</b>	<b>19049311906 2</b>	<b>ABM WOOD DECOR PVT. LTD., SURAT</b>	<b>APPOINTMEN T LETTER</b>



Table 7.3 (4) Details of Placement, Higher study and Entrepreneurship for  
CAYm2 (2020-21)

<b>BE Mechanical Engineering - CAYm2 (2020-21) (Batch: 2017-18)</b>				
<b>Sr. No.</b>	<b>Name of the Student</b>	<b>Enrollment No.</b>	<b>Name of the Firm</b>	<b>Documents</b>
<b>Higher Study</b>				
<b>1</b>	CHAUDHARI VIJUBHAI GACHHABHAI	170490119013	SNPITRC, UMRACH	<b>I-CARD</b>
<b>2</b>	PATRAWALA HASAN JUZER	170490119059	UNIVERSITY OF HUDDERSFIELD	<b>CONFIRMATION LETTER</b>
<b>3</b>	RAJWADI ROSHANKUMAR PARESHBHAI	170490119062	SNPITRC, UMRACH	<b>I-CARD</b>
<b>Placement</b>				
<b>1</b>	AHIR PINAL GUNVANTBHAI	17049011900 1	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	<b>SELECTION LETTER</b>
<b>2</b>	ASTI HARSH DIPAK	17049011900 2	PHENIX CONSTRUCTION TECHNOLOGIES, SURAT	<b>APPOINTMENT LETTER</b>
<b>3</b>	ASHISHKUMAR ASHOKBHAI CHAUDHARI	17049011900 3	BHARAT PETROLEUM CORPORATION LTD. HAZIRA, SURAT	<b>APPOINTMENT LETTER</b>
<b>4</b>	CHAUDHARI MILANKUMAR JAYESHBHAI	17049011900 6	GUJARAT STATE ELECTRICITY CORPORATION LTD., SURAT	<b>APPOINTMENT LETTER</b>
<b>5</b>	DESHMUKH MAYUR ANILBHAI	17049011902 0	SUMUL CO- OPERATIVE LTD. SURAT	<b>APPOINTMENT LETTER</b>
<b>6</b>	GAMIT JAYMEET JITENDRABHAI	17049011902 3	GUJARAT STATE ELECTRICITY CORPORATION LTD., TAPI	<b>APPRENTICE LETTER</b>
<b>7</b>	GAMIT VISHWA DIPAKBHAI	17049011902 8	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	<b>SELECTION LETTER</b>

8	GOND ABHAYCHANDRA SUBHASHCHANDRA	17049011903 2	PHENIX CONSTRUCTION TECHNOLOGIES, SURAT	I CARD
9	KHARVE TUSHAR RATHNAKAR	17049011903 6	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	SELECTION LETTER
10	LAD HARSHKUMAR NARESHBHA	17049011903 8	EPAVO ELECTRICALS PVT LTD., SILVASSA	APPOINTMEN T LETTER
11	MAHYAVANSHI MOHINI DILIPBHA	17049011903 9	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	SELECTION LETTER
12	PATEL DIVYESHKUMAR DHANSUKHBHA	17049011904 7	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	SELECTION LETTER
13	PATHAN SHAHID KHAN SOHELKHAN	17049011905 8	MAHAVIR SYNTHESIS PVT LTD. SURAT	JOINING LETTER
14	PRAJAPATI VIKAS HIRALAL	17049011906 1	FOUR DOTS TECHNOLOGY, SURAT	I-CARD
15	RANA KARAN KANCHANBHA	17049011906 5	ANNU INSULATION & ENGG. COMPANY, KAKRAPAR	NPCIL, GATE PASS
16	RANA VALAY MUKESHBHA	17049011906 6	GUJARAT STATE ELECTRICITY CORPORATION LIMITED, UKAI	APPRENTICE LETTER
17	SAWALE TUSHAR SHARADBHA	17049011907 2	R. & S. ENGINEERING SERVICES, SURAT	APPOINTMEN T LETTER
18	PRASHANT DHARMESHBHA SHAH	17049011907 4	SUBHIT ENTRPRISE, SURAT	I-CARD
19	SINGH RAJNISH HARENDRA	17049011907 8	SAJ INDUSTRIES PVT. LTD. SURAT	OFFER LETTER
20	JADAV VINAYKUMAR D.	18049311902 3	TEMA INDIA LTD., BHARUCH	I-CARD
21	LUHAR YASH SANTOSHBHA	18049311902 6	TEMA INDIA LTD., BHARUCH	I CARD
22	MISTRY ASHISH SHASHIKANTBHA	18049311903 0	SHRIRAM TRANSPORT FINANCE COMPANY LIMITED, MUMBAI	CONFIRMATIO N LETTER

<b>23</b>	PARMAR HEMSIGNH KANHAIYALAL	18049311903 2	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	<b>SELECTION LETTER</b>
<b>24</b>	PARMAR PRASHANTSINH YOGENDRASINH	18049311903 3	ENPRO ENVIRO TECH AND ENGINEERS PVT. LTD. SURAT	<b>I-CARD</b>
<b>25</b>	PATEL RINKESH MUKUNDBHAI	18049311904 0	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	<b>SELECTION LETTER</b>
<b>26</b>	PATEL RONAK ARUNBHAI	18049311904 1	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	<b>SELECTION LETTER</b>
<b>27</b>	PAWAR MEHUL KUMAR SURENDRABHAI	18049311904 7	SANRAJ CORPORATION, DAMAN	<b>I CARD</b>
<b>28</b>	RATHVA JASVANT BHAVSINGH	18049311904 8	ENGINEERING CAD/CAM SOLUTIONS, VADODARA	<b>SELECTION LETTER</b>
<b>29</b>	YADAV SUBHASHKUMAR RAJENDRAKUMAR	18049311905 8	DAZZLING INDIA ENGINEERING SOLUTION, SURAT	<b>SELECTION LETTER</b>

Table 7.3 (5) Details of Placement, Higher study and Entrepreneurship for  
CAYm3 (2019-20)

<b>BE Mechanical Engineering - CAYm3 (2019-20) (Batch: 2016-17)</b>				
<b>Sr. No.</b>	<b>Name of the Student</b>	<b>Enrollmen t No.</b>	<b>Name of the Firm</b>	<b>Documents</b>
<b>Higher Study</b>				
<b>1</b>	KHATRI YASHKUMAR HARSHADBHAI	160490119030	SNPIT & RC, UMRAKH	<b>I CARD</b>
<b>2</b>	FALDU SAGARKUMAR JAGDISHBHAI	170493119020	UNIVERSITAT KOBLENZ LANDAU	<b>LETTER OF ADMISSION</b>
<b>3</b>	GELANI DHANANJAY DINESHBHAI	170493119029	UNIVERSITAT KOBLENZ LANDAU	<b>LETTER OF ADMISSION</b>
<b>4</b>	PATEL SAMIP DIPAK	170493119059	FRIEDRICH- ALEXANDER- UNIVERSITÄT,	<b>ENROLLMEN T CERTIFICATE</b>

			GERMANY	
5	SHARMA DATT HITESHKUMAR	170493119062	UNIVERSITAT DUISBURG ESSEN, GERMANY	CONFIRMATI ON LETTER
<b>Entrepreneurship</b>				
1	JARDOSH SHREYAS VIRESHKUMAR	170493119030	MR & MS CLASSY	VISITING CARD
2	VAGHELA HET ANILBHAI	170493119066	MARK CREATION, SURAT	BUSINESS CARD
<b>Placement</b>				
1	CHAUDHARI TARKIKKUMAR UMESHBHAI	16049011901 4	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
2	DEEPAK KUNDARAM	16049011901 6	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
3	GUPTA KRISHNA SHAILESH	16049011902 5	SWASTIK ENGINEERING, SURAT	OFFER LETTER
4	JOSHI NEEL JIGNESHKUMAR	16049011902 7	SWASTIK ENGINEERING, SURAT	OFFER LETTER
5	MACHHI SHIVAM RAMESHBHAI	16049011903 3	SWASTIK ENGINEERING, SURAT	OFFER LETTER
6	MAHYAVANSHI NILESHKUMAR GIRISHBHAI	16049011903 4	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
7	PATEL BHAVIN BHARATBHAI	16049011904 2	UMIYA ENGINEERING, SURAT	APPOINTME NT LETTER
8	PATIL RAHUL RAMKRUSHNA	16049011905 0	SAHAJANAND MEDICAL TECHNOLOGIES PVT. LTD. SACHIN	OFFER LETTER
9	PRAJAPATI RINKESHKUMAR HARISHBHAI	16049011905 4	JECON ENGINEERS PVT LTD. SURAT	I CARD
10	AHIRE KAILAS GHANSHYAM	17049311900 1	GUJARAT INSECTICIDES LIMITED, ANKLESHWAR	COMPLETIO N CERTIFICAT E

11	CHAUDHARY KARANBHAI HASMUKHBHAI	17049311901 2	VEELINE MEDIA LTD., BARDOLI	APPOINTMENT LETTER
12	DADHI MAYURKUMAR SOMABHAI	17049311901 5	DONEAR INDUSTRIES LTD, KAMREJ, SURAT	APPOINTMENT LETTER
13	DUDHAREJIA NIKHIL JAYESHBHAI	17049311901 9	NAROLA INFOTECH SOLUTIONS LLP, SURAT	MAIL
14	GANDHI JENISH P.	17049311902 7	MICRO FAB ENG. SURAT	APPOINTMENT LETTER
15	KURWADE FENIL CHANDRASHEKHAR	17049311903 2	ANAND ENTERPRISES, SURAT	I CARD
16	MANNADE VISHAWATH ASHARAM	17049311903 7	ECOMS METALLURGICAL S PVT LTD, SURAT	APPOINTMENT LETTER
17	MEHTA RAHULKUMAR GAURANGKUMAR	17049311903 8	QUALITY PROFESSIONALS, SURAT	I CARD
18	PAREKH UTSAV BHARATBHAI	17049311904 3	ASAHI INDIA GLASS LTD., PATAN	APPOINTMENT LETTER
19	SALVI SANKET SANDEEPBHAI	17049311905 8	SAHAJANAND MEDICAL TECHNOLOGIES PVT. LTD. SACHIN	OFFER LETTER
20	SHRUTIK M. RATHOD	17049311906 3	ASAHI INDIA GLASS LTD., PATAN	MAIL

Table 7.3 (6) Details of Placement, Higher study and Entrepreneurship for  
CAYm4 (2018-19)

BE Mechanical Engineering - CAYm4 (2018-19) (Batch: 2015-16)				
Sr. No.	Name of the Student	Enrollment No.	Name of the Firm	Document
<b>Higher Study</b>				
1	BILIMORIYA JAYMINKUMAR JAYESHBHAI	150490119008	WESTELIFF UNIVERSITY IRVINE, CA92606	I-20 LETTER
2	PRATYEKSHKUMAR R RATILAL GOYANI	150490119027	RWTH AACHEN UNIVERSITY,	ADMISSION LETTER

			52056 GERMANY	
3	PANCHAL KRISHNA KAMLESH	150490119049	UNIVERSITY OF SALFORD, M5 4WT	<b>CONFIRMATION LETTER</b>
4	SAHU CHIRAG SHYAMLAL	150490119096	NIT, SURATHKAL	<b>CCMT COUNSELLING ALLOTMENT LETTER</b>
5	SURATI FENIL DHANSUKHBHAI	150490119110	LUTHARA INSTITUTE OF MANAGEMENT	<b>I-CARD</b>
6	CHAUDHARI URMIKETKUMAR RANJITBHAI	150490119116	SNPIT&RC, UMRAKH	<b>DEGREE CERTIFICATE</b>
7	VYAS ARK JAYESHBHAI	150490119122	FIRE SAFETY OFFICER TRAINING	<b>SCORE CARD</b>
<b>Placement</b>				
1	SAGAR RAMESHBHAI AJUDIYA	150490119002	SOHAM INDUSTRIAL MACHINERY LIMITED, SURAT	<b>EXPERIENCE CERTIFICATE</b>
2	CHAUDHARI ANKITABAHEN ARVINDBHAI	150490119003	MECHICS, SURAT	<b>APPOINTMENT LETTER</b>
3	DHARMA H. BRAHMBHATT	150490119009	JARIWALA & ASSOCIATES, SURAT	<b>APPOINTMENT LETTER</b>
4	DEEP RAMESHBHAI VADUKIYA	150490119019	VEELINE MEDIA LTD, BARDOLI	<b>APPOINTMENT LETTER</b>
5	DHRUVKUMAR VINODBHAI PATEL	150490119021	MEDLINE CANADA, CORPORATION	<b>APPOINTMENT LETTER</b>
6	ANANT NITINKUMAR DOSHI	150490119023	A.M. GEDIYA ENGINEERING, KIM, SURAT	<b>APPOINTMENT LETTER</b>
7	KISHAN JAYSUKHBHAI KANANI	150490119031	JARIWALA & ASSOCIATES, SURAT	<b>APPOINTMENT LETTER</b>
8	KHALIFA AAKIBBHAI AIYUBBHAI	150490119034	MECHICS, SURAT	<b>APPOINTMENT LETTER</b>

9	MAHIDA KHUSHBU GANPATSINH	150490119038	ENGINEERING CAD/CAM SOLUTION, VADODARA	APPOINTMENT LETTER
10	PANDYA SITANSHU MITESHBHAI	150490119051	J-TECH SOLUTION, SURAT	I-CARD
11	ALAYKUMAR HASMUKHBHAI PATEL	150490119053	VITAL LABORATORIE S PVT. LTD. VAPI	PAY SLIP
12	KASHYAP KAMLESHBHAI PATEL	150490119065	A.M. GEDIYA ENGINEERING, KIM, SURAT	APPOINTMENT LETTER
13	RAJ R. PATEL	150490119076	JARIWALA & ASSOCIATES, SURAT	APPOINTMENT LETTER
14	PRAJAPATI BHAVESHKUMAR GANPATBHAI	150490119089	INDUSTRIAL INSPECTION SERVICES PVT. HAZIRA	I-CARD
15	DHRUV RAMESHBHAI SATANI	150490119100	MECHICS, SURAT	APPOINTMENT LETTER
16	SINGH ROBINSH RAGHUBANSH	150490119106	ENGINEERING CAD/CAM SOLUTION, VADODARA	APPOINTMENT LETTER
17	SOLANKI NEEL LAXMANSINH	150490119108	ICE MAKE LTD, AHMEDABAD	I CARD
18	TAILOR NIKUNJKUMAR HASMUKHBHAI	150490119113	ENGINEERING CAD/CAM SOLUTION	APPOINTMENT LETTER
19	JIGNESH ARVINDBHAI VASAVA	150490119118	A.M. GEDIYA ENGINEERING	APPOINTMENT LETTER
20	BHARTI VAIBHAV KAUSHIK	160493119002	JAKSON ENTERPRISE, SURAT	I-CARD
21	JAY HARSHADKUMAR GEMLAWALA	160493119008	A.M. GEDIYA ENGINEERING, KIM, SURAT	APPOINTMENT LETTER
22	MAISURIYA FENIL PARESHBHAI	160493119012	SHREE CHALTHAN VIBHAG KHAND UDHYOG SAHAKARI	APPOINTMENT LETTER

			MANDLI LTD., SURAT	
23	KAUSHIK DARSHANBHAI MORI	160493119014	MECHICS, SURAT	<b>APPOINTMENT LETTER</b>
24	PATEL AXAYKUMAR PRAVINBHAI	160493119016	NAMO ENGINEERING, HAZIRA	<b>I-CARD</b>
25	PATEL DHAVAL KUMAR	160493119017	ADECCO INDIA PVT LTD	<b>APPOINTMENT LETTER</b>
26	RUZAL SATISHKUMAR PATEL	160493119021	JARIWALA & ASSOCIATES, SURAT	<b>APPOINTMENT LETTER</b>
27	DHAVAL VIPULKUMAR SONI	160493119027	DINESH PLASTIC PRODUCTS, NAVSARI	<b>APPOINTMENT LETTER</b>
28	MAYURKUMAR KISHANBHAIVALV I	160493119030	A.M. GEDIYA ENGINEERING, KIM, SURAT	<b>APPOINTMENT LETTER</b>
29	VRUSHANK ASHISHBHAI PATEL	160493119032	MECHICS, SURAT	<b>APPOINTMENT LETTER</b>

#### 7.4 Improvement in the quality of students admitted to the program (10)

Assessment is based on improvements in terms of ranks/score in qualifying state level/national level entrance tests, percentage marks in Physics, Chemistry and Mathematics in 12<sup>th</sup> standard and CGPA of the lateral entry students.

#### Guidelines for Admission through 12th Science:

##### Admission Eligibility:

Standard 12th (Science) with minimum 45% for Open (40 % for reserved categories) in subjects prescribed by AICTE and notified by the government.

For Lateral Entry students the aspiring candidate shall have passed diploma engineering with minimum 45% (40% for SC/ST/SEBC/EWS) candidates.



The data of regular and lateral entry students as well as opening and closing rank of admitted students is shown in Table 7.4 (1). The institute promote and encourage the student from poor background and remote/rural locations, for higher education.

According to this data (Table 7.4 (1)), the improvement in the Average of Science theory marks (PCM) for CAYm1 is observed to increase compared to CAYm3. i.e., the total average marks of PCM subjects obtained by the admitted students in CAYm3 is 136.65 which is almost same in CAY, CAYm2. The average PCM marks is observed to rise to 143.19 in CAYm1. This shows that the improvement in quality of students admitted in CAYm1.

Similarly, the improvement in opening score for the lateral entry students is observed. i.e., the opening rank for the lateral entry students in CAYm3 is 1160226, which is observed to improve and reaches 1100768 in CAYm2. The minor variation in the opening rank observed in CAYm1 and CAY as compared to CAYm2. This shows that, the student quality is consistent in CAY, CAYm1 and CAYm2 for the lateral entry. It is also observed from the average CGPA of the lateral entry, which varies around the 7.6. The variation in the opening rank observed in the last three years can be attributed to the overall trend for branch selection made by the applicants.

Table 7.4 (1) Quality of students admitted to the program

Item				CAY (2022- 2023)	CAYm1 (2021- 2022)	CAY m2 (2020- 2021)	CAY m3 (2019- 2020)
No.	Type of examination	Name of Entrance Exam	Details				
1.	National Level Entrance Examination	JEE- MAINS	No. of students admitted	NA	NA	NA	NA
			Opening Score/Rank	NA	NA	NA	NA
			Closing Score/Rank	NA	NA	NA	NA
2.	State/Universit y Level Entrance Examination /Other	GUJCET	No. of students admitted	08	40	37	39
			Opening Score/Rank	13332	17803	6789	12764
			Closing Score/Rank	26424	34567	50011	33004

3.	Name of the Entrance Examination for Lateral Entry or Lateral Entry Details	D2D Students	No. of students admitted	14	22	72	29
			Opening Score/Rank	1101690	1101770	1100768	1160226
			Closing Score/Rank	1107981	1109438	1112319	9160020
			Average CGPA of Lateral Entry Students	7.65	8.01	7.21	7.42
4.	Average CBSE/other board Results of Admitted Students (Physics, Chemistry and Maths)	Average of Science theory marks		135.75	143.19	134.24	136.65
			P =	48.75	P = 46.55	P = 46.12	P = 44.74
			C =	46.63	C = 47.67	C = 42.14	C = 40.56
			M =	40.38	M = 48.96	M = 45.97	M = 51.36

<b>CRITERION 8</b>	<b>First year academics</b>	<b>50</b>
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## 8. First year academics (50)

### 8.1 First Year Student-Faculty Ratio (FYSFR) (5)

Table 8.1(1) shows the First Year Student-Faculty Ratio (FYSFR) considering the academic year 2022-23 as CAY.

Table 8.1(1) Data for first-year courses to calculate the FYSFR (Mechanical Engineering) with 2022-23 as CAY

Year	Number of students (approved intake strength) N	Number of faculty members (considering fractional load) F	FYSFR (N/F)	*Assessment = $(5 \times 20) / \text{FYSFR}$ (Limited to Max.5)
2019 – 2020 (CAYm3)	120	3.13	38.34	2.61
2020 – 2021 (CAYm2)	120	2.85	42.11	2.37
2021 – 2022 (CAYm1)	120	3.00	40.00	2.50
2022 – 2023 CAY	60	4.66	12.87	5.00
Average [2022-2023, 2021-2022, 2020-2021]				$(5.00 + 2.50 + 2.37) / 3 = 3.29$

### 8.2 Qualification of Faculty Teaching First Year Common Courses (5)

Assessment of qualification =  $(5x + 3y) / \text{RF}$ ,

x = Number of Regular Faculty with Ph.D.,

y = Number of Regular Faculty with Post-graduate qualification,

RF = Number of faculty members required as per SFR of 20:1,

Faculty definition as defined in 5.1

Table 8.2(1) shows the assessment of faculty qualification considering the academic year 2022-23 as CAY.

Table 8.2(1) Qualification of Faculty Teaching First Year Common Courses (Mechanical Engineering)

Year	x	y	RF	Assessment of faculty Qualification $[(5x + 3y)/RF]$
2019 – 2020 (CAYm3)	1	11	6	6.33
2020 – 2021 (CAYm2)	2	12	6	7.67
2021 – 2022 (CAYm1)	4	10	6	8.33
2022 – 2023 (CAY)	0	4	3	4.00
Average [2022-2023, 2021-2022, 2020-2021]				$(4.00 + 8.33 + 7.67)/3 = 6.67$

### 8.3 First Year Academic Performance (10)

Academic Performance = ((Mean of 1<sup>st</sup> Year Grade Point Average of all successful Students on a 10-point scale) OR

Academic Performance = (Mean of the percentage of marks in the First Year of all successful students/10))  $\times$  (number of successful students/number of students who appeared in the examination)

Successful students are taken as those who are permitted to proceed to the second year. Table 8.3(1) shows the academic performance considering previous three academic years. The evaluation of API could not be performed for CAY (2022-23) as the result of semester two is not yet declared.

Table 8.3(1) First Year Academic performance (Mechanical Engineering)

Academic Performance	2022-2023 (CAY)	2021-2022 (CAYm1)	2020-2021 (CAYm2)	2019-2020 (CAYm3)	2018-2019 (CAYm4)
<b>Mean of CPI of all successful students (X)</b>	-	3.20	7.70	6.30	4.92
<b>Total number of successful students (Y)</b>	-	38	38	47	29
<b>Total number of students who appeared in the examination (Z)</b>	14	41	39	53	36
<b>API= <math>[X * (Y/Z)]</math></b>	-	2.96	7.50	5.59	3.96
<b>Average API <math>[(AP1+AP2+AP3)/3]</math></b>	<b><math>(2.96 + 7.50 + 5.59)/3 = 5.35</math></b>				

#### 8.4 Attainment of Course Outcomes of first year courses (10)

##### 8.4.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcomes of the first year is done (5)

The assessment is done as per the evaluation scheme provided by the university. The evaluation of course outcome for the first year is based on the marks scored by student in the following assessment methods:

- (1) Internal Assessment
- (2) External Assessment

- (1) **Internal Assessment** – This assessment is done at the institute level. It comprises of:
  - i. Progressive Evaluation – (1) Assignments/Tutorials completed by the student, (2) Performance of the student in laboratory (3) Interactive performance of the student in theory, practical, and tutorial classes
  - ii. Mid-semester examination/class test
  - iii. Practical end-semester examination and internal viva.

(2) **External Assessment** – It comprises of university theory examination.

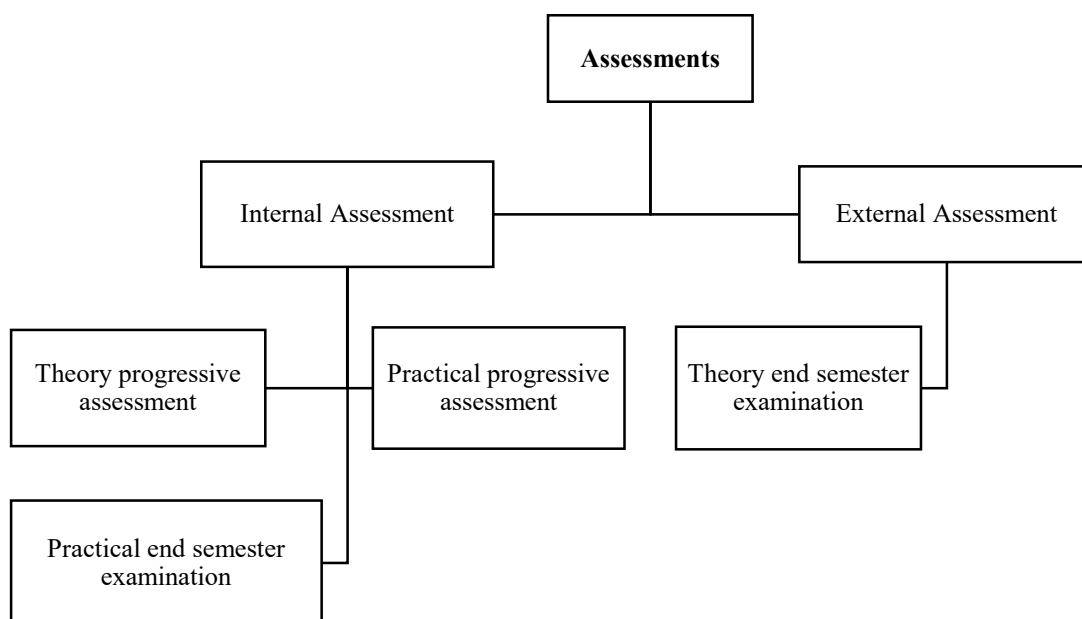


Fig. 8.4.1(1) Assessment tool for course attainment

The evaluation scheme provided by the university was used for the assessment of the first-year students for CAY, CAYm1 and CAYm2. The distribution of marks as per the evaluation schemes of the university are as follows

- i. Table 8.4.1(1) shows the evaluation scheme as per university syllabus for all courses, covering theoretical as well as practical aspects, for semesters 1 and 2.

Table 8.4.1(1) Evaluation scheme for semester 1 and 2

Assessment Methods		Marks
<b>Internal Assessment</b>	Theory progressive assessment	30
	Practical progressive assessment	20
	Practical end semester examination	30
	<b>Total Internal-Assessment Marks</b>	<b>80</b>
<b>External Assessment</b>	University Theory Examination	70
	University practical end semester examination	-
	<b>Total External-Assessment Marks</b>	<b>70</b>
<b>Total Marks</b>		<b>150</b>

- ii. Table 8.4.1(2) shows the evaluation scheme of the courses which only covers the theoretical part as per the university syllabus (NC107, NC111 and NC112).

Table 8.4.1(2) Evaluation scheme for theoretical courses

Assessment Methods		Marks
<b>Internal Assessment</b>	Theory progressive assessment	30
	Practical progressive assessment	-
	Practical end-semester examination	-
	<b>Total Internal-Assessment Marks</b>	<b>30</b>
<b>External Assessment</b>	University Theory Examination	70
	University practical end semester examination	-
	<b>Total External-Assessment Marks</b>	<b>70</b>
<b>Total Marks</b>		<b>100</b>

- iii. The Table 8.4.1(3) shows the evaluation scheme for the courses, which covers only practical aspects, as per the university syllabus. This course includes Workshop/Manufacturing practices (NC109).

Table 8.4.1(3) Evaluation scheme for practical courses

Assessment Methods		Marks
<b>Internal Assessment</b>	Theory progressive assessment	-
	Practical progressive assessment	<b>20</b>
	Practical end semester examination	<b>80</b>
	<b>Total Internal-Assessment Marks</b>	<b>100</b>
<b>External Assessment</b>	University Theory Examination	-
	University practical end semester examination	-
	<b>Total External-Assessment Marks</b>	<b>-</b>
<b>Total Marks</b>		<b>100</b>

The above schemes (Table 8.4.1 (1-3)) encompass all courses of the curriculum for the first year of the program.

The theory progressive assessment includes assignments/tutorials completed by the students, class test and mid-term examination. The practical progressive performance of the students includes performance of the student in laboratory, assessment of lab manuals/tutorials, Interactive performance of the student in practical and tutorial classes. Theory end semester examination is taken by the university at the end of the semester. While the practical end-semester examination is performed at the institute level.

#### 8.4.2 Record the attainment of Course Outcomes of all First Year Courses (5)

- The grades obtained by each student in the end-semester result declared by the university were used to evaluate course outcome attainment.
- The Table 8.4.2(1) shows the sample list of students with their respective grades for the course of Basic Mechanical Engineering (NC106) of semester-2 for CAYm2.

Table 8.4.2(1) Sample grades for the course of Basic Mechanical Engineering (NC106) (Semester 2, CAYm2)

PEN	Theory end semester exam (THESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end-semester exam (PR ESE) ( $i = 3$ )	Practical progressive assessment (PR PA) ( $i = 4$ )
200490119001	BB	BC	AB	AB
200490119002	BB	AB	BB	BB
200490119003	CC	CC	BB	BB
:	:	:	:	:
200490119040	BC	BB	AB	AB
200490119041	CC	BC	AA	AA
200490119042	BC	BC	BB	BB

- The total number of students under each grades was counted. The following Table 8.4.2(2) shows the number of students in each grade level for the course mentioned in Table 8.4.2(1).

Table 8.4.2(2) Number of students possessing each grade for the course of Basic Mechanical Engineering (NC106) (Semester 2, CAYm2)

Grades	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end-semester exam (PR ESE) ( $i = 3$ )	Practical progressive assessment (PR PA) ( $i = 4$ )
AA	2	3	14	15
AB	2	4	19	18
BB	6	5	6	6
BC	14	17	0	0
CC	14	10	0	0
CD	1	0	0	0
DD	0	0	0	0
FF	0	0	0	0
Total number of students ( $S_{ij}$ )	39	39	39	39



- AA and AB grade students are considered to have an attainment level of 3; BB, BC, and CC grade students are considered to have an attainment level of 2; CD and DD grade students are considered to have an attainment level of 1; and FF grade students are considered to have an attainment level of 0.

Let,

- $(S_{AA-AB})_{ij}$  is the number of students who obtained AA and AB grades in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $(S_{BB-CC})_{ij}$  is the number of students who obtained BB, BC and CC grades in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $(S_{CD-DD})_{ij}$  is the number of students who obtained CD and DD grade in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $(S_{FF})_{ij}$  is the number of students who obtained FF grade in the  $i^{th}$  assessment component of the  $j^{th}$  course.
- $S_{ij}$  is the total number of students in the  $i^{th}$  assessment component of the  $j^{th}$  course  $[(S_{AA-AB})_{ij} + (S_{BB-CC})_{ij} + (S_{CD-DD})_{ij} + (S_{FF})_{ij}]$ .
- Here,  $i$  denotes the type of the assessment component (for the  $j^{th}$  course), which is either (1) University theory end semester examination (TH ESE), (2) Theory progressive assessment (TH PA), (3) Practical internal end semester examination (PR ESE) and (4) Practical progressive assessment (PR PA).
- The number of students in each attainment level was counted as shown in Table 8.4.2(3).

Table 8.4.2(3) Number of students for each attainment level for the course of Basic Mechanical Engineering (NC106) (Semester 2, CAYm2)

Attainment level	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end-semester exam (PR ESE) ( $i = 3$ )	Practical progressive assessment (PR PA) ( $i = 4$ )
$(S_{AA-AB})_{ij}$ (Attainment level 3)	4.00	7.00	33.00	33.00
$(S_{BB-CC})_{ij}$ (Attainment level 2)	34.00	32.00	6.00	6.00
$(S_{CD-DD})_{ij}$ (Attainment level 1)	1.00	0.00	0.00	0.00
$(S_{FF})_{ij}$ (Attainment level 0)	0.00	0.00	0.00	0.00
<b>Total number of students (<math>S_{ij}</math>)</b>	39.00	39.00	39.00	39.00

- The course outcome attainment ( $COA_{ij}$ ) for each assessment component ( $i$ ) and  $j^{th}$  course [Eq. (8.1)], was computed by multiplying the fraction of students [Table 8.4.2(4)] in each grade group with the corresponding set attainment levels.

$$COA_{ij} = \left[ \left( 3 \cdot \frac{(S_{AA-AB})_{ij}}{S_{ij}} \right) + \left( 2 \cdot \frac{(S_{BB-CC})_{ij}}{S_{ij}} \right) + \left( 1 \cdot \frac{(S_{CD-DD})_{ij}}{S_{ij}} \right) + \left( 0 \cdot \frac{(S_{FF})_{ij}}{S_{ij}} \right) \right] \quad (8.1)$$

Here, Attainment levels of three, two, one, and zero are multiplied by the fraction of total student in each group as per the weighted average method. A sample calculation is shown in Table 8.4.2(4).

Table 8.4.2(4) Fractional calculation for each attainment level for the course of Basic Mechanical Engineering (NC106) (Semester 2, CAYm2)

Fraction for different attainment levels	Theory end semester exam ( $i = 1$ )	Theory progressive assessment ( $i = 2$ )	Practical end-semester exam ( $i = 3$ )	Practical progressive assessment ( $i = 4$ )
$\frac{(S_{AA-AB})_{ij}}{S_{ij}}$	0.10	0.18	0.85	0.85
$\frac{(S_{BB-CC})_{ij}}{S_{ij}}$	0.87	0.82	0.15	0.15
$\frac{(S_{CD-DD})_{ij}}{S_{ij}}$	0.03	0.00	0.00	0.00
$\frac{(S_{FF})_{ij}}{S_{ij}}$	0.00	0.00	0.00	0.00
<b>Attainment (<math>COA_{ij}</math>)</b>	2.08	2.18	2.85	2.85

- The course outcome attainment ( $COA_{ij}$ ) for each internal and external component for a course is then computed as per Eq. (8.2).

$$COA_j = \sum_{i=1}^4 (COA_{ij} \cdot W_{ij}) \quad (8.2)$$

Here, the weights ( $W_{ij}$ ) are the ratio of the maximum marks of an assessment tool to the total marks.  $W_{ij}$  is the weight given for the  $i^{th}$  assessment component of the  $j^{th}$  course (Table 8.4.2(5) to 8.4.2(7)) based on the scheme provided by the University. The Table 8.4.2(5) shows the weight as per the university syllabus for majority of courses, covering theoretical and practical aspects, for semesters 1 and 2.

Table 8.4.2(5) Weight as per university syllabus for semester 1 and 2

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	0.20
	Practical progressive assessment, $W_2$	0.13
	Practical end semester examination, $W_3$	0.20
	<b>Total Internal-Assessment Weight</b>	<b>0.53</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	0.47
	University practical end semester examination, $W_5$	-
	<b>Total External-Assessment Weight</b>	<b>0.47</b>
<b>Total Weight</b>		<b>1.00</b>

Table 8.4.2(6) shows the weight of the courses, which only covers the theoretical part as per university syllabus. The weight for the courses, which cover only practical aspects as per the university syllabus, is shown in Table 8.4.2(7). This course includes Workshop/Manufacturing practices (NC109).

Table 8.4.2(6) Weight for theoretical courses

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	0.3
	Practical progressive assessment, $W_2$	-
	Practical end semester examination, $W_3$	-
	<b>Total Internal-Assessment Weight</b>	<b>0.30</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	0.70
	University practical end semester examination, $W_5$	-
	<b>Total External-Assessment Weight</b>	<b>0.70</b>
<b>Total Weight</b>		<b>1.00</b>

Table 8.4.2(7) Weight for practical courses

Assessment Methods		Weight, $W_i$
<b>Internal Assessment</b>	Theory progressive assessment, $W_1$	-
	Practical progressive assessment, $W_2$	0.2
	Practical end semester examination, $W_3$	0.8
	<b>Total Internal-Assessment Weight</b>	<b>1.0</b>
<b>External Assessment</b>	University Theory Examination, $W_4$	-
	University practical end semester examination, $W_5$	-
	<b>Total External-Assessment Weight</b>	<b>-</b>
<b>Total Weight</b>		<b>1.0</b>

- The following Table 8.4.2(8) shows the sample calculation of the  $COA_j$  based on Eq. (8.1) and (8.2) for Basic Mechanical Engineering (NC106) (Semester 2, CAYm2).

Table 8.4.2(8) Calculation of  $COA_j$  for course of Basic Mechanical Engineering (NC106)  
(semester 2, CAYm2)

	Theory end semester exam (TH ESE) ( $i = 1$ )	Theory progressive assessment (TH PA) ( $i = 2$ )	Practical end semester exam (PR ESE) ( $i = 3$ )	Practical progressive assessment (PR PA) ( $i = 4$ )
<b>Weight (<math>W_i</math>)</b>	0.47	0.20	0.20	0.13
<b>Attainment (<math>COA_{ij}</math>)</b>	2.08	2.18	2.85	2.85
<b>Course outcome attainment (<math>COA_{ij}</math>)</b>	2.35			

Table 8.4.2(9) shows the course outcome ( $COA_j$ ) for all first-year courses of CAYm3. Similarly, course outcomes for each academic year (i.e. CAY, CAYm1 & CAYm2) were evaluated and shown in Table 8.4.2(10)-(12).

Where,

$S_{ij}$  = Total number of students appearing in the semester

$$\alpha = (S_{AA-AB})_{ij} / S_{ij}$$

$$\beta = (S_{BB-CC})_{ij} / S_{ij}$$

$$\gamma = (S_{CD-DD})_{ij} / S_{ij}$$

$$\kappa = (S_{FF})_{ij} / S_{ij}$$

Table 8.4.2(9) The course outcome attainment for all first-year courses of CAYm3 (2019-20)

S r. N o.	Se m / Ye ar	NBA Code	Total numbe r of student s S <sub>ij</sub>	Theory end Semester exam (TH ESE) (i = 1)					Theory Progressive Assessment (TH PA) (i=2)					Practical End Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainmen t (COA) <sub>j</sub>
				$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>i</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
1	1	NC103	53	0.0 2	0.4 2	0.3 8	0.1 9	1.26	0.0 4	0.2 3	0.7 0	0.0 4	1.26	0.0 4	0.9 2	0.0 0	0.0 4	1.96	0.3 2	0.6 4	0.0 0	0.0 4	2.25	0.4 7	0.2 0	0.2 0	0.1 3	1.535
2	1	NC104	53	0.0 2	0.3 0	0.3 8	0.3 0	1.04	0.1 3	0.4 7	0.4 0	0.0 0	1.74	0.4 2	0.5 5	0.0 0	0.0 4	2.34	0.4 9	0.4 7	0.0 0	0.0 4	2.42	0.4 7	0.2 0	0.2 0	0.1 3	1.621
3	1	NC108	53	0.0 4	0.4 7	0.3 0	0.1 9	1.36	0.1 3	0.5 3	0.3 0	0.0 4	1.75	0.1 3	0.8 3	0.0 0	0.0 4	2.06	0.1 9	0.7 7	0.0 0	0.0 4	2.11	0.4 7	0.2 0	0.2 0	0.1 3	1.678
4	1	NC109	53	-	-	-	-	-	-	-	-	-	-	0.1 3	0.8 3	0.0 0	0.0 4	2.06	0.7 5	0.2 1	0.0 0	0.0 4	2.68	0.0 0	0.0 0	0.8 0	0.2 0	2.181
5	1	NC111	53	0.0 2	0.3 0	0.3 2	0.3 6	0.98	0.1 1	0.3 2	0.5 5	0.0 2	1.53	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	1.145
6	1	NC114	53	N.A.																								-
7	2	NC102	53	0.0 4	0.6 4	0.2 3	0.0 9	1.62	0.3 0	0.3 8	0.3 2	0.0 0	1.98	0.0 4	0.9 2	0.0 0	0.0 4	1.96	0.1 1	0.8 9	0.0 0	0.0 0	2.11	0.4 7	0.2 0	0.2 0	0.1 3	1.828
8	2	NC105	53	0.0 4	0.7 5	0.1 3	0.0 8	1.75	0.3 4	0.5 1	0.1 5	0.0 0	2.19	0.0 4	0.9 2	0.0 0	0.0 4	1.96	0.3 8	0.6 2	0.0 0	0.0 0	2.38	0.4 7	0.2 0	0.2 0	0.1 3	1.966
9	2	NC106	53	0.0 9	0.8 1	0.0 6	0.0 4	1.96	0.7 4	0.2 3	0.0 4	0.0 0	2.70	0.0 4	0.9 2	0.0 0	0.0 4	1.96	0.7 9	0.2 1	0.0 0	0.0 0	2.79	0.4 7	0.2 0	0.2 0	0.1 3	2.220
10	2	NC107	53	0.0 2	0.6 0	0.2 8	0.0 9	1.55	0.1 9	0.4 3	0.3 8	0.0 0	1.81	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	1.626
11	2	NC110	53	0.0 9	0.6 2	0.2 1	0.0 8	1.74	0.4 9	0.2 8	0.2 3	0.0 0	2.26	0.0 4	0.9 2	0.0 0	0.0 4	1.96	0.5 8	0.4 2	0.0 0	0.0 0	2.58	0.4 7	0.2 0	0.2 0	0.1 3	2.000
12	2	NC112	53	0.0 6	0.7 0	0.1 5	0.0 9	1.72	0.1 9	0.6 0	0.2 1	0.0 0	1.98	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	1.796

Table 8.4.2(10) The course outcome attainment for all first-year courses of CAYm2 (2020-21)

S r. N o.	Se m / Ye ar	NBA Code	Total numbe r of student S <sub>ij</sub>	Theory end Semester exam (TH ESE) (i = 1)					Theory Progressive Assessment (TH PA) (i=2)					Practical End Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainmen t (COA) <sub>j</sub>
				$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>i</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	$\alpha$	$\beta$	$\gamma$	$\kappa$	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
1	1	NC103	39	0.0 5	0.6 2	0.3 1	0.0 3	1.69	0.1 8	0.7 4	0.0 8	0.0 0	2.10	0.7 7	0.2 3	0.0 0	0.0 0	2.77	0.8 7	0.1 3	0.0 0	0.0 0	2.87	0.4 7	0.2 0	0.2 0	0.1 3	2.147
2	1	NC104	39	0.4 1	0.5 6	0.0 3	0.0 0	2.38	0.4 4	0.4 9	0.0 8	0.0 0	2.36	0.5 1	0.4 9	0.0 0	0.0 0	2.51	0.8 5	0.1 5	0.0 0	0.0 0	2.85	0.4 7	0.2 0	0.2 0	0.1 3	2.467
3	1	NC108	39	0.0 8	0.6 2	0.2 8	0.0 3	1.74	0.3 1	0.5 9	0.1 0	0.0 0	2.21	0.3 1	0.6 9	0.0 0	0.0 0	2.31	0.8 5	0.1 5	0.0 0	0.0 0	2.85	0.4 7	0.2 0	0.2 0	0.1 3	2.096
4	1	NC109	39	-	-	-	-	-	-	-	-	-	-	1.0 0	0.0 0	0.0 0	0.0 0	3.00	1.0 0	0.0 0	0.0 0	0.0 0	3.00	0.0 0	0.0 0	0.8 0	0.2 0	3
5	1	NC111	39	0.0 3	0.2 6	0.4 4	0.2 8	1.03	0.6 9	0.2 6	0.0 5	0.0 0	2.64	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	1.510
6	1	NC114	39	N.A.																								-
7	2	NC102	39	0.1 3	0.8 2	0.0 5	0.0 0	2.08	0.5 1	0.3 8	0.1 0	0.0 0	2.41	1.0 0	0.0 0	0.0 0	0.0 0	3.00	0.9 7	0.0 3	0.0 0	0.0 0	2.97	0.4 7	0.2 0	0.2 0	0.1 3	2.448
8	2	NC105	39	0.1 3	0.8 7	0.0 0	0.0 0	2.13	0.1 3	0.8 7	0.0 0	0.0 0	2.13	0.2 3	0.7 7	0.0 0	0.0 0	2.23	0.6 7	0.3 3	0.0 0	0.0 0	2.67	0.4 7	0.2 0	0.2 0	0.1 3	2.220
9	2	NC106	39	0.1 0	0.8 7	0.0 3	0.0 0	2.08	0.1 8	0.8 2	0.0 0	0.0 0	2.18	0.8 5	0.1 5	0.0 0	0.0 0	2.85	0.8 5	0.1 5	0.0 0	0.0 0	2.85	0.4 7	0.2 0	0.2 0	0.1 3	2.354

10	2	NC107	39	0.00	0.87	0.13	0.00	1.87	0.03	0.77	0.21	0.00	1.82	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	1.855
11	2	NC110	39	0.28	0.69	0.03	0.00	2.26	0.72	0.26	0.03	0.00	2.69	0.72	0.28	0.00	0.00	2.72	0.79	0.21	0.00	0.00	2.79	0.47	0.20	0.20	0.13	2.508
12	2	NC112	39	0.18	0.79	0.03	0.00	2.15	0.44	0.54	0.03	0.00	2.41	-	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	2.231

Table 8.4.2(11) The course outcome attainment for all first-year courses of CAYm1 (2021-22)

S r. N o.	Se m / Ye ar	NBA Code	Total numbe r of student s S <sub>ij</sub>	Theory end Semester exam (TH ESE) (i = 1)					Theory Progressive Assessment (TH PA) (i=2)					Practical End Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainen t (COA) <sub>j</sub>
				α	β	γ	κ	(COA) <sub>i</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
								j					ij					ij					ij					
1	1	NC103	44.00	0.11	0.20	0.25	0.43	1.00	0.11	0.39	0.50	0.00	1.61	0.32	0.68	0.00	0.00	2.32	0.70	0.30	0.00	0.00	2.70	0.47	0.20	0.20	0.13	1.614
2	1	NC108	44.00	0.02	0.14	0.20	0.64	0.55	0.07	0.16	0.77	0.00	1.30	0.16	0.84	0.00	0.00	2.16	0.20	0.80	0.00	0.00	2.20	0.47	0.20	0.20	0.13	1.239
3	1	NC109	44.00	-	-	-	-	-	-	-	-	-	-	0.16	0.84	0.00	0.00	2.16	1.00	0.00	0.00	0.00	3.00	0.00	0.00	0.80	0.20	2.327
4	1	NC110	44.00	0.00	0.27	0.25	0.48	0.80	0.02	0.57	0.41	0.00	1.61	0.34	0.66	0.00	0.00	2.34	0.39	0.61	0.00	0.00	2.39	0.47	0.20	0.20	0.13	1.480
5	1	NC111	44.00	0.00	0.09	0.09	0.82	0.27	0.09	0.16	0.75	0.00	1.34	-	-	-	-	-	-	-	-	-	0.70	0.30	0.00	0.00	0.593	
6	1	NC114	44.00	N.A.																								
7	2	NC102	41.00	0.07	0.29	0.37	0.27	1.17	0.12	0.71	0.17	0.00	1.95	0.90	0.10	0.00	0.00	2.90	0.90	0.10	0.00	0.00	2.90	0.47	0.20	0.20	0.13	1.904
8	2	NC104	41.00	0.00	0.07	0.32	0.61	0.46	0.05	0.07	0.88	0.00	1.17	0.12	0.88	0.00	0.00	2.12	0.34	0.66	0.00	0.00	2.34	0.47	0.20	0.20	0.13	1.187

9	2	NC105	41.00	0.0 0	0.1 0	0.2 2	0.6 8	0.41	0.1 2	0.5 9	0.2 9	0.0 0	1.83	0.1 5	0.8 5	0.0 0	0.0 0	2.15	0.2 2	0.7 8	0.0 0	0.0 0	2.22	0.4 7	0.2 0	0.2 0	0.1 3	1.285
10	2	NC106	41.00	0.0 0	0.0 5	0.2 7	0.6 8	0.37	0.1 0	0.4 6	0.4 4	0.0 0	1.66	0.2 7	0.7 3	0.0 0	0.0 0	2.27	0.5 9	0.4 1	0.0 0	0.0 0	2.59	0.4 7	0.2 0	0.2 0	0.1 3	1.301
11	2	NC107	41.00	0.0 2	0.3 2	0.2 4	0.4 1	0.95	0.0 5	0.0 7	0.8 8	0.0 0	1.17	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	1.017
12	2	NC112	41.00	0.0 0	0.1 0	0.1 0	0.8 0	0.29	0.0 5	0.2 2	0.7 3	0.0 0	1.32	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	0.600

Table 8.4.2(12) The course outcome attainment for all first-year courses of CAY (2022-23)

S r. N o.	Se m / Ye ar	NBA Code	Total numbe r of student S <sub>ij</sub>	Theory end Semester exam (TH ESE) (i=1)					Theory Progressive Assessment (TH PA) (i=2)					Practical End Semester Exam (PR ESE) (i=3 or 4)					Practical Progressive Assessment (PR PA) (i=5)					Weightage Factor				CO - attainmen t (COA) <sub>j</sub>
				α	β	γ	κ	(COA) <sub>i</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	α	β	γ	κ	(COA) <sub>ij</sub>	TH ESE	TH PA	PR ESE	PR PA	
1	1	NC103	14	0.0 7	0.0 7	0.5 7	0.2 9	0.93	0.3 6	0.5 0	0.1 4	0.0 0	2.21	0.6 4	0.3 6	0.0 0	0.0 0	2.64	0.7 1	0.2 9	0.0 0	0.0 0	2.71	0.4 7	0.2 0	0.2 0	0.1 3	1.77
2	1	NC107	14	0.0 0	0.3 6	0.2 9	0.3 6	1.00	0.0 0	0.6 4	0.3 6	0.0 0	1.64	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	1.19
3	1	NC108	14	0.0 0	0.5 7	0.1 4	0.2 9	1.29	0.1 4	0.3 6	0.5 0	0.0 0	1.64	0.7 9	0.2 1	0.0 0	0.0 0	2.79	0.8 6	0.1 4	0.0 0	0.0 0	2.86	0.4 7	0.2 0	0.2 0	0.1 3	1.87
4	1	NC109	14	-	-	-	-	-	-	-	-	-	-	1.0 0	0.0 0	0.0 0	0.0 0	3.00	1.0 0	0.0 0	0.0 0	0.0 0	3.00	0.0 0	0.0 0	0.8 0	0.2 0	3.00
5	1	NC111	14	0.0 0	0.3 6	0.2 1	0.4 3	0.93	0.2 9	0.2 9	0.4 3	0.0 0	1.86	-	-	-	-	-	-	-	-	-	-	0.7 0	0.3 0	0.0 0	0.0 0	1.21
6	1	NC114	14	N.A.																								



7	2	NC104	14	<b>Semester 2 result is not yet declared</b>
8	2	NC102	14	
9	2	NC105	14	
10	2	NC106	14	
11	2	NC110	14	
12	2	NC112	14	

## 8.5 Attainment of Program Outcomes from first year courses (20)

### 8.5.1 Indicate results of the evaluation of each relevant PO and/ or PSO, if applicable

This assessment is based on internal institute examinations, Assignments and external examinations held by the university. The assessment is derived from the attainment of course outcomes of all the courses of the program.

#### Process for measuring attainment

- CO statements are provided by GTU in the syllabus (<https://syllabus.gtu.ac.in/Syllabus.aspx?tp=BE>) for all courses of the program. However, all the statements are reviewed and approved by DAAC of the Mechanical Engineering department.
- COs were mapped with program outcomes (POs) and program-specific outcomes (PSOs) by the group of faculties along with the course coordinator by carefully considering the factors to relate COs with POs and COs with PSOs.
- The record of the attainment of the COs were prepared for each course.
- The mean mapped value (MMV) for a PO (Eq. 8.3) is computed by averaging the mapped values for that PO concerning different COs ( $MV_k$ ), where  $n$  is number of mapped COs.

$$MMV = \left( \frac{\sum_{k=1}^n (MV_k)}{n} \right) \quad (8.3)$$

- The evaluation of POs/PSOs, from the CO attainment and CO-PO mapping is done using Eq. (8.4).

$$A_j = \left( \frac{COA_j}{3} \right) \cdot MMV_j \quad (8.4)$$

Here,  $A_j$  = Attainment of  $j^{th}$  Program Outcome, where  $j$  is from 1 to 12 for the twelve program outcomes provided by the NBA.

- The average attainment of a PO and PSOs for all courses of the program, is taken as an attainment level of that PO and PSOs for the direct attainment. In this manner, the direct attainment for all the POs and PSOs were evaluated.

## Evaluation of PO

The evaluation of PO for CAYm3 (2019-20), CAYm2 (2020-21), CAYm1 (2021-22), and CAY (2022-23) are shown in Table 8.5.1(1)-(4). Here, “-” represents that the MMV is not mapped with the particular PO.

Table 8.5.1(1) The Program outcomes attainment for the first-year courses of CAYm3 (2019-20).

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
NC103	1.23	1.02	1.02	1.02	1.02	-	-	-	-	1.02	-	1.02
NC104	1.35	1.08	1.08	-	0.54	1.08	1.08	0.90	1.62	1.08	1.08	1.26
NC108	1.34	0.84	-	-	-	-	-	1.31	0.98	0.78	-	1.12
NC109	2.18	1.45	-	-	1.45	1.45	-	1.45	2.18	1.45	-	0.73
NC111	0.92	0.99	-	-	-	-	-	-	-	-	-	0.76
NC114	-	-	-	-	-	-	-	-	-	-	-	-
NC102	-	-	-	-	-	-	-	1.07	0.81	1.22	-	0.91
NC105	1.97	1.97	-	-	-	1.97	-	1.31	-	1.31	-	1.97
NC106	1.48	1.48	1.48	-	-	-	0.74	0.74	-	-	-	1.48
NC107	0.81	-	1.08	-	-	0.81	1.08	0.90	0.54	0.81	-	1.08
NC110	1.67	1.33	1.00	-	1.67	-	1.33	-	-	1.56	-	1.44
NC112	1.68	1.44	-	-	-	-	-	-	-	-	-	1.00
PO Average Attainment	1.46	1.29	1.13	1.02	1.17	1.33	1.06	1.10	1.23	1.15	1.08	1.16

Table 8.5.1(2) The Program outcomes attainment for the first-year courses of CAYm2 (2020 - 21)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
NC103	1.72	1.43	1.43	1.43	1.43	-	-	-	-	1.43	-	1.43
NC104	2.06	1.64	1.64	-	0.82	1.64	1.64	1.37	2.47	1.64	1.64	1.92
NC108	1.68	1.05	-	-	-	-	-	1.63	1.22	0.98	-	1.40
NC109	3.00	2.00	-	-	2.00	2.00	-	2.00	3.00	2.00	-	1.00
NC111	1.21	1.31	-	-	-	-	-	-	-	-	-	1.01
NC114	-	-	-	-	-	-	-	-	-	-	-	-
NC102	-	-	-	-	-	-	-	1.43	1.09	1.63	-	1.22
NC105	2.22	2.22	-	-	-	2.22	-	1.48	-	1.48	-	2.22
NC106	1.57	1.57	1.57	-	-	-	0.78	0.78	-	-	-	1.57
NC107	0.93	-	1.24	-	-	0.93	1.24	1.03	0.62	0.93	-	1.24
NC110	2.09	1.67	1.25	-	2.09	-	1.67	-	-	1.95	-	1.81
NC112	2.08	1.78	-	-	-	-	-	-	-	-	-	1.24
PO Average Attainment	1.85	1.63	1.43	1.43	1.59	1.70	1.33	1.39	1.68	1.51	1.64	1.46

Table 8.5.1(3) The Program outcomes attainment for all first-year courses of CAYm1  
(2021-22)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
NC103	1.29	1.08	1.08	1.08	1.08	-	-	-	-	1.08	-	1.08
NC108	0.99	0.62	-	-	-	-	-	0.96	0.72	0.58	-	0.83
NC109	2.33	1.55	-	-	1.55	1.55	-	1.55	2.33	1.55	-	0.78
NC110	1.23	0.99	0.74	-	1.23	-	0.99	-	-	1.15	-	1.07
NC111	0.47	0.51	-	-	-	-	-	-	-	-	-	0.40
NC114	-	-	-	-	-	-	-	-	-	-	-	-
NC102	-	-	-	-	-	-	-	1.11	0.85	1.27	-	0.95
NC104	0.99	0.79	0.79	-	0.40	0.79	0.79	0.66	1.19	0.79	0.79	0.92
NC105	1.28	1.28	-	-	-	1.28	-	0.86	-	0.86	-	1.28
NC106	0.87	0.87	0.87	-	-	-	0.43	0.43	-	-	-	0.87
NC107	0.51	-	0.68	-	-	0.51	0.68	0.57	0.34	0.51	-	0.68
NC112	0.56	0.48	-	-	-	-	-	-	-	-	-	0.33
<b>PO Average Attainment</b>	1.05	0.91	0.83	1.08	1.06	1.03	0.72	0.88	1.08	0.97	0.79	0.83

Table 8.5.1(4) The Program outcomes attainment for all first-year courses of CAY (2022-  
23)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
NC103	1.41	1.18	1.18	1.18	1.18	-	-	-	-	1.18	-	1.18
NC107	0.99	0.80	0.80	-	0.40	0.80	0.80	0.66	1.19	0.80	0.80	0.93
NC108	1.49	0.93	-	-	-	-	-	1.45	1.09	0.87	-	1.24
NC109	3.00	2.00	-	-	2.00	2.00	-	2.00	3.00	2.00	-	1.00
NC111	0.97	1.05	-	-	-	-	-	-	-	-	-	0.80
NC114	-	-	-	-	-	-	-	-	-	-	-	-
NC104	<b>Semester 2 result is not yet declared</b>											
NC102												
NC105												
NC106												
NC110												
NC112												
<b>PO Average Attainment</b>	1.57	1.19	0.99	1.18	1.19	1.40	0.80	1.37	1.76	1.21	0.80	1.03

### Evaluation of PSOs

The evaluation of PSOs for CAYm3 (2019-20), CAYm2 (2020-21), CAYm1 (2021-22), CAY (2022-23) are shown in Table 8.5.1(5)-(8).

Table 8.5.1(5) The attainment of PSO for all first-year courses of CAYm3 (2019-20)

Course	PSO1	PSO2
NC103	1.02	1.02
NC104	-	1.08
NC108	-	-
NC109	1.45	1.45
NC111	-	0.46
NC114	-	-
NC102	-	-
NC105	-	-
NC106	1.33	0.74
NC107	-	1.08
NC110	-	0.67
NC112	-	0.72
PSO Average Attainment	1.27	0.90

Table 8.5.1(6) The attainment of PSO for all first-year courses of CAYm2 (2020-21)

Course	PSO1	PSO2
NC103	1.43	1.43
NC104	-	1.64
NC108	-	-
NC109	2.00	2.00
NC111	-	0.60
NC114	-	-
NC102	-	-
NC105	-	-
NC106	1.41	0.78
NC107	-	1.24
NC110	-	0.84
NC112	-	0.89
PSO Average Attainment	1.61	1.18

Table 8.5.1(7) The attainment of PSO for all first-year courses of CAYm1 (2021-22)

Course	PSO1	PSO2
NC103	1.08	1.08
NC108	-	-
NC109	1.55	1.55
NC110	-	0.49
NC111	-	0.24
NC114	-	-
NC102	-	-
NC104	-	0.79
NC105	-	-
NC106	0.78	0.43
NC107	-	0.68
NC112	-	0.24
PSO Average Attainment	1.14	0.69

Table 8.5.1(8) The attainment of PSO for all first-year courses of CAY (2022-23)

Course	PSO1	PSO2
NC103	1.18	1.18
NC107	-	0.80
NC108	-	-
NC109	2.00	2.00
NC111	-	0.48
NC114	-	-
NC104	Semester 2 result is awaited	
NC102		
NC105		
NC106		
NC110		
NC112		
PSO Average Attainment	1.59	1.12

### 8.5.2 Actions taken based on the results of the evaluation of relevant POs (5)

Table 8.5.2(1)-(3) shows the PO Attainment Levels and Actions for improvement for the CAYm3 (2019-20), CAYm2 (2020-21), CAYm1 (2021-22) respectively. Table 8.5.2(4)-(6) shows PSO Attainment Levels and Actions for improvement for the CAYm3 (2019-20), CAYm2 (2020-21), CAYm1 (2021-22) respectively. PO and PSO Attainment Levels and

Actions are taken for the CAY cannot be evaluated as a result of the second semester is not declared.

**Table 8.5.2(1) PO Attainment Levels and Actions taken for the CAYm3 (2019-2020)**

POs	Target Level	Attainment Level	Observations
<b>PO1 Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	0.980	1.462	The target level is attained.
<b>Action 1:</b> Fundamentals of engineering knowledge is improved by conducting bridge course (Induction Program).			
<b>Action 2:</b> Arranged extra lectures online due to pandemic affected semester.			
<b>PO2 Problem analysis:</b> Identity, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	0.867	1.290	The target level is attained.
<b>Action 1:</b> Students are encouraged to search in open source to collect more information related to the topics covered in syllabus.			
<b>PO3 Design/development of solutions:</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and the cultural, societal, and environmental considerations.			
PO3	0.760	1.134	The target level is attained.
<b>Action 1:</b> Students are motivated to learn through NPTEL delivered lectures.			
<b>Action 2:</b> State level GUJCOST funded workshop on “Mathematical Modelling and their applications in Science and Engineering” has been arranged for students and faculties.			
<b>PO4: Conduct investigations of complex problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions			
PO4	0.80	1.02	The target level is attained.
<b>Action 1:</b> Webinar was organized on “Industrial Engineering” on National Engineer’s Day to develop the knowledge of industrial Engineering among students.			

<b>PO5 Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO5	0.750	1.171	The target level is attained.
<b>Action 1:</b> Demonstration of VMC machine and Casting Job on Foundry Lab & use of modern tools for measurement of electrical quantities.			
<b>PO6 The engineer and society:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	0.850	1.329	The target level is attained.
<b>Action 1:</b> Students to be made aware of the existing societal & health related problems through additional session on “IEC Abhiyan Covid 19”.			
<b>Action 2:</b> Issues related to socio economics, cultural, safety, women empowerment, science and sustainable development etc, are sensitized among the students by organizing events like, Sainik Welfare Fund, Women’s Day Celebration, International Yoga Day celebration etc.			
<b>PO7 Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	0.700	1.060	The target level is attained.
<b>Action 1:</b> Strategies were discussed in the class for reduction of emission from vehicles and related technologies.			
<b>Action 2:</b> Group discussion was arranged in class to create awareness among the students related to environmental impact on recent technologies.			
<b>PO8 Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	0.710	1.097	The target level is attained.
<b>Nil</b>			
<b>PO9 Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	0.807	1.227	The target level is attained.



<b>Action 1:</b> Students are motivated to be a part of competition such as Harmony, NSS, NCC and sports activity.			
<b>PO10 Communication:</b> Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	0.762	1.155	The target level is attained.
<b>Action 1:</b> Assignment based on power point presentations; report writing was given.			
<b>PO11 Project management and finance:</b> Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	0.800	1.081	The target level is attained.
<b>Nil</b>			
<b>PO12 Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	0.788	1.162	The target level is attained.
<b>Action 1:</b> Webinars were arranged on “Meditation for Mental Well-Being and Success, New Education Policy – 2020, Startup & Innovation Awareness and opportunities for faculty Members & Students.			

**Table 8.5.2(2) PO Attainment Levels and Actions taken for the CAYm2 (2020-21)**

POs	Target Level	Attainment Level	Observations
<b>PO1 Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	0.980	1.855	The target level is attained.
<b>Action 1:</b> Induction program is conducted every year for the first-year students before beginning of syllabus teaching. <b>Action 2:</b> Extra lectures were arranged for students for more practice.			
<b>PO2 Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	0.867	1.631	The target level is attained.
<b>Action 1:</b> Students to be provided question banks for more practice. These question banks are prepared from entire syllabus and considering previous years end semester examination question paper.			
<b>PO3 Design/development of solutions:</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	0.760	1.427	The target level is attained.
<b>Action 1:</b> Students are motivated to learn through NPTEL delivered lectures. <b>Action 2:</b> Assignments were given to students for more practice in each course as a part of continuous evaluation.			
<b>PO4 Conduct Investigations of Complex Problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems.			
PO4	0.800	1.427	The target level is attained.
<b>Nil</b>			

<b>PO5 Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO5	0.750	1.586	The target level is attained.
<b>Action 1:</b> Provided various online videos for improvement in communication skills. <b>Action 2:</b> Students were encouraged and guided to use different drafting software for EGVC. <b>Action 3:</b> The students to use web-links and sites to find out solutions to topic specific problems.			
<b>PO6 The engineer and society:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	0.850	1.698	The target level is attained.
<b>Action 1:</b> Issues related to socio economics, cultural, healthcare, safety, women empowerment, science and sustainable development etc, are sensitized among the students by organizing events like Azaadi Ka Amrit Mahotsav, Traffic Rules and Road Safety, Sainik Welfare Fund, Women's Day Celebration, etc.			
<b>PO7 Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	0.700	1.335	The target level is attained.
<b>Action 1:</b> Discussed emission reduction strategies in the class. <b>Action 2:</b> 'World Environment Day', 'Energy conservation day' were celebrated under NSS to sensitize students towards our responsibilities for environment and ecology.			
<b>PO8 Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	0.710	1.389	The target level is attained.
<b>Action 1:</b> For Traffic awareness, expert lecture was arranged on 'Traffic Rules and Road Safety'			

<b>Action 2:</b> Students were addresses towards self-defense techniques and tips through training.			
<b>PO9 Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	0.807	1.679	The target level is attained.
<b>Action 1:</b> Students actively participated in events like Technokruti 2022, Unity 2022, Prism 2022, Sports Activities and learns leadership skills, management skills and team work.			
<b>PO10 Communication:</b> Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	0.762	1.505	The target level is attained.
<b>Action 1:</b> The faculty to encourage students to have the course related discussions in English using the keywords and concepts.			
<b>PO11 Project management and finance:</b> Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	0.800	1.644	The target level is attained.
<b>Action 1:</b> A workshop was arranged on "Entrepreneurship and Innovation as Carrier Opportunity."			
<b>PO12 Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	0.788	1.459	The target level is attained.
<b>Action 1:</b> Faculties to encourage students to initiate and develop critical thinking mindset.			
<b>Action 2:</b> A workshop was arranged on "Entrepreneurship and Innovation as Carrier Opportunity."			

**Table 8.5.2(3) PO Attainment Levels and Actions taken for the CAYm1 (2021-22)**

POs	Target Level	Attainment Level	Observations
<b>PO1 Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	0.980	1.053	The target level is attained.
<b>Action 1:</b> Assignments were given in all courses.			
<b>Action 2:</b> Induction program is conducted every year for the first-year students before beginning of syllabus teaching.			
<b>PO2 Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	0.867	0.908	The target level is attained.
<b>Action 1:</b> Case studies have been discussed in the class.			
<b>PO3 Design/development of solutions:</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	0.760	0.830	The target level is attained.
<b>Action 1:</b> Seminar was conducted on National intellectual property awareness mission.			
<b>PO4 Conduct Investigations of Complex Problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems.			
PO4	0.800	1.076	The target level is attained.
<b>Nil</b>			
<b>PO5 Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO5	0.750	1.064	The target level is attained.
<b>Action 1:</b> For better understanding of concepts, regular classes were supplemented by NPTEL.			

<b>PO6 The engineer and society:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	0.850	1.034	The target level is attained.
<b>Action 1:</b> Conducted activities like Women's Day celebration, International Yoga Day celebration etc.			
<b>PO7 Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	0.700	0.722	The target level is attained.
<b>Action 1:</b> "World Environment Day" celebrated to sensitize students towards our responsibility for environment and ecology.			
<b>PO8 Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	0.710	0.877	The target level is attained.
Nil			
<b>PO9 Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	0.807	1.084	The target level is attained.
<b>Action 1:</b> Students are motivated to be a part of competition such as Harmony, NSS, NCC and sports activity.			
<b>PO10 Communication:</b> Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	0.762	0.973	The target level is attained.
<b>Action 1:</b> The faculty to encourage students to have the course related discussions in English using the key words and concepts.			
<b>PO11 Project management and finance:</b> Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	0.800	0.791	Attainment Level is close to Target Level.

<b>Nil</b>			
<b>PO12 Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	0.788	0.834	The target level is attained.
<b>Action 1:</b> Discussed emission reduction strategies in the class.			

**Table 8.5.2(4) PSO Attainment Levels and Actions taken for the CAYm3 (2019-20)**

PSOs	Target Level	Attainment Level	Observations
<b>PSO 1:</b> Graduates would be able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.			
PSO1	0.773	1.27	The target level is attained.
<b>Action 1:</b> Students are motivated to learn through NPTEL delivered lectures.			
<b>Action 2:</b> Demonstration of VMC machine and Casting Job on Foundry Lab & use of modern tools for measurement of electrical quantities.			
<b>PSO 2</b> Graduates would be able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.			
PSO2	0.620	0.90	The target level is attained.
<b>Action 1:</b> State level GUJCOST funded workshop on “Mathematical Modelling and their applications in Science and Engineering” has been arranged for students and faculties.			

**Table 8.5.2(5) PSO Attainment Levels and Actions taken for the CAYm2 (2020-21)**

PSOs	Target Level	Attainment Level	Observations
<b>PSO1: Graduates would be able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.</b>			
PSO1	0.773	1.61	The target level is attained.
<b>Action 1:</b> Students are motivated to learn through NPTEL delivered lectures.			
<b>Action 2:</b> Students actively participated in event like Technokruti 2022.			
<b>PSO2 Graduates would be able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.</b>			
PSO2	0.620	1.18	The target level is attained.
<b>Action 1:</b> Students were encouraged and guided to use different drafting software for EGVC.			
<b>Action 2:</b> Discussed emission reduction strategies in the class.			

**Table 8.5.2(6) PSO Attainment Levels and Actions taken for the CAYm1 (2021-22)**

PSOs	Target Level	Attainment Level	Observations
<b>PSO1: Graduates would be able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.</b>			
PSO1	0.773	1.136	The target level is attained.
<b>Action 1:</b> Demonstration of VMC machine and Casting Job on Foundry Lab & use of modern tools for measurement of electrical quantities.			
<b>PSO2:</b> Graduates would be able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.			
PSO2	0.620	0.688	The target level is attained.
<b>Action 1:</b> For better understanding of concepts, regular classes were supplemented by NPTEL.			
<b>Action 2:</b> Discussion was made on Application of mathematical tools through videos.			



## 9. Student Support Systems

### 9.1 Mentoring System to Help at Individual Level (5)

Counselling is a systematic student-centred process based on a close student-advisor relationship intended to aid students in achieving educational, career, and personal goals. The nature of face-to-face mentoring might be to inform, suggest, counsel, coach and teach. The purpose of counselling is that the student can freely and confidentially express their academic, emotional and personal pressures and concerns to a professional who can help them effectively.

#### Details of mentoring system:

The mentoring system involving faculties at all levels mainly provides support to the students in the matters such as

- To help them make better choices for career paths and prepare them for the same
- To create awareness among the students for the importance of overall personality development and to serve the society in the best possible manner as an engineer.
- To solve their theoretical and practical issues to sharpen their knowledge Faculties have a meeting with the students periodically and their academic progress and all other activities are discussed. Any discrepancies in the student's behaviour like attendance, participation and interaction in any sphere of college life questioned and counselled with care.
- Table 9.1 (1) shows the objectives of the mentoring system. An information of the students gathered by the mentor is shown Table 9.1(2). Table 9.1(3)-(7) shows the allocation of students to the faculty members in mentoring system in different departments for different academic year.

Table 9.1(1) Type of mentoring system

1	<b>Orientation programme for first-year students</b>	<ul style="list-style-type: none"> <li>• <b>To impart information to newly admitted students about the institute regarding the vision &amp; mission of institute/program, faculty members and teaching/examination scheme of GTU.</b></li> <li>• <b>To motivate the students through experts so that they can carry out their study and other routine work without hesitation.</b></li> <li>• <b>To familiarise them with the campus, laboratories, library and other facilities through a guided tour by faculty members.</b></li> </ul>
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2	Academic guidance	<ul style="list-style-type: none"> <li>• Assign faculty mentor to a group/batch of students.</li> <li>• Collect details like personal details, parents/guardians' details and academic details, academic scores etc.</li> <li>• Share information on the academic calendar and e-learning resources.</li> <li>• Mentors have a meeting with the students periodically for their academic progress and counselling.</li> <li>• Identify students with less attendance and counsel.</li> <li>• Focus on academics of students by providing them self motivation, additional reading materials, model questions, solutions to cope.</li> </ul>
3	Course work specific/laboratory specific	<ul style="list-style-type: none"> <li>• Counsel students who are irregular in coursework/laboratory classes to attend regularly and complete pending work/experiments during specified extra hours.</li> <li>• Arrange extra lecture/lab coaching for these students.</li> </ul>
4	Professional guidance	<ul style="list-style-type: none"> <li>• Motivate students to participate in expert lectures, seminars, webinars, workshops, finishing school, Industrial visits, and industrial training (One or two weeks) to enhance professional skills.</li> </ul>
5	Career Advancement	<ul style="list-style-type: none"> <li>• Provide Career Guidance and prepare students for campus recruitment drives by the Training &amp; Placement Cell.</li> <li>• Guide students for higher studies.</li> </ul>
6	All-round development	<ul style="list-style-type: none"> <li>• Encourage and support students towards all-around development through participation in literary, social, cultural and sports activities which help to develop leadership qualities, decision-making abilities, team spirit, socio-psychological awareness, and shape the student into an intellectually integrated person.</li> </ul>

Table 9.1(2) GR format

Collection of Student Data in GR Form (EXCEL)	
<b>ENROLMENT NUMBER</b>	170490119002
<b>STUDENT NAME</b>	ASTI HARSH DIPAK
<b>MOTHER NAME</b>	KAVITA
<b>CURRENT ADDRESS</b>	L-501, STERLING HEIGHTS CANAL ROAD, JAHANGIRABAD, SURAT


<b>PERMANENT ADDRESS</b>	L-501, STERLING HEIGHTS CANAL ROAD, JAHANGIRABAD, SURAT
<b>STUDENT CONTACT NO.</b>	9429004245
<b>GUARDIAN CONTACT NO</b>	9011384810
<b>E-MAIL ID</b>	HARSHASTI99@GMAIL.COM
<b>GENDER</b>	MALE
<b>CATEGORY</b>	OPEN
<b>RELIGION</b>	HINDU
<b>NATIONALITY</b>	INDIAN
<b>BIRTH DATE</b>	27-11-1999
<b>BIRTHPLACE</b>	SURAT
<b>ACPC FEES</b>	0
<b>QUOTA TYPE</b>	SQ
<b>SCHOOL NAME WITH ADDRESS</b>	"L.P.SAVANI L.P.SAVANI, HONEY PARK ROAD, ADAJAN, SURAT"
<b>GUARDIAN NAME</b>	DIPAK ASTI
<b>GUARDIAN ADDRESS</b>	L-501, STEERLING HEIGHTS CANAL ROAD, JAHANGIRABAD, SURAT
<b>ADHAR CARD NO</b>	990900565297
<b>BANK NAME</b>	BANK OF BARODA
<b>BANK A/C NO.</b>	27380100022633
<b>STUDENT PHOTO</b>	
<b>ACPC Merit Rank</b>	37212

Table 9.1(3) Mentor list of Mechanical Department

## MECHANICAL ENGINEERING DEPARTMENT

YEAR	SEM	PEN NO. RANGE	2019-2020 (CAYm3)	PEN NO. RANGE	2020-2021 (CAYm2)	PEN NO. RANGE	2021-2022 (CAYm1)	PEN NO. RANGE	2022-2023 (CAY)
1	1	190490119001 to 190490119030	Prof. Arif Varsi	200490119001 to 200490119020	Prof. Hitesh Tailor	200490119037, 210490119001 to 210490119022	Prof. Hiren Tamboli	160490119021, 170490119027, 170490119068, 220490119001 to 220490119014	Dr Shakil Kagzi
		190490119032 to 190490119060	Prof. Hiten Mistry	200490119021 to 200490119042	Prof. Divyesh Patel	210490119023 to 210490119044	Prof. Pragnan Lad		
	2	190490119001 to 190490119030	Prof. Arif Varsi	200490119001 to 200490119020	Prof. Hitesh Tailor	200490119037, 210490119001 to 210490119022	Prof. Hiren Tamboli	160490119021, 170490119027, 170490119068, 220490119001 to 220490119014	Dr Shakil Kagzi
		190490119032 to 190490119060	Prof. Hiten Mistry	200490119021 to 200490119042	Prof. Divyesh Patel	210490119023 to 210490119044	Prof. Pragnan Lad		
2	3	180490119003 to 180490119038	Prof. Milan Patel	170490119034, 180490119016, 180490119030, 190490119001 to 190490119044	Prof. Arif Varsi	190490119005, 200490119001 to 200490119031	Prof. Hitesh Tailor	190490119004 to 190490119048, 200490119037, 210490119001 to 210490119008	Prof. Hiren Tamboli
		180490119039 to 190493119014	Prof. Hiran Tamboli	190490119045 to 200490119520	Prof. Hiten Mistry	200490119032 to 210490119523	Prof. Rikesh Prajapati	210490119009 to 210490119033	Prof. Nilesh Rana
		190493119015 to 190493119041	Prof. Rinkesh Patel	200490119521 to 200490119555	Prof. Priyank Dave	210490119524 to 2210490119556	Prof. Priyank Dave	210490119034 to 220493119014	Dr. Akash Vyas
		190493119042 to 190493119062	Prof. Chirag Chaudhari	200490119556 to 200490119592	Prof. Deep Vyas			220493119015 to 220493119059	Prof. Tapan Chaudhari

	4	180490119003 to 180490119038	Prof. Milan Patel	170490119034, 180490119016, 180490119030, 190490119001 to 190490119044	Prof. Arif Varsi	190490119005, 200490119001 to 200490119031	Prof. Hitesh Tailor	200490119507 to 200490119584	Prof. Hiren Tamboli
		180490119039 to 180490119042	Prof. Arif Varsi	190490119045 to 200490119519	Prof. Hiten Mistry	200490119032 to 210490119523	Prof. Rikesh Prajapati	200490119592 to 210490119027	Prof. Nilesh Rana
		180490119043 to 190493119014	Prof. Hiran Tamboli	200490119522 to 200490119555	Prof. Priyank Dave	210490119524 to 2210490119553	Prof. Priyank Dave	210490119528 to 2210490119516	Dr. Akash Vyas
		190493119015 to 190493119041	Prof. Rinkesh Patel	200490119556 to 200490119591	Prof. Deep Vyas			220493119019 to 22049311905	Prof. Tapan Chaudhari
		190493119042 to 190493119062	Prof. Chirag Chaudhari						
3	5	140490119077, 160490119013, 170490119001 to 170490119037	Prof. Piyush Savaj	150490119025, 150490119026, 160490119028, 160490119029, 160490119059, 160494119005, 170490119003 to 180490119019	Prof. Milan Patel	180490119030, 180490119016, 180490119045, 190490119001 to 190490119032	Prof. Vishal Dhimmar	190490119005, 200490119001 to 200490119021	Prof. Hitesh Tailor
		170490119038 to 170490119070	Prof. Rikesh Prajapati	180490119020 to 190493119007	Prof. Hiren Tamboli	190490119033 to 190490119060, 190493119032	Dr. Chetan Patel	200490119022 to 210490119504	Prof. Vishal Dhimmar
		170490119071 to 180493119018	Prof. Misal Gandhi	190493119008 to 190493119037	Prof. Rinkesh Patel	200490119501 to 200490119531	Prof. Vivek Bhagat	210490119505 to 210490119527	Dr. Hitesh Jariwala
		180493119018 to	Prof. Nilesh Rana	190493119038 to 190493119062, 180493119037	Prof. Chirag Chaudhari	200490119532 to 200490119559	Prof. Mayank Parmar	210490119529 to 210490119552	Prof. Priyank Dave

		180493119058, 160490119067				200490119560 to 200490119591, 170490119034	Dr. Nirav Patel		
	6	120490119115, 140490119002, 140490119077, 140494119001, 150490119013, 150490119035, 160490119013, 160490119056, 160490119067, 170490119001 to 170490119037	Prof. Piyush Savaj	130490119014,140 490119087,150490 119025, 150490119026, 150490119073, 160490119028, 160490119029, 160490119059, 160494119005, 170490119003 to 180490119019	Prof. Milan Patel	190490119005, 200490119001 to 200490119031	Prof. Hitesh Tailor	140490119094, 190490119005, 200490119001 to 200490119021	Prof. Hitesh Tailor
		170490119038 to 170490119070	Prof. Rikesh Prajapati	180490119020 to 190493119007	Prof. Hiren Tamboli	200490119032 to 210490119523	Prof. Rikesh Prajapati	200490119022 to 210490119504	Prof. Vishal Dhimmar
		170490119071 to 180493119018	Prof. Misal Gandhi	190493119008 to 190493119037	Prof. Rinkesh Patel	210490119524 to 210490119553	Prof. Priyank Dave	210490119505 to 210490119527	Dr. Hitesh Jariwala
		180493119018 to 180493119058	Prof. Nilesh Rana	190493119038 to 190493119062	Prof. Chirag Chaudhari			210490119529 to 210490119552	Prof. Priyank Dave

4	7	140490119022, 140490119029, 150490119015 to 150490119097, 160490119002 to 160490119025	Prof. Priyank Dave	130490119016,140 490119002, 140490119077, 140490119091,140 490119126,140494 119001, 150490119013,160 490119013, 160490119056,160 490119067,170490 119001 to 170490119028	Dr. Chetan Patel	130490119014, 140490119087, 150490119025, 150490119026, 150490119073, 160490119028, 160490119029, 160490119059, 160494119005, 170490119003 to 180490119015	Prof. Milan Patel	170490119019, 180490119030, 180490119016, 180490119045, 190493119032, 190490119001 to 190490119029	Prof. Milan Patel
		160490119026 to 160490119072, 160494119004	Prof. Ripal Patel	170490119030 to 170490119067	Dr. Shakil Kagzi	180490119017 to 190493119005	Prof. Nilesh Rana	190490119030 to 190490119059	Prof. Rinkesh Patel
		170493119001 to 170493119034	Dr. Shakil Kagzi	170490119069 to 180493119022	Prof. Vatsal Maisuriya	190493119006 to 190493119037	Prof. Rinkesh Patel	200490119501 to 200490119532	Prof. Vivek Bhagat
		170493119035 to 170493119067	Prof. Harshal Shukla	180493119023 to 180493119058	Prof. Nilesh Rana	190493119038 to 190493119062	Dr. Shakil Kagzi	200490119534 to 200490119566	Prof. Mayank Parmar
								200490119567 to 200490119591	Dr.Nirav Patel

8	140490119022, 140490119029, 150490119015 to 150490119097, 160490119002 to 160490119025	Prof. Priyank Dave	140490119002, 140490119077, 140490119091,140 490119126,140494 119001, 150490119013,160 490119013, 160490119056,160 490119067,170490 119001 to 170490119028	Dr. Chetan Patel	130490119014, 140490119087, 150490119025, 150490119026, 150490119073, 160490119028, 160490119029, 160490119059, 160494119005, 170490119003 to 180490119018	Prof. Milan Patel	170490119019, 180490119030, 180490119016, 180490119045, 190493119032, 190490119001 to 190490119029	Prof. Milan Patel
	160490119026 to 160490119072, 160494119004, 161123119016	Prof. Ripal Patel	170490119030 to 170490119067	Dr. Shakil Kagzi	180490119019 to 190493119005	Prof. Nilesh Rana	190490119030 to 190490119059	Prof. Rinkesh Patel
	170493119001 to 170493119034	Dr. Shakil Kagzi	170490119069 to 180493119022	Prof. Vatsal Maisuriya	190493119006 to 190493119037	Prof. Rinkesh Patel	200490119501 to 200490119532	Prof. Vivek Bhagat
	170493119035 to 170493119067	Prof. Harshal Shukla	180493119023 to 180493119058	Prof. Nilesh Rana	190493119038 to 190493119062	Dr. Shakil Kagzi	200490119534 to 200490119566	Prof. Mayank Parmar
							200490119567 to 200490119591	Dr.Nirav Patel



Table 9.1(4) Mentor list of Civil Department

Civil Engineering Department									
Year	Se m	PEN Range	2019-2020 CAYm3	PEN Range	2020-2021 CAYm2	PEN Range	2021-2022 CAYm1	PEN Range	2022-2023 CAY
1	1	190490106001 To 190490106027	Prof.Bankim Joshi	200490106001 To 200490106022	Dr.Damyanti Badgha	210490106001 To 210490106026	Prof.Nikunj Ashiyani	220490106001 To 220490106027	Prof.Hetali Dhimmar
		190490106028 To 190490106051	Prof.Neetu Yadav	200490106023 To 200490106044	Prof.Neetu Yadav	210490106027 To 210490106052	Prof.Gunjan Shah	-	-
		190490106052 To 190490106075	Prof.Sandip Mistry	200490106045 To 200490106067	Prof.Ujjaval Shah	210490106053 To 210490106077	Prof.Honey Lalvani	-	-
		190490106076 To 190490106098	Prof.Jaydeep Vashi	200490106068 To 200490106089	Prof.Vishal Patel	210490106078 To 210490106104	Prof.Pragnesh Patel	-	-
		190490106099 To 190490106122	Prof.Mandani Kartik	200490106090 To 200490106109	Prof.Jadav Mahan	210490106105 To 210490106133	Prof.Dhruvi Patel	-	-
		190490106123 To 190490106147	Prof.Priyank Patel	-	-	-	-	-	-
	2	190490106001 To 190490106026	Prof.Bankim Joshi	200490106001 To 200490106021	Dr.Damyanti Badgha	210490106001 To 210490106024	Prof.Nikunj Ashiyani	220490106001 To 220490106027	Prof.Hetali Dhimmar
		190490106027 To 190490106049	Prof.Damyanti Badagha	200490106022 To 200490106042	Prof.Neetu Yadav	210490106025 To 210490106048	Prof.Gunjan Shah	-	-
		190490106050 To 190490106072	Prof.Sandip Mistry	200490106043 To 200490106065	Prof.Ujjaval Shah	210490106049 To 210490106073	Prof.Honey Lalvani	-	-
		190490106073 To 190490106096	Prof.Jaydeep Vashi	200490106066 To 200490106087	Prof.Vishal Patel	210490106074 To 210490106100	Prof.Pragnesh Patel	-	-
		190490106097 To 190490106123	Prof.Mandani Kartik	200490106088 To 200490106109	Prof.Jadav Mahan	210490106102 To 210490106133	Prof.Dhruvi Patel	-	-
		190490106124 To 190490106147	Prof.Priyank Patel	-	-	-	-	-	-
2	3	170490106001, 180490106001 To 180490106025	Prof.Rushabh Shah	170490106031, 190490106001 To 190490106036	Dr.Yazad Jabbar	200490106001 To 200490106030	Dr.Mayuri Prajapati	210490106001 To 210490106034	Prof.Nikunj Ashiyani
		180490106026 To 180490106053	Prof.Jenish Mistry	190490106037 To 190490106071	Prof.Bankim Joshi	200490106031 To 200490106062	Prof.Mahek Chauhan	210490106035 To 210490106066	Prof.Kinjal Patel
		180490106054 To 180490106078	Prof.Pragnesh Patel	190490106072 To 190490106108	Prof.Sandip Mistry	200490106063 To 200490106093	Dr.Ujjaval Shah	210490106067 To 210490106098	Prof.Mahek Chuhan

3	4	180490106081 To 180490106094, 190493106001 To 190493106011	Prof.Zalak Shah	190490106110 To 190490106145, 200490106501 To 200490106503	Prof.Sarika Javiya	200490106094 To 200490106109, 210490106501 To 210490106516	Prof.Vishal Patel	210490106099 To 210490106132	Prof.Drasti Patel
		190493106012 To 190493106034	Prof.Diyora Samir	200490106504 To 200490106534	Prof.Arun Prajapati	210490106517 To 210490106545	Prof.Jaydeep Agola	220493106001 To 220493106025	Prof.Krunal Shah
		190493106035 To 190493106058	Prof.Dhruvi Shukla	-	-	-	-	-	-
		170490106001 To 180490106032	Prof.Nisha Soni	170490106031, 190490106001 To 190490106036	Dr.Yazad Jabbar	200490106001 To 200490106030	Dr.Mayuri Prajapati	210490106001 To 210490106034	Prof.Nikunj Ashiyani
		180490106033 To 180490106066	Prof.Jenish Mistry	190490106037 To 190490106071	Prof.Bankim Joshi	200490106031 To 200490106062	Dr.Ujjaval Shah	210490106035 To 210490106066	Prof.Kinjal Patel
		180490106067 To 180490106094, 190493106001 To 190493106004	Prof.Pragnesh Patel	190490106072 To 190490106108	Prof.Sandip Mistry	200490106063 To 200490106093	Prof.Vishal Patel	210490106067 To 210490106098	Prof.Mahek Chuhan
		190493106005 To 190493106032	Prof.Zalak Shah	190490106110 To 190490106145, 200490106501 To 200490106503	Prof.Sarika Javiya	200490106094 To 200490106109, 210490106501 To 210490106516	Prof.Jaydeep Agola	210490106099 To 210490106132	Prof.Drasti Patel
		190493106033 To 190493106058	Prof.Diyora Samir	200490106504 To 200490106534	Prof.Arun Prajapati	210490106517 To 210490106545	Prof.Dhruvi Shukla	220493106001 To 220493106025	Prof.Krunal Shah
		-	-	-	-	-	-	-	-
	5	150490106007 To 150490106010, 160490106023 To 160490106079, 170490106002 To 170490106032	Prof.Bhavin Kashiyani	140490406042, 150490106121, 160490106046, 170490106001 To 170490106124, 180490106001 To 180490106027	Dr.Nisha Soni	190490106001 To 190490106036	Dr.Yazad Jabbar	200490106001 To 200490106030	Prof.Abhishek Shinde
		170490106033 To 170490106069	Prof.Ronak Khurana	180490106028 To 180490106065	Prof.Nikunj Ashiyani	190490106037 To 190490106070	Prof.Bankim Joshi	200490106031 To 200490106062	Prof.Arun Prajapati
		170490106070 To 170490106102	Prof.Khushbu Vedwala	180490106066 To 190493106006	Prof.Jenish Mistry	190490106071 To 190490106107	Prof.Sandip Mistry	200490106063 To 200490106093	Prof.Megha Trivedi

		170490106103 To 170490106127, 180493106002 To 180493106009	Prof.Vishal Patel	190493106007 To 190493106034	Prof.Abhishek Sapre	190490106108 To 190490106145	Prof.Arun Prajapati	200490106094 To 200490106109, 210490106501 To 210490106516	Prof.Jaydeep Vashi
		180493106011 To 180493106040	Prof.Agola Jaydeep	190493106035 To 190493106058, 190494106001	Prof.Darshan Patel	200490106501 To 200490106534	Prof.Sarika Javiya	210490106517 To 210490106545	Prof.Ganshyam Patel
	6	150490106007 To 150490106120, 160490106017 To 160490106079, 170490106002 To 170490106027	Dr.Mayuri Prajapati	140490406042, 150490106121, 160490106046, 170493106047, 170490106001 To 170490106124, 180493106018, 180490106001 To 180490106016	Dr..Nisha Soni	190490106001 To 190490106036	Dr.Yazad Jabbar	200490106001 To 200490106030	Prof.Abhishek Shinde
		170490106029 To 170490106064	Prof.Ronak Khurana	180490106017 To 180490106053	Prof.Nikunj Ashiyani	190490106037 To 190490106070	Prof.Bankim Joshi	200490106031 To 200490106062	Prof.Arun Prajapati
		170490106066 To 170490106100	Prof.Khushbu Vedwala	180490106054 To 180490106090	Prof.Jenish Mistry	190490106071 To 190490106107	Prof.Sandip Mistry	200490106063 To 200490106093	Prof.Megha Trivedi
		170490106101 To 170490106127, 170493106017 To 170493106059, 180493106002 To 180493106006	Prof.Vishal Patel	180490106091 To 180490106094, 190493106001 To 190493106026	Prof.Abhishek Sapre	190490106108 To 190490106145	Prof.Arun Prajapati	200490106094 To 200490106109, 210490106501 To 210490106516	Prof.Jaydeep Vashi
		180493106008 To 180493106040	Prof.Agola Jaydeep	190493106027 To 190493106058, 190494106001	Prof.Darshan Patel	200490106501 To 200490106534	Prof.Riya Dalal	210490106517 To 210490106545	Prof.Ganshyam Patel
4	7	130490106107, 140490106010 To 140490106123, 150490106009 To 150490106091, 160490106001 To 160490106025	Prof.Abhishek Sapre	150490106007 To 150490106120, 160490106017 To 160490106079, 170490106002 To 170490106029	Dr.Mayuri Prajapati	140490106042, 150490106121, 160490106046, 170493106047, 170490106001 To 170490106124, 180493106018, 180490106001 To 180490106019	Prof.Keyur Shah	190490106001 To 190490106036	Dr.Yazad Jabbar

		160490106027 To 160490106060	Prof.Krunal Shah	170490106030 To 170490106068	Prof.Pragnesh Patel	180490106020 To 180490106056	Prof.Nirav Shukla	190490106037 To 190490106070	Prof.Bankim Joshi
		160490106061 To 160490106095	Prof.Nikunj Ashiyani	170490106069 To 170490106103	Prof.Jaydeep Vashi	180490106057 To 180490106093	Prof.Jenish Mistry	190490106071 To 190490106107	Prof.Sandip Mistry
		160490106097, 170493106001 To 170493106031	Prof.Dipali Paneria	170490106104 To 170490106127, 170493106017 To 170493106059, 180493106002 To 180493106012	Prof.Krunal Shah	180490106094, 180493106018, 190493106001 To 190493106029	Prof.Abhishek Sapre	190490106108 To 190490106145	Prof.Jenish Mistry
		170493106032 To 170493106066	Prof.Hiren Rathod	180493106013 To 180493106040	Prof.Manthan Shah	190493106030 To 190493106058, 190494106001	Prof.Jaimin Patel	200490106501 To 200490106534	Prof. Vishakha Parmar
	8	130490106107, 140490106010 To 140490106123, 150490106009 To 150490106091, 160490106001 To 160490106025	Prof.Abhishek Sapre	120490106044, 150490106007 To 150490106120, 160490106017 To 160490106079, 170490106002 To 170490106027	Dr.Mayuri Prajapati	140490106042, 150490106121, 160490106046, 170493106047, 170490106001 To 170490106124, 180493106018, 180490106001 To 180490106019	Prof.Keyur Shah	190490106001 To 190490106036	Dr.Yazad Jabbar
		160490106027 To 160490106060	Prof.Krunal Shah	170490106029 To 170490106064	Prof.Pragnesh Patel	180490106020 To 180490106056	Prof.Nirav Shukla	190490106037 To 190490106070	Prof.Bankim Joshi
		160490106061 To 160490106095	Prof.Nikunj Ashiyani	170490106066 To 170490106111	Prof.Jaydeep Vashi	180490106057 To 180490106093	Prof.Jenish Mistry	190490106071 To 190490106107	Prof.Sandip Mistry
		160490106097, 160493106023 To 170493106001 To 170493106031	Prof.Dipali Paneria	170490106112 To 170490106127, 170493106017 To 170493106059, 180493106002 To 180493106013	Prof.Krunal Shah	180490106094, 180493106018, 190493106001 To 190493106029	Prof.Abhishek Sapre	190490106108 To 190490106145	Prof.Jenish Mistry
		170493106032 To 170493106066	Prof.Hiren Rathod	180493106014 To 180493106040	Prof.Manthan Shah	190493106030 To 190493106058, 190494106001	Prof.Jaimin Patel	200490106501 To 200490106534	Prof. Vishakha Parmar

Table 9.1(5) Mentor list of Computer Science and Engineering Department

Mentor list of Computer Science & Engineering Department								
SEM	2019-2020 CAYm3		2020-2021 CAYm2		2021-2022 CAYm1		2022-2023 CAY	
	PEN NO. RANGE	FACULTY NAME	PEN NO. RANGE	2020-2021	PEN NO. RANGE	2021-2022	PEN NO. RANGE	2022-2023
1	190490131001 TO 190490131025	Prof. Toral Mukeshbhai Desai	200490131001 To 200490131023	Prof. Devarshi Bharatbhai Naik	210490131001to 210490131024	Prof. Vishmay Mukundrai Vaidya	220490131001 To 220490131033	Prof. Hinal Desai
	190490131026 TO 190490131051	Prof.Bhavisha Parmar	200490131024 To 200490131046	Prof.Isamaliya Kajal Kanubhai	210490131025to 210490131048	Prof.Bhavisha Parmar	220490131035 To 220490131066	Prof.Seemabano Shah
	190490131052 TO 190490131075	Prof.Zinal Solanki	200490131047 To 200490131069	Prof.Mahajan Rutal Sharadbhai	210490131049to 210490131071	Prof.Toral Mukeshbhai Desai	220490131066 To 220490131102	Prof.Gaurav Patel
2	190490131001 TO 190490131025	Prof. Toral Mukeshbhai Desai	200490131001 To 200490131023	Prof. Devarshi Bharatbhai Naik	210490131001to 210490131024	Prof.Vishmay Mukundrai Vaidya	220490131001 To 220490131033	Prof.Hinal Desai
	190490131026 TO 190490131051	Prof.Bhavisha Parmar	200490131024 To 200490131046	Prof.Isamaliya Kajal Kanubhai	210490131025to 210490131048	Prof.Bhavisha Parmar	220490131035 To 220490131066	Prof.Seemabano Shah
	190490131052 TO 190490131075	Prof.Zinal Solanki	200490131047 To 200490131069	Prof.Mahajan Rutal Sharadbhai	210490131049to 210490131071	Prof.Toral Mukeshbhai Desai	220490131066 To 220490131102	Prof.Gaurav Patel
3	180490131001 TO 180490131026	Prof. Devarshi Bharatbhai Naik	190490131001 To 190490131030	Prof.Bhavisha Parmar	200490131001 To 200490131027	Prof.Zinal Solanki	210490131001 To 210490131027	Prof.Sunny Bodiwala
	180490131027 TO 180490131051	Prof. Vishmay Mukundrai Vaidya	190490131031 To 190490131061	Prof.Zinal Solanki	200490131028 To 200490131054	Prof.Sandipkumar Kanjibhai Tandel	210490131028 To 210490131054	Prof.Nidhi Patel
	180490131052 TO 180490131063, 190493131001 TO 190493131011	Prof. Toral Mukeshbhai Desai	190490131062 To 190490131075, 200490131501 To 200490131514	Prof.Isamaliya Kajal Kanubhai	200490131055 To 200490131069, 210490131501 To 210490131512	Prof.Darshankumar Rajendrabhai Chauhan	210490131055 To 210490131069, 210490131501 To 210490131512	Prof.Vishmay Vaidya
4	180490131001 TO 180490131026	Prof. Devarshi Bharatbhai Naik	190490131001 To 190490131030	Prof.Bhavisha Parmar	200490131001 To 200490131027	Prof.Zinal Solanki	210490131001 To 210490131027	Prof.Sunny Bodiwala
	180490131027 TO 180490131051	Prof. Vishmay Mukundrai Vaidya	190490131031 To 190490131061	Prof.Zinal Solanki	200490131028 To 200490131054	Prof.Sandipkumar Kanjibhai Tandel	210490131028 To 210490131054	Prof.Nidhi Patel

	180490131052 TO 180490131063, 190493131001 TO 190493131011	Prof. Toral Mukeshbhai Desai	190490131062 To 190490131075, 200490131501 To 200490131514	Prof.Isamaliya Kajal Kanubhai	200490131055 To 200490131069, 210490131501 To 210490131512	Prof.Darshankumar Rajendrabhai Chauhan	210490131055 To 210490131069, 210490131501 To 210490131512	Prof.Vishmay Vaidya
5	170490107001 TO 170490107027	Prof. Sandipkumar Kanjibhai Tandel	180490131001 To 180490131026	Prof. Toral Mukeshbhai Desai	190490131001 To 190490131030	Prof.Viral Hasmukhbhai	200490131001 To 200490131027	Prof.Alpa S. Valand
	170490107028 TO 170490107054	Prof. Darshankumar Rajendrabhai Chauhan	180490131027 To 180490131051	Prof. Darshankumar Rajendrabhai Chauhan	190490131031 To 190490131061	Prof.Kajal Kanubhai Isamaliya	200490131028 To 200490131054	Prof.Sandipkumar Kanjibhai Tandel
	170490107055 TO 170490107062, 170494107001, 180493107001 TO 180493107017	Prof.Isamaliya Kajal Kanubhai	180490131052 To 180490131063, 190493131001 To 190493131011	Prof. Bhaveshkumar Dalsukhbhai Patel	190490131062 To 190490131075, 200490131501 To 200490131514	Prof. Darshankumar Rajendrabhai Chauhan	200490131055 To 200490131069, 210490131501 To 210490131512	Prof.Jagruti Boda
6	170490107001 TO 170490107027	Prof. Sandipkumar Kanjibhai Tandel	180490131001 To 180490131026	Prof.Toral Mukeshbhai Desai	190490131001 To 190490131030	Prof.Viral Hasmukhbhai Panchal	200490131001 To 200490131027	Prof.Alpa S. Valand
	170490107028 TO 170490107054	Prof. Darshankumar Rajendrabhai Chauhan	180490131027 To 180490131051	Prof.Darshankumar Rajendrabhai Chauhan	190490131031 To 190490131061	Prof.Kajal Kanubhai Isamaliya	200490131028 To 200490131054	Prof.Sandipkumar Kanjibhai Tandel
	170490107055 TO 170490107062, 170494107001, 180493107001 TO 180493107017	Prof. Kajal Kanubhai Isamaliya	180490131052 To 180490131063, 190493131001 To 190493131011	Prof.Bhaveshkumar Dalsukhbhai Patel	190490131062 To 190490131075, 200490131501 To 200490131514	Prof.Darshankumar Rajendrabhai Chauhan	200490131055 To 200490131069, 210490131501 To 210490131512	Prof.Jagruti Boda
7	160490107001 TO 160490107025	Prof. Viral Hasmukhbhai Panchal	170490107001 To 170490107027	Prof.Vishmay Mukundrai Vaidya	180490131001 To 180490131026	Prof. Bhaveshkumar Dalsukhbhai Patel	190490131001 To 190490131030	Prof. Sandipkumar Kanjibhai Tandel
	160490107026 TO 160490107052	Prof. Bhaveshkumar Dalsukhbhai Patel	170490107028 To 170490107054	Prof.Sandipkumar Kanjibhai Tandel	180490131027 To 180490131051	Prof.Rutal Sharadbhai Mahajan	190490131031 To 190490131061	Prof.Bhavesh Patel
	160490107053 TO 160490107062, 170493107001 TO 170493107014	Prof.Mahajan Rutal Sharadbhai	170490107055 To 170490107062, 170494107001, 180493107001 To 180493107017	Prof.Viral Hasmukhbhai Panchal	180490131052 To 180490131063, 190493131001 To 190493131011	Prof.Sandipkumar Kanjibhai Tandel	190490131062 To 190490131075, 200490131501 To 200490131514	Prof.Mahajan Rutal Sharadbhai
8	160490107001 TO 160490107025	Prof. Viral Hasmukhbhai Panchal	170490107001 To 170490107027	Prof.Vishmay Mukundrai Vaidya	180490131001 To 180490131026	Prof.Bhaveshkumar Dalsukhbhai Patel	190490131001 To 190490131030	Prof.Tandel Sandipkumar Kanjibhai
	160490107026 TO 160490107052	Prof. Bhaveshkumar Dalsukhbhai Patel	170490107028 To 170490107054	Prof.Sandipkumar Kanjibhai Tandel	180490131027 To 180490131051	Prof.Rutal Sharadbhai Mahajan	190490131031 To 190490131061	Prof.Bhavesh Patel

160490107053 To 160490107062, 170493107001 To 170493107014	Prof.Mahajan Rutal Sharadbhai	170490107055 To 170490107062, 170494107001, 180493107001 To 180493107017	Prof.Viral Hasmukhbhai Panchal	180490131052 To 180490131063, 190493131001 To 190493131011	Prof.Sandipkumar Kanjibhai Tandel	190490131062 To 190490131075, 200490131501 To 200490131514	Prof.Mahajan Rutal Sharadbhai
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Table 9.1(6) Mentor list of Electrical Engineering Department

Mentor List Of Electrical Engineering Department								
2019-2020 CAYm3			2020-2021 CAYm2		2021-2022 CAYm1		2022-2023 CAY	
	Pen No. Range	Faculty Name	Pen No. Range	Faculty Name	Pen No. Range	Faculty Name	Pen No. Range	Faculty Name
Sem-1	190490109001 To 190490109042	Prof. Chirag A Patel	200490109001 To 200490109028	Prof. Ravish Hirpara	210490109001 To 210490109039	Prof. Pratap K Chaini	220490109001 To 220490109031	Prof. Purva Patel
	190490109043 To 190490109094	Prof. Tejas G. Mistry	200490109029 To 200490109056	Prof. Vinod Prajapati	210490109040 To 210490109077	Prof.Jignesh B. Ahir		
	200490109501 To 200490109539	Prof. Dilip Patel	200490109057 To 200490109083	Prof. Arpita Shah	210490109079 To 210490109128	Prof. Janak Patel		
	200490109540 To 200490109580	Prof. Harsh Patel						
Sem-2	190490109001 To 190490109042	Prof. Chirag A Patel	200490109001 To 200490109028	Prof. Ravish Hirpara	210490109001 To 210490109039	Prof. Pratap K Chaini	220490109001 To 220490109031	Prof. Purva Patel
	190490109043 To 190490109094	Prof. Tejas G. Mistry	200490109029 To 200490109056	Prof. Vinod Prajapati	210490109040 To 210490109077	Prof.Jignesh B. Ahir		
	200490109501 To 200490109539	Prof. Dilip Patel	200490109057 To 200490109083	Prof. Arpita Shah	210490109079 To 210490109128	Prof. Janak Patel		
	200490109540 To 200490109580	Prof. Harsh Patel						
Sem-3		Prof. Janak Patel						

	180490109003 To 180490109026, 18d2d35,18d2d39,		190490109001 To 190490109042	Prof. Chirag A Patel	200490109001 To 200490109028	Prof. Ravish Hirpara	210490109001 To 210490109039	Prof. Pratap K Chaini
							210490109040 To 210490109077	Prof.Jignesh B. Ahir
	180490109028 To 180490109067	Prof. Virang Patel	190490109043 To 190490109094	Prof. Tejas G. Mistry	200490109029 To 200490109056	Prof. Vinod Prajapati	210490109079 To 210490109128	Prof. Janak Patel
	190493109001 To 190493109003							
	190493109004 To 190493109040	Prof. Pratap K Chaini	200490109501 To 200490109539	Prof. Dilip Patel	200490109057 To 200490109083	Prof. Arpita Shah	-	-
	190493109041 To 190493109080	Prof. Mayank Patel	200490109540 To 200490109580	Prof. Harsh Patel	-	-	-	-
<b>Sem-4</b>	180490109003 To 180490109026, 18d2d35,18d2d39,	Prof. Janak Patel	190490109001 To 190490109042	Prof. Chirag A Patel	200490109001 To 200490109028	Prof. Ravish Hirpara	210490109001 To 210490109039	Prof. Pratap K Chaini
							210490109040 To 210490109077	Prof.Jignesh B. Ahir
	180490109028 To 180490109067	Prof. Virang Patel	190490109043 To 190490109094	Prof. Tejas G. Mistry	200490109029 To 200490109056	Prof. Vinod Prajapati	210490109079 To 210490109128	Prof. Janak Patel
	190493109001 To 190493109003							
	190493109004 To 190493109040	Prof. Pratap K Chaini	200490109501 To 200490109539	Prof. Dilip Patel	200490109057 To 200490109083	Prof. Arpita Shah	-	-
	190493109041 To 190493109080	Prof. Mayank Patel	200490109540 To 200490109580	Prof. Harsh Patel	-	-	-	-
<b>Sem-5</b>	170490109001 To 170490109040	Prof. Chirag B Patel	180490109003 To 180490109026, 18d2d35,18d2d39,	Prof. Janak Patel	190490109001 To 190490109042	Prof. Chirag A Patel	200490109001 To 200490109028	Prof. Ravish Hirpara



	170490109041 To 170490109079	Prof. Achal Mistry	180490109028 To 180490109067 190493109001 To 190493109003	Prof. Virang Patel	190490109043 To 190490109094	Prof. Tejas G. Mistry	200490109029 To 200490109056	Prof. Vinod Prajapati
	170490109080 To 180493109021	Prof. Manish Parmar	190493109004 To 190493109040	Prof. Pratap K Chaini	200490109501 To 200490109539	Prof. Dilip Patel	200490109057 To 200490109083	Prof. Ashish A Patel
	180493109022 To 180493109055	Prof. Ashish Patel	190493109041 To 190493109080	Prof. Mayank Patel	200490109540 To 200490109580	Prof. Harsh Patel		
<b>Sem-6</b>	170490109001 To 170490109040	Prof. Chirag B Patel	180490109003 To 180490109026, 18d2d35,18d2d39,	Prof. Janak Patel	190490109001 To 190490109042	Prof. Chirag A Patel	200490109001 To 200490109028	Prof. Ravish Hirpara
	170490109041 To 170490109079	Prof. Achal Mistry	180490109028 To 180490109067 190493109001 To 190493109003	Prof. Virang Patel	190490109043 To 190490109094	Prof. Tejas G. Mistry	200490109029 To 200490109056	Prof. Vinod Prajapati
	170490109080 To 180493109021	Prof. Manish Parmar	190493109004 To 190493109040	Prof. Pratap K Chaini	200490109501 To 200490109539	Prof. Dilip Patel	200490109057 To 200490109083	Prof. Ashish A Patel
	180493109022 To 180493109055	Prof. Ashish Patel	190493109041 To 190493109080	Prof. Mayank Patel	200490109540 To 200490109580	Prof. Harsh Patel		
	180494109001							
<b>Sem-7</b>	160490109001- 160490109017	Prof. Pratap K Chaini	170490109001 To 170490109040	Prof. Chirag B Patel	180490109003 To 180490109026, 180493109035, 180493109039	Prof. Janak Pate	190490109001 To 190490109042	Prof. Chirag A Patel
	160490109019- 160490109028	Prof. Payal Tandel	170490109041 To 170490109079	Prof. Achal Mistry	180490109028 To 180490109067	Prof. Virang Patel	190490109043 To 190490109094	Prof. Tejas G. Mistry
	170493109003- 170493109034				190493109001 To 190493109003			

Sem-8	170493109035-170493109069	Prof. Tejas G. Mistry	170490109080 To 180493109021	Prof. Manish Parmar	190493109004 To 190493109040	Prof. Pratap K Chaini	200490109501 To 200490109539	Prof. Dilip Patel
	-	-	180493109022 To 180493109055	Prof. Ashish Patel	190493109041 To 190493109080	Prof. Mayank Patel	200490109540 To 200490109580	Prof. Harsh Patel
			180494109001					
	160490109001-160490109017	Prof. Pratap K Chaini	170490109001 To 170490109040	Prof. Chirag B Patel	180490109003 To 180490109026, 18d2d35, 18d2d39,	Prof. Janak Patel	190490109001 To 190490109042	Prof. Chirag A Patel
	160490109019-160490109028	Prof. Payal Tandel	170490109041 To 170490109079	Prof. Achal Mistry	180490109028 To 180490109067	Prof. Virang Patel	190490109043 To 190490109094	Prof. Tejas G. Mistry
	170493109003-170493109034				190493109001 To 190493109003			
	170493109035-170493109069	Prof. Tejas G. Mistry	170490109080 To 180493109021	Prof. Manish Parmar	190493109004 To 190493109040	Prof. Pratap K Chaini	200490109501 To 200490109539	Prof. Dilip Patel
			180493109022 To 180493109055	Prof. Ashish Patel	190493109041 To 190493109080	Prof. Mayank Patel	200490109540 To 200490109580	Prof. Harsh Patel

Table 9.1(7) Mentor list of Chemical Engineering Department

Mentor list of CHEMICAL ENGINEERING Department								
SEM	2019-2020 CAYm3		2020-2021 CAYm2		2021-2022 CAYm1		2022-2023 CAY	
	PEN Range	Faculty Name	PEN Range	Faculty Name	PEN Range	Faculty Name	PEN Range	Faculty Name
1	190490105001 To 190490105030	Prof. Svapnil Kevat	200490105001 To 200490105051	Prof. Vishal U Shah	210490105001 To 210490105032	Prof. Prince J. Patel	220490105001 To 210490105027	Dr. Payal N. Pandya
	190490105031 To 190490105065	Prof. Divyesh Patel	-----	-----	210490105033 To 210490105063	Dr. Pritesh A. Andharia	-----	-----

<b>2</b>	190490105001 To 190490105030	Prof. Svapnil Kevat	200490105001 To 200490105051	Prof. Vishal U Shah	210490105001 To 210490105032	Prof. Prince J. Patel	220490105001 To 210490105027	Dr. Payal N. Pandya
	190490105031 To 190490105065	Prof. Divyesh Patel	-----	-----	210490105033 To 210490105063	Dr. Pritesh A. Andharia	-----	-----
<b>3</b>	180490105001 To 180490105038	Prof. Rohini Singh	150490105026 To 190490105021	Prof. Chandrab hushan Pal	200490105001 To 200490105025	Prof. Hardik Patel	210490105001 To 210490105032	Prof. Prince J. Patel
	190493105001 To 190493105032	Prof. Praneta Patel	190490105022 To 190490105065	Prof. Tejas Patel	200490105026 To 200490105051	Prof. Khushboo Kayasth	210490105033 To 210490105063	Prof. Nisha S. Ojha
	-----	-----	200490105501 To 200490105518 & 200497105001	Prof. Anish Solanki	210490105501 To 210490105528	Dr. Chandrabhushan Pal	220493105001 To 220493105019	Prof. Akash R . Raval
<b>4</b>	180490105001 To 180490105038	Prof. Rohini Singh	150490105026 To 190490105021	Prof. Chandra pal	200490105001 To 200490105025	Prof. Hardik Patel	210490105001 To 210490105032	Prof. Prince J. Patel
	190493105001 To 190493105032	Prof. Praneta Patel	190490105022 To 190490105065	Prof. Tejas Patel	200490105026 To 200490105051	Prof. Khushboo Kayasth	210490105033 To 210490105063	Prof. Nisha S. Ojha
	-----	-----	200490105501 To 200490105518 & 200497105001	Prof. Anish Solanki	210490105501 To 210490105528	Dr. Chandrabhushan Pal	220493105001 To 220493105019	Prof. Shreyans R. Mahant
<b>5</b>	170490105001 To 170490105030	Prof. Vishal Shah	140490105010 To 180490105014	Prof. Vikash Prajapati	190490105001 To 190490105021 200490105501 To 200490105518 180490105019, 200497105001	Prof. Nilesh S. Dumore	200490105001 To 200490105025	Prof. Satish K. Movaliya
	170490105031 To 170490105054 & 180493105001	Prof. Khusbu Mehta	180490105015 To 180490105038	Prof Darshan Sarang	190490105022 To 190490105065	Prof. Tejas Patel	200490105026 To 200490105051 & 210490105501 To 210490105528	Prof. Jignesh A. Parmar
	-----	-----	190493105001 To 190493105031	Prof. Khushbu Kayasth	-----	-----	-----	-----
<b>6</b>	170490105001 To 170490105030	Prof. Vishal Shah	140490105010 To 180490105014	Prof. Vikash Prajapati	190490105001 To 190490105021, 200490105501 To 200490105518,	Prof. Nilesh S. Dumore	200490105001 To 200490105025	Prof. Nisha S. Ojha

					180490105019, 200497105001			
	170490105031 To 170490105054 &180493105001	Prof. Khusbu Mehta	180490105015 To 180490105038	Prof. Darshan Sarang	190490105022 To 190490105065	Prof. Tejas Patel	200490105026 To 200490105051, 210490105501 To 210490105528	Prof. Jignesh A. Parmar
			190493105001 To 190493105031	Prof. Khushbu Kayasth				
7	160490105001 To 160490105030	Prof. Darshan Sarang	170490105001 To 170490105027	Prof. Hardik Patel	150490105043 To 180490105032	Prof. Ravi Sen	190490105001 To 190490105021, 200490105501 To 200490105518 & 180490105019, 200497105001	Dr. Nilesh S. Dumore
	160490105031 To 160490105057 & 170493105001	Prof. Paritosh Agnihotri	170490105028 To 180493105001	Dr. Koshal Kishor	180490105033 To 180490105038, 190493105001 To 190493105031	Prof. Darshan Sarang	190490105022 To 190490105065	Prof. Chirag G. Parmar
8	160490105001 To 160490105030	Prof. Darshan Sarang	170490105001 To 170490105027	Prof. Hardik Patel	150490105043 To 180490105032	Dr. Chandrabhushan Pal	190490105001 To 190490105021, 200490105501 To 200490105518 & 180490105019, 200497105001	Dr. Nilesh S. Dumore
	160490105031 To 160490105057 & 170493105001	Prof. Paritosh Agnihotri	170490105028 To 180493105001	Dr. Koshal Kishor	180490105033 To 180490105038, 190493105001 To 190493105031		190490105022 To 190490105065	Prof. Chirag G. Parmar

Students are encouraged by the mentors for the extra-curricular courses to improve their academic knowledge. The list of courses registered by the students in different academic years are shown in Table 9.1(7). The participation and achievement of the students in different activities are shown in Table 9.1 (8)-(9). Figure 9.1 (1) shows the achievement of the students in a technical event organised by M. S. University, Baroda.

Table 9.1(7) NPTEL Course Data

Sr. No	Year	Branch	Number of Courses registered By Students
1	2019-2020	Civil Engineering	87
2		Mechanical Engineering	154
3		Electrical Engineering	67
4		Computer Science and Engineering	133
5		Chemical Engineering	190
6		Electronics and Communication Engineering	5
1	2020-2021	Civil Engineering	120
2		Mechanical Engineering	64
3		Electrical Engineering	71
4		Computer Science and Engineering	20
5		Chemical Engineering	51
6		Electronics and Communication Engineering	6
1	2021-2022	Civil Engineering	290
2		Mechanical Engineering	112
3		Electrical Engineering	89
4		Computer Science and Engineering	67
5		Chemical Engineering	127
6		Electronics and Communication Engineering	34

Table 9.1 (8) List of students who participated in various events

Sr. No.	PEN	Date	Name of Event	Organizer	Level
1	190493119015	13-06-2021	AutoCAD : 2D & 3D	Udemy	International Level
2	200490119011	21-08-2021	AI Appreciate stage	Intel	International Level
3	200490119011	21-08-2021	AI Aware	Intel	International Level
4	190493119015	09-11-2021	Python and Machine Learning Fundamentals	Udemy	International Level
5	190493119015	26-11-2021	Zero to Hero in Microsoft Excel	Udemy	International Level
6	190493119015	26-11-2021	Solid Works Course	Udemy	International Level
7	190493119015	12-02-2022	Becoming a Project Manager	Udemy	International Level
8	190493119015	12-02-2022	Public Speaking for Beginners	Udemy	International Level
9	180490119004	27-02-2019	Lathe War	SSAIET, Navsari	National Level
10	180490119004	29-03-2019	Robotics	SSEC, Bhavnagar	National Level
11	190493119042	06-03-2020	Techno present	GEC, Valsad	National Level
12	190493119027	07-03-2020	Techno present	GEC, Valsad	National Level
13	180490119004	15-10-2020	Current Affairs Quiz	MEC, Mehsana	National Level
14	200490119024	16-05-2021	National Level Quiz on Python Programming	SIOE, Vadodara	National Level

<b>15</b>	200490119041	31-07-2021	Chemistry e-QUIZ Competition	MIT ADT University, Pune	National Level
<b>16</b>	200490119517	02-08-2021	AutoCAD 2D+3D Civil	Micro CAD, Thane	National Level
<b>17</b>	200490119038	15-08-2021	Chemistry e-QUIZ Competition	MIT ADT University, Pune	National Level
<b>18</b>	200490119002	15-08-2021	Chemistry e-QUIZ Competition	MIT ADT University, Pune	National Level
<b>19</b>	200490119041	30-08-2021	Cyber Sanjivani Competition	Cyber Suraksha Setu	National Level
<b>20</b>	200490119517	30-08-2021	Cyber Sanjivani Competition	Cyber Suraksha Setu	National Level
<b>21</b>	200490119518	30-08-2021	Cyber Sanjivani Competition	Cyber Suraksha Setu	National Level
<b>22</b>	200490119038	30-08-2021	Cyber Sanjivani Competition	Cyber Suraksha Setu	National Level
<b>23</b>	200490119011	28-09-2021	National Level Entrepreneurship Awareness Quiz	MPC, Chennai	National Level
<b>24</b>	200490119564	01-10-2021	Fundamentals of Manufacturing Processes	NPTEL	National Level
<b>25</b>	200490119517	02-10-2021	QUIZ on Swachh Bharat Mission	SBJITMR, Nagpur	National Level
<b>26</b>	200490119002	07-01-2022	Engineering Workshop	BIET, Hyderabad, Telangana	National Level
<b>27</b>	180490119031	01-03-2019	Death Race	MGITER, Navsari	State Level
<b>28</b>	180490119003	01-03-2019	Robo Hurdle	MGITER, Navsari	State Level
<b>29</b>	180490119003	01-03-2019	Death Race	MGITER, Navsari	State Level
<b>30</b>	180490119031	01-03-2019	Robo Hurdle	MGITER, Navsari	State Level

<b>31</b>	180490119031	01-03-2019	Tic-Tac-Toe	MGITER, Navsari	State Level
<b>32</b>	180490119004	18-03-2019	Basics of Robotics	G H Patel, Vallabh Vidhyanagar	State Level
<b>33</b>	160490119016	14-10-2019	Music Classical Instrumental Solo	XITIJ, GTU	State Level
<b>34</b>	160490119016	14-10-2019	Music - Folk Orchestra	XITIJ, GTU	State Level
<b>35</b>	170493119029	14-10-2019	Theatre - One Act Play	XITIJ, GTU	State Level
<b>36</b>	170493119063	14-10-2019	Theatre - One-Act Play	XITIJ, GTU	State Level
<b>37</b>	170493119059	14-10-2019	Theatre - One Act Play	XITIJ, GTU	State Level
<b>38</b>	170493119019	14-10-2019	Theatre - One-Act Play	XITIJ, GTU	State Level
<b>39</b>	170493119038	14-10-2019	Music - Folk Orchestra	XITIJ, GTU	State Level
<b>40</b>	170493119020	14-10-2019	Music - Folk Orchestra	XITIJ, GTU	State Level
<b>41</b>	170493119059	14-10-2019	Music - Folk Orchestra	XITIJ, GTU	State Level
<b>42</b>	170493119058	14-10-2019	Music - Folk Orchestra	XITIJ, GTU	State Level
<b>43</b>	190493119060	06-03-2020	Auto Psy	GEC, Valsad	State Level
<b>44</b>	190493119020	06-03-2020	Auto Psy	GEC, Valsad	State Level
<b>45</b>	190493119026	06-03-2020	Techno present	GEC, Valsad	State Level
<b>46</b>	190493119027	06-03-2020	Auto Psy	GEC, Valsad	State Level



47	190493119042	06-03-2020	Auto Psy	GEC, Valsad	State Level
48	190493119022	06-03-2020	Auto Psy	GEC, Valsad	State Level
49	190493119005	06-03-2020	Auto Psy	GEC, Valsad	State Level
50	180490119046	20-06-2020	Design of BIW Welding Fixtures for Automobile Industry	DIC, GTU	State Level
51	200490119518	30-09-2020	Start-up Opportunities in Electric Hybrid Vehicles for Indian Market	SSIP, GTU	State Level
52	180490119032	16-10-2020	Code the Hints	SCET, Surat	State Level
53	190493119030	14-06-2021	Moulding Process	Endeavour Enterprise	State Level
54	190493119022	14-06-2021	Moulding Process	Endeavour Enterprise	State Level
55	190493119015	18-09-2021	Brainaholics of Momentum 2021	SCET, Surat	State Level

Table 9.1 (9) List of students secured rank in various events

Sr No.	PEN	Date	Name of Event	Organiser	Category
1	150490119048	20-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
2	150490119107	21-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
3	150490119031	22-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
4	150490119057	23-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)

<b>5</b>	15049011903 2	24-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
<b>6</b>	15049011905 1	25-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
<b>7</b>	17049011903 5	26-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
<b>8</b>	17049011902 8	27-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
<b>9</b>	17049011905 9	28-09-2018	Nova Jet Propulsion Lab	World Records India	International (World Record)
<b>10</b>	15049011904 8	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>11</b>	15049011910 7	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>12</b>	15049011903 1	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>13</b>	15049011905 7	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>14</b>	15049011903 2	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>15</b>	15049011905 1	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>16</b>	17049011903 5	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation

<b>17</b>	17049011902 8	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>18</b>	17049011905 9	10-03-2019	Nova Jet Propulsion Lab	Health Minister Of Gujarat (Shri Kishorkumar Kanani)	Consolidation
<b>19</b>	15049011904 8	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>20</b>	15049011910 7	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>21</b>	15049011903 1	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>22</b>	15049011905 7	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>23</b>	15049011903 2	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>24</b>	15049011905 1	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>25</b>	17049011903 5	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation

<b>26</b>	17049011902 8	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>27</b>	17049011905 9	16-04-2019	Nova Jet Propulsion Lab	Cabinet Minister Of Gujarat (Shri Ishwarbhai Parmar)	Consolidation
<b>28</b>	19049011904 9	14-10-2019	Fine Arts - Installation	XITIJ - 2019	South Zone
<b>29</b>	19049011903 0	14-10-2019	Fine Arts - Installation	XITIJ - 2019	South Zone
<b>30</b>	19049011902 8	14-10-2019	Fine Arts - Installation	XITIJ - 2019	South Zone
<b>31</b>	15049031190 26	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	Consolidation
<b>32</b>	15049031190 27	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	Consolidation
<b>33</b>	15049031190 17	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	Consolidation
<b>34</b>	15049031190 12	23-06-2018	Smoke Free Tower	SSIP Grant (GTU Innovation Council)	Consolidation
<b>35</b>	15049011902 3	2019	Iste Best Student Award	ISTE	University
<b>36</b>	17049311900 1	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	Consolidation
<b>37</b>	17049311902 7	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	Consolidation
<b>38</b>	17049311905 5	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	Consolidation
<b>39</b>	16049011905 1	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	Consolidation

<b>40</b>	16049011905 3	05-02-2020	Banana Pseudo Stem Cutter Machine	SSIP Grant (GTU Innovation Council)	Consolidation
<b>41</b>	17049311900 1	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	Consolidation
<b>42</b>	17049311902 7	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	Consolidation
<b>43</b>	17049311905 5	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	Consolidation
<b>44</b>	16049011905 1	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	Consolidation
<b>45</b>	16049011905 3	30-04-2021	Banana Pseudo Stem Cutter Machine	Indian Patent Filling (GTU Innovation Council)	Consolidation
<b>46</b>	16049011901 6	14-10-2019	Classical Instrumental Solo - (Percussion)	XITIJ - 2019	South Zone
<b>47</b>	17049311905 8	10-14-2019	Folk Orchestra	XITIJ - 2019	South Zone
<b>48</b>	16049011901 6	10-14-2019	Folk Orchestra	XITIJ - 2019	South Zone
<b>49</b>	17049311902 0	10-14-2019	Folk Orchestra	XITIJ - 2019	South Zone
<b>50</b>	17049311905 9	10-14-2019	Folk Orchestra	XITIJ - 2019	South Zone
<b>51</b>	17049311903 8	10-14-2019	Folk Orchestra	XITIJ - 2019	South Zone
<b>52</b>	17049311901 9	10-14-2019	One Act Play	XITIJ - 2019	South Zone

53	17049311905 9	10-14-2019	One Act Play	XITIJ - 2019	South Zone
54	17049311906 3	10-14-2019	One Act Play	XITIJ - 2019	South Zone
55	17049311902 9	10-14-2019	One Act Play	XITIJ - 2019	South Zone



Figure 9.1(1) 1<sup>st</sup> Prize Winner in Technical Event Hydrex FOOTPRINTS'22  
Organized by M. S. University Vadodara

### Effectiveness of the Mentoring system

- Reduction in risk of failures and drop-outs.
- Cordial relationship between faculty and students.
- Improvements in academic performance in terms of pass percentage, number of University rank holders and number of placements.
- Huge involvement and participation received from students in co-curricular, extra-curricular and extension activities.

### 9.2 Feedback analysis and reward /corrective measures taken, if any (10)

- The feedback process provides an opportunity to look at strengths and weaknesses of the teaching-learning process through the eyes of students. The feedback on teaching-learning process is periodically collected in form of a questionnaire from the students for all the courses.

- Set of questions was given to the students to get unbiased impartial open- minded answers about courses. The parameters include knowledge, teaching skills, presentation, communication, and attitude etc.
- Unbiased, systematic and scientific analyses of the collected data are used to self-regulation and mid-course correction in modifying, altering and bettering existing teaching-learning processes The results of the feedbacks are not used to victimize the teacher but the competent authorities' help/assist the teacher to engage the effective teaching-learning process.
- Feedback reports are reviewed by HOD and discussed with the faculty concerned and necessary corrective and preventive actions are taken.
- The faculty members who secure excellent feedback are motivated by way of increments and promotions remaining will be counselled by experts to improve their teaching pedagogy and the faculty members who secure moderate/lower feedback are advised to attend faculty development programmers', workshops, seminars etc. Feedback is one of the key parameters in appraising the faculty.
- Our Institute constantly encourages the faculty in all aspects. **“Top five Faculty who are highly appreciated by HOD”**. Apart from the result, faculty who involve in admission promotion work, organizing Institute level functions and high involvement in quality assurance works are highly appreciated.
- The flow chart for the feedback process is shown in Fig. 9.2(1). The link of the portal on which students fill up the feedback form is as follows –  
**Link to fill the course feedback form - <https://www.snpitrc.ac.in/StudentLogin.aspx>**
- A sample feedback form filled by the student for the course faculty is shown in Fig. 9.2(2). The filled feedback form for one of student is shown in Fig. 9.2(3).

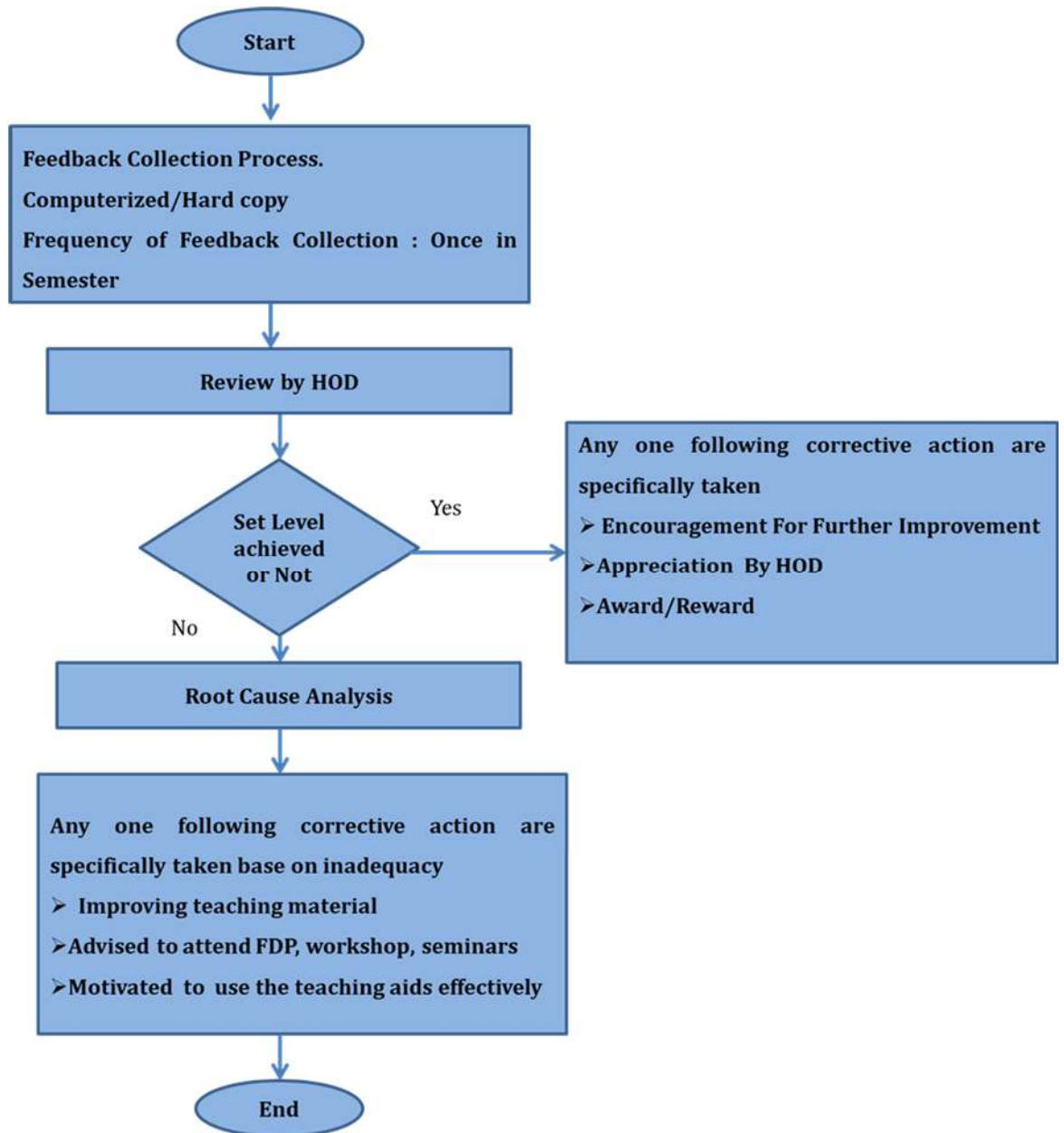




Figure 9.2(1) Flow Chart for feedback Process





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### Student Feedback Form on Subject and Faculty

Kindly rate for following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement.

Excellent: 5, Very Good: 4, Good: 3, Satisfactory: 2, Not Satisfactory: 1

Faculties Name: **TRACETT TRAIW**

Name: **Abir Ankumar Gunwarthar**

Department: **Mechanical Engineering**

Academic Year: **2022 - 2023**

Semester: **1**

Subject: **Basic Civil Engineering (2113004)**

☐ Anonymous

Subject Teacher 1: **Dr. A. T. N.**

Subject Teacher 2: **Dr. A. T. N.**

Subject Teacher 3: **Dr. A. T. N.**

	Subject Teacher 1 Dr. A. T. N.	Subject Teacher 2 Dr. A. T. N.	Subject Teacher 3 Dr. A. T. N.	
1.	Teacher has covered entire syllabus according to University Curriculum (COs) as prescribed by University/ College.	5	5	5
2.	Has the teacher covered all most topics covered in class	5	5	5
3.	Effectiveness of Teacher in terms of: (i) Faculty's skill (ii) Technical competence/subject expert (iii) Communication skill (iv) Use of teaching aids	5	5	5
4.	Rate on which contents were covered	5	5	5
5.	Teacher has been able to give students feedback	5	5	5
6.	Support for the development of: (i) Students skill (ii) Practical demonstration, projects and lab work (iii) Hands on training	5	5	5
7.	Clarity of explanation of students	5	5	5
8.	Feedback provided on Students progress	5	5	5
9.	At least one useful technique shared by teachers	5	5	5
10.	Range of assignments, projects, projects, lab work, etc.	5	5	5
11.	Teacher is punctual in terms of starting time, ending time for lectures, lab classes and Tutorial classes	5	5	5
12.	Teacher provides an overview lecture outline at the semester beginning	5	5	5
13.	Teacher interacts with the students individually at all stage	5	5	5
14.	Teacher is supporting weak students and encouraging bright students	5	5	5
15.	Teacher encourages and guides their assignments, Group Engineering, COs and Project Management Skill/Innovation projects (PIMs) activities provided and followed in learning the course	5	5	5
16.	Teacher is performing well in class assessment in theory and practical topics along with COs and PIMs activities evaluation	5	5	5
17.	Interaction with other persons: That QnA/Ob/Topic Qs are prompt, well answered, fair and unbiased	5	5	5
18.	Teacher supplies problem exercises for Academic/personal ability	5	5	5
19.	Interaction of industry and institute was followed for the course	5	5	5

Figure 9.2(2) Online system for course wise Student feedback



**SITARAMBHAJI NARANJI PATEL**  
INSTITUTE OF TECHNOLOGY AND RESEARCH CENTRE, UMRKHI

A Vajrapathi Trust Institution  
Vajrapathi Campus, At: Umrkhi, Tal: Bardoli, Dist: Surendra Nagar  
Ph: 02822-224881, 225881 • Fax: 02822-227481, 225458  
Email: sitarambhai@snpit.ac.in, vrdingem\_centrals@snpit.ac.in  
Website: www.snpit.ac.in



**Shri Sitarambhai Naranji Patel Institute of Technology and Research Centre, Umrkhi**

**Students Feedback Form on Subject**

Name: Ahir Pinal Gunvantbhai

Enrolment No: 170490119001

Department: Mechanical Engineering

Semester: Semester 05

Subject: DE - II A(2150001)

Subject Teacher: Prof. Piyush Savai

**2019 - 2020**

Kindly rate for following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement.

**Excellent = 5, Very Good = 4, Good = 3, Satisfactory = 2, Not Satisfactory = 1**

	Scale
01. Teacher has covered entire syllabus considering all course outcomes (COs) as prescribed by University / College.	2
02. Has the Teacher covered relevant topics beyond syllabus	2
Effectiveness of Teacher in terms of theory/practical:	
03. (a) Technical content/course content	2
(b) Communication skills	
(c) Use of teaching aids	
04. Pace on which contents were covered	4
05. Motivation and inspiration for students to learn	4
Support for the development of Students' skill:	
06. i) Practical demonstration, videos, web-links etc.	3
ii) Hands on training	
07. Clarity of expectations of students	3
08. Feedback provided on Students' progress	3
09. Willingness to offer help and advice to students.	3
10. Recap of last lecture, Quizzes, projects, discussion etc.	4
11. Teacher is Punctual (in terms of starting time & ending time for lectures, Lab classes and Tutorials Classes)	5
12. Teacher provides course and lecture outline at the semester beginning	2
13. Teacher interaction with the student helpful and satisfactory	2
14. Teacher is supporting weak students and encouraging bright students	2
15. The course materials and question bank, assignments, Design Engineering (DE) and Project Management & Monitoring system (PMMS) activities provided are helpful in learning the course	3
16. Teacher is performing continuous assessment in theory and practical hours along with DE and PMMS activities evaluation.	2
17. Internal evaluation process (Test/Quiz/DE/Project) is well prompt, well designed, fair and unbiased	5
18. Teacher is approachable to students for Academic/personal advice	4
19. Interaction of industry and institute was performed for the course	



*[Signature]* PRINCIPAL  
S.N. PATEL INSTITUTE  
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Figure 9.2(3) Student feedback form for a course

The feedback of a faculty are taken from the students and analysed at the department level. The report of the analysis of mechanical engineering department for different academic year is shown in Table 9.2(1). Similarly, Faculty feedback was also taken in other departments which are shown in Fig. 9.2 (2) – (5). Top five faculties are identified having maximum feedback in the department in each semester and are awarded with appreciation certificate. The list of such faculty members identified in different academic years in respective departments are shown in Table 9.2 (6) – (9).

Table 9.2(1) Faculty feedback analysis Mechanical Engineering Department

Report of feedback analysis Mechanical Engineering Department												
Sr. No.	2019 – 2020			2020-2021			2021-2022			2022-2023		
	(CAYm3)			(CAYm2)			(CAYm1)			(CAY)		
	Courses	Faculty Name	Avg.	Courses	Faculty Name	Avg.	Courses	Faculty Name	Avg.	Courses	Faculty Name	Avg.
Sem-1	Induction Program (3110017)	Prof. Hitesh Tailor	3.95	Induction Program (3110017)	Prof. Hitesh Tailor	4.15	Induction Program (3110017)	Prof. Pragnan Lad	3.47	MATHS 1 (3110014)	Prof. Hetali Dhimmar	3.76
											Prof. Hinal Desai	3.43
	Maths 1 (3110014)	Prof. Jinal M.Naik	3.7	Maths 1 (3110014)	Prof. Jinal M.Naik	4.25	Maths 1 (3110014)	Prof. Mansi Zaveri	3.7	PPS (3110003)	Prof. Suuny Bodiwala	3.43
		Dr. Mansi N. Zaveri	3.82		Dr. Mansi N. Zaveri	3.72		Prof. Pritesh Andharia	4.3			
	Workshop (3110012)	Prof. Mayank Patel	4.47	Workshop (3110012)	Prof. Mayank Parmar	4.23	Workshop (3110012)	Mr. Ajay Patel	3.57			
		Prof. Virang R. Patel	3.83		Prof. Virang R. Patel	4.04				ES (3110007)	Prof. Aakash Raval	3.96
		Mr. Ajay I Patel	3.53		Mr. Ajay I Patel	3.52						
		Mr.Jignesh P. Soni	4.14		Mr.Jignesh P. Soni	3.89						
	Physics (3110011)	Prof. Sandip patel	3.46	Physics (3110011)	Prof. Sandip patel	3.87	Physics (3110011)	Prof. Sandip patel	3.8	PHYSICS (3110011)	Prof. Sandip Patel	4.23
		Prof. Biren Parmar	4.63		Prof. Biren Parmar	4.2						
	BCE (3110004)	Prof. Jenish M. Mistry	4.29	BCE (3110004)	Prof. Jenish M. Mistry	3.46	EGD (3110013)	Prof. Vishal Dhimmar	4	WORKSHOP (3110012)	Dr Aakash Vyash	3.7
		Prof.Nikunj M. Ashiyani	3.51		Prof.Nikunj M. Ashiyani	4.06		Prof. Vivek Bhagat	3.51			
	PPS (311003)	Prof. Vishmay M. Vaidya	3.84	PPS (311003)	Prof. Vishmay M. Vaidya	4.25	PPS (311003)	Prof. Sandip Tandel	4.09			
		Prof. Darshan R. Chauhan	3.6		Prof. Darshan R. Chauhan	3.72		Prof. Bhavisha Parmar	4.28			
Sem-2	Maths - 2 (3110015)	Prof. Jinal M.Naik	3.63	Maths - 2 (3110015)	Prof. Jinal M.Naik	4.29	Maths - 2 (3110015)	Dr. Mansi N. Zaveri	3.74	ENGLISH (3110002)	Prof. Purva Patel	4.21

		Dr. Mansi N. Zaveri	4.26		Dr. Mansi N. Zaveri	3.96						
	EGD (3110013)	Prof. Neetu B. Yadav	4.05	EGD (3110013)	Prof. Neetu B. Yadav	4.17	EGD (3110013)	Prof. Neetu B. Yadav	4	EGD (3110006)	Prof. Vishal Dhimmar	4.04
		Prof. Nikunj M. Ashiyani	3.77		Prof. Nikunj M. Ashiyani	3.78		Prof. Nikunj M. Ashiyani	3.51		Prof. Piyush Savaj	3.7
		Prof. Jenish M. Mistry	3.69		Prof. Jenish M. Mistry	4		Prof. Jenish M. Mistry	4.5	BEE (3110005)	Prof. Janak Patel	3.86
	ES (3110007)	Prof. Sandip K. Mistry	3.67	ES (3110007)	Prof. Sandip K. Mistry	4.23	ES (3110007)	Prof. Sandip K. Mistry	4.05		Prof. Achal Mistry	3.78
										BME (3110006)	Dr Akash Vyas	3.78
	BME (3110006)	DR Chetan P. Patel	3.53	BME (3110006)	DR Chetan P. Patel	3.56	BME (3110006)	DR Chetan P. Patel	3.95		Prof. Divyesh Patel	3.96
		Prof. Hiten J. Mistry	4.41		Prof. Hiten J. Mistry	3.77		Prof. Krunal A. Patel	4.28	BCE(311004)	Prof. Vishaka Surti	4.13
	BEE (3110005)	Prof. Manish N. Parmar	3.49	BEE (3110005)	Prof. Manish N. Parmar	4.09	BEE (3110005)	Prof. Manish N. Parmar	4.17		Prof. Abhisekh Sinde	3.7
		Prof. Pratap K. Chaini	4.02		Prof. Pratap K. Chaini	3.93		Prof. Pratap K. Chaini	3.8	MATHS 2 (3110015)	Prof. Hetali Dhimmar	4.16
	ENG (3110002)	Prof. Hardik A. Patel	4.23	ENG (3110002)	Prof. Hardik A. Patel	3.96	ENG (3110002)	Prof. Hardik A. Patel	3.7		Dr Madhumita Gosh	3.86
Sem-3	DE (3130008)	Prof. Piyush Savaj	4.28	DE (3130008)	Prof. Rinkesh Patel	3.74	DE (3130008)	Prof. Hiren Tamboli	3.47	ETC (3130004)	Prof. Purva Patel	3.4
					Prof. Piyush Savaj	4.15		Prof. Rinkesh Patel	4.04		Prof. Dhavni Bheda	3.66
		Prof. Misal Gandhi	3.25					Prof. Rikesh Prajapati	4.14	CVPDE (3130005)	Prof. Khyati Patel	3.58
		Prof. Hiren Tamboli	3.76	IC (3130007)	Prof. Hardik Patel	4.22	IC (3130007)	Prof. Hardik Patel	3.82	IC (3130007)	Prof. Seema Banu Shah	3.61
				ETC (3130004)	Prof. Vikash Prajapati	4.24	ETC (3130004)	Prof. Vikash Prajapati	4.05			
	IC (3130007)	Prof. Hardik Patel	4.19	CVPDE (3130005)	Prof. Khyati Patel	4.26	CVPDE (3130005)	Prof. Hetali Dhimmar	4.35	MSM (3131904)	Prof. Brighesh Padhiyar	3.85

					Prof. Tejash Patel	3.54					Prof. Ravi Patel	3.53
	ETC (3130004)	Prof. Khushbu Kayasth	3.84	ET (3131905)	Prof. Hiren Tamboli	4.18	ET (3131905)	Prof. Rikesh Prajapati	3.83	ET (3131905)	Prof. Hiren B Tamboli	3.5
					Prof. Chirag Chaudhari	3.5		Prof. Tinej Vaghela	3.51		Prof. Krishna Modi	3.9
										KTOM (3131906)	Prof. Sneh Patel	3.72
											Prof. Tapan Chaudhri	3.51
	CVPDE (3130005)	Prof. Khyati Patel	3.49	MSM (3131904)	Prof. Hiten Mistry	3.51	MSM (3131904)	Dr. Piyush Jain	3.52	DE 1A (3130008)	Prof. Hiren B Tamboli	3.5
		Prof. Hinal Desai	4.28		Dr. Piyush Jain	4.04		Prof. Krupal Patel	4.27			
		Prof. Priti Suthar	3.77									
	ET (3131905)	Prof. Hiren Tamboli	3.98	KTOM (3131906)	Prof. Hitesh Tailor	3.62	KTOM (3131906)	Prof. Hitesh Tailor	3.85			
		Prof. Chirag Chaudhari	4.13					Prof. Nilesh Rana	4.08			
					Prof. Deep Vyas	3.86						
	MSM (3131904)	Prof. Milan Patel	4.26									
		Prof. Misal Gandhi	3.53									
	KTOM (3131906)	Prof. Ripal Patel	3.76									
		Prof. Chirag Chaudhari	4.67									
<b>Sem-4</b>	DE1B (3140005)	Prof. Hiren Tamboli	3.88	DE1B (3140005)	Prof. Priyank Dave	3.78	DE1B (3140005)	Prof. Hiren Tamboli	3.84	MMM (3141901)	Prof. Ravi R Patel	3.53
		Prof. Piyush Savaj	3.66		Prof. Vatsal Maisuriya	4.09		Prof. Rinkesh Patel	4.36		Prof. Sneh N Patel	3.78
		Prof. Shakil Kagzi	4.37		Prof. Hitesh Tailor	3.53		Prof. Vivek Bhagat	3.51	FMD (3141907)	Prof. Nihar Pavagadhi	3.83
								Prof. Pragnan Lad	3.89		Prof. Krishna D Modi	3.51
	OB (3141909)	Prof. Vikash Prajapati	3.85	OB (3141909)	Prof. Hardik Patel	3.84	OB (3141909)	Prof. Hardik Patel	3.83			
										FMHM (3141906)	Prof. Rinkesh B Patel	3.56

	MP (3141908)	Prof. Milan Patel	3.64	MP (3141908)	Prof. Milan Patel	4.27	MP (3141908)	Prof. Nirav Pavagadhi	4.1		Dr Nirav M Patel	3.83			
		Prof. Ripal Patel	3.9		Prof. Tineg Vaghela	4.06		Prof. Yash Khengar	3.53						
	FMD (3141907)	Prof. Vishal Dhimmar	4.13	FMD (3141907)	Prof. Vishal Dhimmar	4.02	FMD (3141907)	Prof. Vishal Dhimmar	4.33	MP (3141908)	Prof. Tapan Chaudhari	3.92			
		Prof. Arif Varsi	4.01		Prof. Vivek Bhagat	3.43					OB (3141909)	Prof. Hitesh Jariwala	3.54		
		FMHM (3141906)	Prof. Rinkesh Patel		3.45	FMHM (3141906)				Prof. Rinkesh Patel		3.64		Prof. Krishna Modi	4.47
	Prof. Piyush Savaj		4.39	Prof. Krishna Modi	4.24		Prof. Chandrakant Nahiyavanshi	3.39							
	MMM (3141901)		Prof. Hiten Mistry	3.83	MMM (3141901)		Prof. Hiren Tamboli	3.81	FMHM (3141906)	Prof. Rinkesh Patel	3.74				
		Prof. Nilesh Rana	4.24	Prof. Krunal Patel		4.18	Dr. Nirav Patel	4.27							
				Prof. Mayank Parmar		3.49									
								MMM (3141901)	Prof. Sneh Patel	4					
									Prof. Rikesh Prajapti	3.78					

Sem-5	CE (2151908)	Prof. Rachna Patel	3.61	DE2 A (3150001)	Prof. Rinkesh Patel	3.52	DE2 A (3150001)	Prof. Rinkesh Patel	4.14	HT (3151909)	Prof. Priyank Dave	3.8
		Prof. Foram Patel	4		Prof. Piyush Savaj	4.04					Prof. Sneh Patel	3.64
	DME (2151907)	Dr. Arif Varsi	4.25	CPDP (3150004)	Prof. Hardik Patel	4.42	IPDC (3150005)	Prof. Hardik Patel	3.98	MT (3151912)	Prof. Milan R Patel	3.73
		Dr. Shakil Kagzi	3.52								Dr Piyush Jain	3.53

	HT (2151909)	Prof. Anil Patel	3.48	OHP (3151913)	Prof. Rinkesh Patel	3.43	OHP (3151913)	Prof. Rinkesh Patel	3.97	OR (3151910)	Prof. Tapan R Chaudhri	3.56					
		Prof. Priyank Dave	4.27					DOM (3151911)	Prof. Hitesh Tailor		4.07	DOM (3151911)	Prof. Vatsal Maisuriya	3.8	DOM (3151911)	Prof. Arif Varsi	3.84
																Prof. Hitesh Tailor	3.66
		FPE (2151903)	Prof. Rinkesh Patel					3.63	OR (3151910)		Prof. Piyush Savaj	4.32	OR (3151910)	Prof. Vishal Dhimmar	3.53	OHP (3151913)	Prof. Rinkesh B Patel
	Prof. Piyush Savaj		4.01	Prof. Mayank B Parmar	3.89												
	TOM (2151902)	Prof. Hiten Mistry	4.23	DE 2A (3150001)	Prof. Rinkesh B Patel	3.57											
		Prof. Hitesh Tailor	3.84		Prof. Priyank Dave	3.85											
	DM (2150003)	Prof. Abhisek Sapre	3.77	OR (3151910)	Prof. Rinkesh Patel	3.44	OR (3151910)	Prof. Rinkesh Patel	4.24	IPDC (3150005)	Prof. Hitesh A Tailor	3.79					
	DE - II A (2150001)	Prof. Khusboo Vedwala	3.5	MT (3151912)	Prof. Milan Patel	4.25	MT (3151912)	Prof. Milan Patel	3.85								
		Prof. Rinkesh Patel	4.03					Prof. Divyesh Patel	4.08								
		Prof. Piyush Savaj	3.47		Prof. Vatsal Maisuriya	3.67											
		Prof. Hiten Mistry	3.56		Prof. Vatsal Maisuriya	3.62		Prof. Hiren Tamboli	4.1								
				HT (3151909)	Prof. Priyank Dave	4.26	HT (3151909)	Prof. Tinej Vaghela	3.79								
	Sem-6	PT (2161909)	Dr. Piyush Jain	4.24	DE2 B (3160001)	Prof. Priyank Dave	4.11	DE2 B (3160001)	Prof. Rinkesh Patel	3.95	IPDC (3160003)	Prof. Hitesh A Tailor	3.61				
Dr. Shakil Kagzi			3.72	Prof. Hiren Tamboli		3.8	Prof. Hitesh Tailor		4.16								
							Prof. Pragnan Lad		3.43	CAD (3161903)				Prof. Nilesh V Rana	3.68		
RAC (2161908)		Prof. Hiren Tamboli	4.03	CPDP (3160002)	Prof. Khushbu Kayasth	3.87	IPDC (3160003)	Prof. Hitesh Tailor	3.85		Prof. Arif Varshi	3.98					

		Prof. Anil Patel	3.5	CAD (3161903)	Prof. Nilesh Rana	3.51	CAD (3161903)	Prof. Nilesh Rana	4.44					
	IE (2161907)	Prof. Hitesh Tailor	3.77		Prof. Rikesh Prajapati	4.32		Prof. Divyesh Patel	3.55		AT (3161910)	Prof. Hiren B Tamboli	3.78	
					Prof. Rikesh Prajapati	3.6	ECM (3161919)	Prof. Priyank Dave	4.41			Prof. Hitesh A Tailor	3.61	
								Prof. Mayank Parmar	3.74	CAM (3161917)	Prof. Shakil Kagzi	3.58		
	Prof. Rinkesh Patel	4.01	AMP (3161922)	Dr. Shakil kagzi	3.96	ETP (3161924)	Prof. Hitesh Tailor	3.79	Prof. Milan Patel		3.68			
				Prof. Hiten Mistry	4.07		Prof. Pragnan Lad	4.11						
				Prof. Divyesh Patel	4.03									
	CAD (2161903)	Prof. Arif Varsi	3.76	ENT (3161924)	Prof. Hitesh Tailor	4.04	AT (3161910)	Prof. Hiren Tamboli	4.03	ETP (3161924)	Prof. Piyush Jain	3.59		
		Prof. Ripal Patel	3.52								Prof. Brighesh Padhiyar	3.8		
	ICE (2161902)	Prof. Chirag Chaudhari	3.64							ECM (3161919)	Prof. Mayank B Parmar	4.31		
		Prof. Harshal Shukla	4.09								AT (3161910)	Prof. Rinkesh Patel	3.53	CAM (3161917)
				Prof. Chirag Chaudhari	4.26									
				DOM (2161901)	Prof. Piyush Savaj	4.1	CAM (3161917)	Prof. Arif Varsi	3.77				DE 2B (3160001)	Prof. Rinkesh B Patel
	Prof. Harshal Shukla	4.02	Prof. Priyank P Dave		3.9									
	DE - II B (2160001)	Prof. Hiten Mistry	3.96	Prof. Vivek Bhagat	4.22									
		Prof. Piyush Savaj	3.46	Prof. Nilesh Rana	4.08									
		Prof. Rinkesh Patel	4.2											
		Prof. Chirag Chaudhari	3.49											
	Sem-7	MFA (2171913)	Dr. Piyush Jain	3.75	PPE (2171910)	Prof. Hiren Tamboli	3.52	Summer Internship (3170001)	Prof. Vivek Bhagat	4.09	PM (3171506)	Prof. Mayank B Parmar	4.17	



		Dr. Shakil Kagzi	4.3		Prof. Chirag Chaudhari	4.38	PM (3171506)	Prof. Deep Vyas	3.82		Prof. Nilesh Rana	3.92
	PPE (2171910)	Prof. Priyank Dave	3.97	MFA (2171913)	Dr. Shakil Kagzi	4.24		Prof. Mayank Parmar	4.1	PPE (3171910)	Prof. Hitesh Tailor	3.56
		Prof. Harshal Shukla	4.07								Dr Nirav M Patel	4.03
	MD (2171909)	Prof. Vishal Dhimmar	4.23	MD (2171909)	Prof. Vishal Dhimmar	3.81	PPE (3171910)	Prof. Priyank Dave	4.28	DME (3171917)	Prof. Hitesh Jariwla	4.07
		Prof. Arif Varsi	4.21					Prof. Nirav Patel	3.61		Prof. Nilesh Rana	3.6
	OR (2171901)	Prof. Anil Patel	3.6	CAM (2171903)	Prof. Nilesh Rana	3.47	DME (3171917)	Prof. Vivek Bhagat	4.29	RAC (3171913)	Prof. Hiren Tamboli	4.1
		Prof. Piyush Savaj	3.56		Prof. Arif Varsi	4.29		Prof. Vishal Dhimmar	3.89		Prof. Nihar Pavagadhi	3.75
	CAM (2171903)	Prof. Nilesh Rana	4.26	OR (2171901)	Prof. Piyush Savaj	4	RAC (3171918)	Prof. Pragnan Lad	4.05	ICE (3171923)	Dr Nirav M Patel	4.1
		Prof. Ripal Patel	4.13		Prof. Hiten Mistry	3.63		Prof. Divyesh Patel	3.7		Prof. Rinkesh Patel	3.75
	Project - I (2170001)	Prof. Anil Patel	3.55	Project - I	Prof. Vishal Dhimmar	3.61	ICE (3171923)	Prof. Krishna Modi	4.04	NTSE (3171931)	Dr Shakil Kagzi	4.13
				-2170001				Prof. Pragnan Lad	3.45		Prof. Ravi Patel	3.81
							NTSE (3171931)	Prof. Nilesh Rana	3.84	INTERNSHIP (3170001)	Prof. Hitesh Jariwla	4.13
								Dr. Shakil Kagzi	3.79			
Sem-8	REE (2181910)	Prof. Hiren Tamboli	3.88	AWT (2181927)	Prof. Hiten Mistry	3.68	InternshipProject	Prof. Vishal Dhimmar	3.85	INTERNSHIP PROJECT (3181901)	Prof. Hitesh Jariwala	4.22
		Prof. Priyank Dave	4.67				-3181901					
	ENT (2181923)	Prof. Hitesh Tailor	3.87	REE (2181910)	Prof. Priyank Dave	4.1						
		Prof. Anil Patel	3.99									
	Project – II (2181909)	Prof. Anil Patel	4.01	Project – II (2181909)	Prof. Priyank Dave	3.98						

Table 9.2(2) Faculty feedback analysis for Computer Science and Engineering Department

Report of feedback analysis Computer Science and Engineering Department												
SEM	2019-2020 CAYm3			2020-2021 CAYm2			2021-2022 CAYm1			2022-2023 CAY		
	COURSE	FACULTY NAME	AVG.	COURSE	FACULTY NAME	AVG.	COURSE	FACULTY NAME	AVG.	COURSE	FACULTY NAME	AVG.
SEM-1	BEE (3110005)	Pratap Chaini	4.02	BEE (3110005)	Pratap Chaini	4.11	BEE (3110005)	Pratap Chaini	4.00	BEE (3110005)	Prof. Ashish A. Patel	3.75
		Manish Parmar	3.69		Manish Parmar	3.69		Manish Parmar	3.70		Prof. Manish N. Parmar	3.79
	EGD (3110013)	Nilesh V. Rana	3.73	BME (3110006)	Chetan Patel	3.73	BME (3110006)	Chetan Patel	3.72	BME (3110006)	Prof. Akash Vyas	3.72
		Priyank P. Dave	3.71		Deep M. Vyas	3.69		Divyesh Patel	3.70		Prof. Nilesh Rana	3.92
	MATHS 1 (3110014)	Khyati J. Patel	3.67	MATHS 1 (3110014)	Khyati J. Patel	3.66	MATHS 1 (3110014)	Khyati J. Patel	3.67	MATHS 1 (3110014)	Prof. Vishal Z. Dhimmar	4.04
		Tejas B. Patel	4.45		Tejas B. Patel	4.17		Tejas B. Patel	4.19		Prof. Manshi Zaveri	4.08
	ES (3110007)	Sandip Mistry	3.76	ES (3110007)	Sandip Mistry	3.86	ES (3110007)	Sandip Mistry	3.76		Prof. Seemabano A. Shah	3.96
		Anish J Solanki	3.75								Prof. Hinal H. Desai	4.07
	Workshop (3110012)	Dr. Md.Salman R. Bombaywala	3.73	Workshop (3110012)	Dr. Md.Salman R. Bombaywala	3.73	Workshop (3110012)	Hardip D. Patel	3.73	ES (3110007)	Prof. Khyati J. Patel	3.81
		Nehul J Desai	3.71		Ankita A. Mistry	3.71		Hdp	3.71		Prof. Satish Maroliya	3.90
SEM-2	BME (3110006)	Rinkesh B. Patel	3.74	EGD (3110013)	Krishna D. Modi	3.73	EGD (3110013)	Lajesh Mahyavanshi	3.74	WORKSHOP (3110012)	Prof. Nilesh Patel	3.88
		Chetan Patel	3.69		Sankalp P Patel	3.72		Biren R Parmar	3.71		Prof. Mayank B. Parmar	4.04
	MATHS 2 (3110015)	Khyati J. Patel	3.70	MATHS 2 (3110015)	Khyati J. Patel	3.70	MATHS 2 (3110015)	Khyati J. Patel	3.70		Prof. Ritesh Desai	3.92
		Tejas B. Patel	4.03		Jinal M. Naik	4.40		Tejas B. Patel	4.08	EGD (3110013)	Prof. Akash Vyas	3.72
	PHYSICS (3110018)	Sandeep Patel	3.75	PHYSICS (3110018)	Sandeep Patel	3.75	PHYSICS (3110018)	Sandeep Patel	3.75		Prof. Nilesh Rana	4.08
		Biren Parmar	3.71		Biren Parmar	3.71		Dr. Md.Salman R. Bombaywala	3.73		Prof. Vishal Z. Dhimmar	4.04
	BE (3110016)	Virang Patel	3.73	BE (3110016)	Virang Patel	3.73	BE (3110016)	Virang Patel	3.74	MATHS 2 (3110015)	Prof. Tejas B. Patel	4.35

		Mayank Patel	3.71		Mayank Patel	3.71		Mayank Patel	3.71		Prof. Hinal H. Desai	4.39
	PPS (3110003)	Darshan Chauhan	4.11	PPS (3110003)	Darshan Chauhan	4.28	PPS (3110003)	Darshan Chauhan	4.19		Prof. Hetali A. Dhimmar	3.72
		Vishmay Vaidya	3.77		Vishmay Vaidya	3.77		Vishmay Vaidya	4.15	PHYSICS (3110018)	Prof. Sandeep Patel	3.78
	ENGLISH (3110002)	Khushbu Kayasth	4.17	ENGLISH (3110002)	Khushbu Kayasth	4.36	ENGLISH (3110002)	Khushbu Kayasth	3.78	BE (3110016)	Prof. Ashish A. Patel	3.93
	N.A.										Prof. Payal D Tandel	3.95
											Prof. Mayank Patel	3.90
										PPS (3110003)	Prof. Vishmay Vaidya	4.08
											Prof. Monal Mistry	4.06
										ENGLISH (3110002)	Prof. Purva S. Patel	4.19
											Prof. Dhanvi Bheda	4.10

Table 9.2(3) Faculty feedback analysis for Civil Engineering Department

Report of feedback analysis Civil Engineering Department												
Sem	2019 – 2020 CAYm3			2020 – 2021 CAYm2			2021 – 2022 CAYm1			2022 – 2023 CAY		
	Course	Faculty Name	Avg.	Course	Faculty Name	Avg.	Course	Faculty Name	Avg.	Course	Faculty Name	Avg.
Sem-1	MATHS 1 (3110014)	Mansi Zaveri	3.68	MATHS 1 (3110014)	Jinal Naik	3.95	MATHS 1 (3110014)	Dr. Pritesh Andhariya	3.71	MATHS 1 (3110014)	Hetali Dhimmar	3.88
		Jinal Naik	3.72		Mansi Zaveri	4.05		Mansi Zaveri	3.85		Hinal Desai	3.84
	PPS (3110003)	Vishmay Vaidya	3.67	PPS (3110003)	Vishmay Vaidya	3.73	PPS (3110003)	Darshan Chuhan	3.76	PPS (3110003)	Sani Bodiwala	3.85
		Darshan Chuhan	3.74		Darshan Chuhan	3.46		Vishmay Vaidya	3.84			
	BCE (3110004)	Jenish Mistry	3.93	BCE (3110004)	Jenish Mistry	3.95	EGD (3110013)	Nikunj Ashiyani	4.35	ES (3110007)	Aakash Raval	3.85
		Nikunj Ashiyani	4.13		Nikunj Ashiyani	4.00		Neetu Yadav	4.05			
	PHYSICS (3110011)	Biren Parmar	4.00	PHYSICS (3110011)	Biren Parmar	3.75	PHYSICS (3110011)	Sandip Patel	4.02	PHYSICS (3110011)	Sandip Patel	3.94
		Sandip Patel	3.98		Sandip Patel	3.88		Mayank Patel	3.49			
		Mayank Patel	3.72		Mayank Patel	3.75		Dr. Salaman Bombaywala	3.74		Vishal Dhimmar	4.26

	Workshop (3110012)	Virang Patel	3.76	Workshop (3110012)	Virang Patel	3.88	Workshop (3110012)	Ankita Mistry	3.44	Workshop (3110012)		
		Ajay I Patel	3.82		Ajay I Patel	3.46		Ajay I Patel	3.88			
		Jignesh P Soni	3.76		Jignesh P Soni	3.86		Jignesh P Soni	3.93			
<b>Sem-2</b>	ENGLISH (3110002)	Hardik Patel	3.72	ENGLISH (3110002)	Hardik Patel	4.05	ENGLISH (3110002)	Hardik Patel	3.71	ENGLISH (3110002)	Purva Patel	3.8
		Vikash Prajapati	3.78		Vikash Prajapati	3.7						
	ES (3110007)	Sandip Mistry	4.00	ES (3110007)	Sandip Mistry	4.04	ES (3110007)	Sandip Mistry	3.83	BCE (3110004)	Vishakha Surti	3.77
		Anish Solanki	4.1		Anish Solanki	3.96		Anish Solanki	3.3		Abhishek Shinde	3.9
	BEE (3110005)	Pratap Chani	3.72	BEE (3110005)	Pratap Chani	3.72	BEE (3110005)	Manish Parmar	3.7	BEE (3110005)	Manish Parmar	3.89
		Manish Parmar	3.84		Manish Parmar	4.07		Pratap Chani	3.83		Payal Tandel	3.9
	BME (3110006)	Mishal Gandhi	3.7	BME (3110006)	Krunal A Patel	3.69	BME (3110006)	Dr. Chetan Patel	3.89	BME (3110006)	Aarif Varshi	3.77
		Dr. Chetan Patel	3.75		Dr. Chetan Patel	3.8		Tapan Chudhari	3.76		Nilesh Rana	3.83
	EGD (3110013)	Neetu Yadav	3.74	EGD (3110013)	Neetu Yadav	4.05	BCE (3110004)	Jenish Mistry	4.28	EGD (3110013)	Vishal Dhimmarr	3.86
		Nikunj Ashiyani	3.84		Nikunj Ashiyani	3.68		Nikunj Ashiyani	3.96		Nilesh Rana	3.82
		JENISH MISTRY	3.89		JENISH MISTRY	3.81						
	MATHS 2 (3110015)	MANSI ZAVERI	4.05	MATHS 2 (3110015)	MANSI ZAVERI	3.71	MATHS 2 (3110015)	MANSI ZAVERI	3.71	MATHS 2 (3110015)	MADHUMITA GHOSH	3.81
		JINAL NAIK	3.67		JINAL NAIK	3.67		DR. PRITESH ANDHARIYA	3.69		HETALI DHIMMAR	3.78

Table 9.2(4) Faculty feedback analysis report for Electrical Engineering Department

Report of feedback analysis Electrical Engineering Department												
SEM	2019-2020 (CAYm3)			2020-2021 (CAYm2)			2021-2022 (CAYm1)			2022-2023 (CAY)		
	Course	Faculty Name	Avg.	Course	Faculty Name	Avg.	Course	Faculty Name	Avg.	Course	Faculty Name	Avg.
SEM-1	BEE (3110005)	PROF. PRATAP K. CHAINI	3.72	BEE (3110005)	PROF. PRATAP K. CHAINI	3.29	BEE (3110005)	PROF. PRATAP K. CHAINI	3.69	BEE (3110005)	PROF. PRATAP K. CHAINI	4.37
		PROF.MANISH N. PARMAR	4.10		PROF.MANISH N. PARMAR	3.54		PROF.MANISH N. PARMAR	4.32		PROF. ANKITA A MISTRY	3.81

	EGD (3110013)	PROF. RIKESH PRAJAPTI	3.76	BME (3110006)	DR. CHETANKUMAR P. PATEL	3.83	BME (3110006)	DR. CHETANKUMAR P. PATEL	3.67	BME (3110006)	PROF. NILESH V. RANA	3.9
		PROF. PRIYANK P. DAVE	4.12		PROF. SANKALP PATEL	4.25		PROF. DIVYESH S. PATEL	3.42		PROF. AKASH VYAS	3.62
		PROF. NEETU B. YADAV	3.51					PROF. TAPAN R. CHAUDHARI	4.13			
	MATHS 1 (3110014)	PROF. KHYATI J. PATEL	4.03	MATHS 1 (3110014)	PROF. KHYATI J. PATEL	3.71	MATHS 1 (3110014)	PROF. KHYATI J. PATEL	3.92	MATHS 1 (3110014)	PROF. HETALI A. DHIMMAR	4.29
		PROF. TEJAS B. PATEL	3.76		PROF. TEJAS B. PATEL	4.04		PROF. TEJAS B. PATEL	3.57		PROF. TEJAS B. PATEL	3.84
	ES (3110007)	PROF. SANDIP K MISTRY	3.42	ES (3110007)	PROF. SANDIP K MISTRY	3.56	ES (3110007)	PROF. SANDIP K MISTRY	3.68	ES (3110007)	PROF. AKASH R. VYAS	3.87
		PROF. ANISH J SOLNAKI	3.82		PROF. ANISH J SOLNAKI	4.24		PROF. ANISH J SOLNAKI	3.70			
	Workshop (3110012)	Dr. Md. Salman R. Bombaywala	3.59	Workshop (3110012)	DR. MD. SALMAN R. BOMBAYWALA	3.71	Workshop (3110012)	Hardip D. Patel	3.56	WORKSHOP (3110012)	Prof. Nilesh V. Rana	3.78
		Prof. Dilip K. Patel	4.29		PROF. DILIP K. PATEL	4.18		Prof. Virang R. Patel	3.63		Mr. Ritesh A. Desai	3.56
		Nehal G Desai	3.41		PROF. MANSHI J MODI	3.52		Prof. Dilip K. Patel	4.08		Mrs. Bijal N. Vyas	4.41
		Prof. Ankita A. Mistry	3.71		PROF. ANKITA A. MISTRY	3.48		Prof. Mayank A. Patel	4.23			
SEM-2	BME (3110006)	Prof. Rinkesh B. Patel	3.64	EGD (3110013)	PROF. KRISHNA D. MODI	3.43	EGD (3110013)	Lajesh Mahyavanshi	3.21	EGD (3110013)	Prof. Vishal Z. Dhimmar	4.06
		Dr. Chetankumar P. Patel	3.80		PROF. SANKALP PATEL	3.92		Prof. Neetu B. Yadav	4.24		Prof. Akash Vyas	3.66
					PROF. DEEP M. VYAS	3.20		Prof. Tinej Vadhela	3.71			
	MATHS 2 (3110015)	Prof. Khyati J. Patel	3.71	MATHS 2 (3110015)	PROF. KHYATI J. PATEL	4.20	MATHS 2 (3110015)	Prof. Khyati J. Patel	4.12	MATHS 2 (3110015)	Prof. Hetali A. Dhimmar	3.78
		Prof. Tejas B. Patel	3.69		PROF. TEJAS B. PATEL	3.69		Prof. Tejas B. Patel	3.66		Prof. Tejas B. Patel	3.83
	Physics (3110018)	Prof. Sandeep A. Patel	4.10	PHYSICS (3110018)	PROF. SANDEEP A. PATEL	3.62	Physics (3110018)	Prof. Sandeep A. Patel	3.71	Physics (3110018)	Prof. Sandeep A. Patel	3.87
		Prof. Biren G. Parmar	3.37		PROF. BIREN G. PARMAR	3.77		Dr. Md. Salman R. Bombaywala	3.76			
	BE (3110016)	Prof. Virang R. Patel	4.24	BE (3110016)	PROF. VIRANG R. PATEL	3.24	BE (3110016)	Prof. Virang R. Patel	3.70	BE (3110016)	Prof. Payal D. Tandel	4.27
		Prof. Mayank A. Patel	4.32		PROF. MAYANK A. PATEL	4.09		Prof. Mayank A. Patel	3.55		Prof. Ankita A Mistry	3.94
	PPS (3110003)	Prof. Darshan R. Chauhan	3.61	PPS (3110003)	PROF. DARSHAN R. CHAUHAN	3.72	PPS (3110003)	Prof. Darshan R. Chauhan	4.17	PPS (3110003)	Prof. Monal B. Mistry	4.17

		Prof. Vishmay M. Vaidya	4.12		PROF. VISHMAY M. VAIDYA	4.32		Prof. Vishmay M. Vaidya	3.71		Prof. Gaurav V. Patel	3.77
	English (3110002)	Prof.Khushbu R. Kayasth	3.86	English (3110002)	PROF.KHUSHBU R.KAYASTH	3.54	English (3110002)	Prof.Khushbu R.Kayasth	3.69	English (3110002)	Prof. Purva S. Patel	4.02

Table 9.2(5) Faculty feedback analysis report for Chemical Engineering Department

Report of feedback analysis Chemical Department												
SEM	2019-2020 (CAYm3)			2020-2021 (CAYm2)			2021-2022 (CAYm1)			2022-2023 (CAY)		
	COURSE	FACULTY NAME	AVG.	COURSE	FACULTY NAME	AVG.	COURSE	FACULTY NAME	AVG.	COURSE	FACULTY NAME	AVG.
SEM-1	MATHS 1 (3110014)	Prof.Hetali Dhimmar	3.91	MATHS 1 (3110014)	Dr.Mansi Zaveri	4.67	MATHS 1 (3110014)	Prof.Khyati Patel	3.71	MATHS 1 (3110014)	Prof.Hetali Dhimmar	3.97
		Prof.Jinal Naik	3.76		Prof.Jinal Naik	4.51		Prof.Tejas Patel	3.72		Prof. Hinal Desai	3.81
	PPS (3110003)	Prof.Vishmay M Vaidya	4.10	PPS (3110003)	Prof.Darshan Chauhan	4.28	PPS (3110003)	Prof.Darshan Chauhan	4.14	PPS (3110003)	Prof. Sunny S. Bodywala	3.79
		Prof.Darshan R Chauhan	4.31		Prof.Vishmay Vaidya	4.70		Prof.Vishmay Vaidya	4.46			
	BCE (3110004)	Prof.Jensih Mistry	4.70	BCE (3110004)	Prof.Jensih Mistry	4.56	EGD (3110013)	Prof.Nikunj Ashiyani	4.36	ES (3110007)	Prof.Aakash R. Raval	4.37
		Prof.Nikunj Ashiyani	4.12		Nikunj Ashiyani	4.77		Prof.Neetu Yadav	4.53			
	Chemistry	Prof.Anish Solanki	4.59	CHEMISTRY	Prof.Anish Solanki	4.29	Chemistry	Prof.Anish Solanki	4.99	Chemistry	Dr. Payal Pandya	4.78
	Workshop (3110012)	Prof.Mayank Patel	4.56	WORKSHOP (3110012)	Prof.Mayank Patel	4.29	Workshop (3110012)	Mr.Ajay Patel	3.75	Workshop (3110012)	Prof. Vishal Dhimmar	3.9
		Mr.Ajay Patel	4.68		Mr.Ajay Patel	4.30		Dr. Md.Salman R. Bombaywala	3.76		Mr. Ritesh A Desai	3.84
		Mr.Jignesh Soni	4.18		Mr.Jignesh Soni	4.30		Prof. Ankita A. Mistry	3.73		Mrs. Bijal Vyas	3.88
		Prof.Virang Patel	4.57		Prof.Virang Patel	3.71		Mr.Jignesh Soni	4.33		Prof. Akash Vyash	3.88
SEM-2	ENGLISH (3110002)	Prof.Vinod Prajapati	4.01	ES(3110007)	Prof.Anish Solnki	4.48	ES (3110007)	Prof.Anish Solnki	4.57	ENGLISH (3110002)	Prof. Purva S. Patel	4.29
	ES (3110007)	Prof.Anish Solnki	4.06	BEE (3110005)	Prof.Manish N Parmar	4.45	BEE (3110005)	Prof.Manish N Parmar	4.81			
	BEE (3110005)	Prof.Manish N Parmar	3.89		Pratap K Chaini	3.97	BME (3110006)	Prof.Pratap K Chaini	4.83	BCE (3110004)	Prof.Vishakha Surti	4.08
		Prof.Pratap K Chaini	5.00	BME (3110006)	Dr Chetan P Patel	4.45		Dr Chetan P Patel	4.35		Prof.Abhishek Shinde	3.97
	BME (3110006)	Prof.Chirag N. Chaudhari	4.15		Prof.Deep M. Vyas	4.74		Prof.Tapan Chudhari	4.10		Prof.Manish Parmar	4.01

		Prof. Misal C. Gandhi	4.50	EGD (3110013)	Prof. Neetu B Yadav	4.00	BCE (3110004)	Prof. Jensi Mistry	4.29	BEE (3110005)	Prof. Payal Tandel	3.67
	EGD (3110013)	Prof. Neetu B Yadav	4.44		Prof. Nikunj Ashiyani	4.45		Prof. Nikunj Ashiyani	4.64	BME (3110006)	Prof. Akash Vyas	4.36
		Prof. Nikunj Ashiyani	4.36		Prof. Jensi Mistry	3.66					Prof. Nilesh Rana	3.76
		Prof. Jensi Mistry	3.65	MATHS 2 (3110015)	Dr Mansi Zaveri	4.46	MATHS 2 (3110015)	Prof. Khyati Patel	4.24	EGD (3110013)	Prof. Vishal Dhimmar	4.2
	MATHS 2 (3110015)	Prof. Tejas Patel	4.18		Prof. Tejas Patel	4.70		Prof. Tejas Patel	3.93			
		Prof. Khyati Patel	4.47	ENGLISH (3110002)	Prof. Vinod Prajapati	4.07	ENGLISH (3110002)	Prof. Vinod Prajapati	4.50	MATHS 2 (3110015)	Prof. Hetali Dhimmar	4.23

### Rewards:

Following Table shows list of faculties awarded with appreciation certificate. Top five Faculty who are appreciated by HOD.

Table 9.2(6) Faculty feedback analysis For Mechanical Engineering Department

List Of Faculties Awarded With Appreciation Certificate Mechanical Engineering Department											
2019 – 2020 CAYm3			2020 – 2021 CAYm2			2021 – 2022 CAYm1			2022-2023 CAY		
Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average
Workshop (3110012)	Prof. Mayank Patel	4.47	Ktom (3131906)	Prof. Jinal M. Naik	4.29	Egd (3110013)	Prof. Jenish M. Mistry	4.50	Physics (3110011)	Prof. Sandip Patel	4.23
				Dr. Arif Varsi	4.29						
Physics (3110011)	Prof. Biren Parmar	4.63	Cpdp (3150004)	Prof. Hardik Patel	4.42	De1b (3140005)	Prof. Rinkesh Patel	4.36	English(3110002)	Prof. Purva Patel	4.21
Bme (3110006)	Prof. Hiten J. Mistry	4.41	Or (3151910)	Prof. Piyush Savaj	4.32	Fmd (3141907)	Prof. Krishna Modi	4.47	Ecm-3161919	Prof. Mayank B Parmar	4.31
Ktom (3131906)	Prof. Chirag Chaudhari	4.67	Cad (3161903)	Prof. Rikesh Prajapati	4.32	Cad (3161903)	Prof. Nilesh Rana	4.44	Pm-3171506	Prof. Mayank B Parmar	4.17
Ree (2181910)	Prof. Priyank Dave	4.67	Ppe (2171910)	Prof. Chirag Chaudhari	4.38	Ecm (3161919)	Prof. Priyank Dave	4.41	Internship Project(3181901)	Prof. Hitesh Jariwala	4.22

Table 9.2(7) Faculty feedback analysis for Civil engineering department

List Of Faculties Awarded With Appreciation Certificate Civil Engineering Department											
2019 – 2020 CAYm3			2020 – 2021 CAYm2			2021 – 2022 CAYm1			2022-2023 CAY		
Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average
<b>Bce (3110004)</b>	Prof.Nikunj Ashiyani	4.13	Maths 1 (3110014)	Prof.Mansi Zaveri	4.05	Egd (3110013)	Prof.Nikunj Ashiyani	4.35	Physics (3110011)	Prof.Sandip Patel	3.94
<b>Physics (3110011)</b>	Prof.Biren Parmar	4.00	English (3110002)	Prof.Hardik Patel	4.05	Egd (3110013)	Prof.Neetu Yadav	4.05	Workshop (3110012)	Prof.Vishal Dhimmar	4.26
<b>Es (3110007)</b>	Prof.Sandip Mistry	4.00	Es (3110007)	Prof.Sandip Mistry	4.04	Egd (3110013)	Prof.Jenish Mistry	4.10	Bce (3110004)	Prof.Abhishek Shinde	3.90
<b>Es (3110007)</b>	Prof.Anish Solanki	4.1	Bce (3110005)	Prof.Manish Parmar	4.07	Physics (3110011)	Prof.Sandip Patel	4.02	Bce (3110005)	Prof.Manish Parmar	3.89
<b>Maths 2 (3110015)</b>	Prof.Mansi Zaveri	4.05	Egd (3110013)	Prof.Neetu Yadav	4.05	Bce (3110004)	Prof.Jenish Mistry	4.28	Bce (3110005)	Prof.Payal Tandel	3.90

Table 9.2(7) Faculty feedback analysis report for Computer Science and Engineering department

List of faculties awarded with appreciation certificate Computer Science & Engineering Department											
2019-2020 CAYm3			2020-2021 CAYm2			2021-2022 CAYm1			2022-2023 CAY		
Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average
<b>Bce (3110005)</b>	Prof.Pratap Chaini	4.02	Bce (3110005)	Prof.Pratap Chaini	4.11	Bce (3110005)	Prof.Pratap Chaini	4.00	Maths 2 (3110015)	Prof.Tejas B. Patel	4.35
<b>Maths 1 (3110014)</b>	Prof.Tejas B. Patel	4.45	Maths 1 (3110014)	Prof.Tejas B. Patel	4.17	Maths 1 (3110014)	Prof.Tejas B. Patel	4.19	Maths 2 (3110015)	Prof.Hinal H. Desai	4.39



<b>Maths 2 (3110015)</b>	Prof.Tejas B. Patel	4.03	Maths 2 (3110015)	Prof.Jinal M. Naik	4.40	Maths 2 (3110015)	Prof.Tejas B. Patel	4.08	Pps (3110003)	Prof.Vishmay Vaidya	4.08
<b>Pps (3110003)</b>	Prof.Darshan Chauhan	4.11	Pps (3110003)	Prof.Darshan Chauhan	4.28	Pps (3110003)	Prof.Darshan Chauhan	4.19	English (3110002)	Prof.Purva S. Patel	4.19
<b>English (3110002)</b>	Prof.Khushbu Kayasth	4.17	English (3110002)	Prof.Khushbu Kayasth	4.36	Pps (3110003)	Prof.Vishmay Vaidya	4.15	English (3110002)	Prof.Dhanvi Bheda	4.10

Table 9.2(8) Faculty feedback analysis report for Electrical Engineering department

**List of faculties awarded with appreciation certificate Electrical Engineering Department**

2019-2020 CAYm3			2020-2021 CAYm2			2021-2022 CAYm1			2022-2023 CAY		
Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average
<b>EGD (3110013)</b>	Prof.Priyank P. Dave	4.12	BME (3110006)	Prof. Sankalp Patel	4.25	BEE (3110005)	Prof.Manish N. Parmar	4.32	BEE (3110005)	Prof. Pratap K. Chaini	4.37
<b>WORKSHOP (3110012)</b>	Prof. Dilip K. Patel	4.29	ES (3110007)	Prof. Anish J Solnaki	4.24	BME (3110006)	Prof. Tapan R.Chaudhari	4.13	MATHS 1 (3110014)	Prof. Hetali A. Dhimmarr	4.29
<b>BE (3110016)</b>	Prof. Virang R. Patel	4.24	WORKSHOP (3110012)	Prof. Dilip K. Patel	4.18	WORKSHOP (3110012)	Prof. Mayank A. Patel	4.23	Workshop (3110012)	Mrs. Bijal N. Vyas	4.41
<b>BE (3110016)</b>	Prof. Mayank A. Patel	4.32	MATHS 2 (3110015)	Prof. Khyati J. Patel	4.20	EGD (3110013)	Prof. Neetu B. Yadav	4.24	BE(3110016)	Prof. Payal D. Tandel	4.27
<b>PPS (3110003)</b>	Prof. Vishmay M. Vaidya	4.12	PPS (3110003)	Prof. Vishmay M. Vaidya	4.32	PPS (3110003)	Prof. Darshan R. Chauhan	4.17	PPS(3110003)	Prof. Monal B. Mistry	4.17

Table 9.2(9) Faculty feedback analysis report for Chemical Engineering Department

**List of faculties awarded with appreciation Certificate Chemical Department**

2019-2020 CAYm3			2020-2021 CAYm2			2021-2022 CAYm1			2022-2023 CAY		
Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average	Subject	Faculty Name	Average
<b>Bce (3110004)</b>	Prof.Jensih Mistry	4.70	Maths 1 (3110014)	Dr.Mansi Zaveri	4.67	Chemistry	Prof.Anish Solanki	4.99	Es (3110007)	Prof.Aakash R. Raval	4.37
<b>Chemistry</b>	Prof.Anish Solanki	4.59	Pps (3110003)	Prof.Vishmay Vaidya	4.70	Es (3110007)	Prof.Anish Solnki	4.57	Chemistry	Dr. Payal Pandya	4.78
<b>Workshop (3110012)</b>	Mr.Ajay Patel	4.68	Bce (3110004)	Nikunj Ashiyani	4.77	Bce (3110005)	Prof.Manish N Parmar	4.81	English (3110002)	Prof. Purva S. Patel	4.29
<b>Workshop (3110012)</b>	Prof.Virang Patel	4.57	Bme (3110006)	Prof.Deep M. Vyas	4.74	Bce (3110005)	Prof.Pratap K Chaini	4.83	Bme (3110006)	Prof.Aakash Vyas	4.36
<b>Bce (3110005)</b>	Prof.Pratap K Chaini	5.00	Maths 2 (3110015)	Prof.Tejas Patel	4.70	Bce (3110004)	Prof.Nikunj Ashiyani	4.64	Maths 2 (3110015)	Prof.Hetali Dhimmar	4.23
			English (3110002)	Prof.Vinod Prajapati	4.07	English (3110002)	Prof.Vinod Prajapati	4.50			

**Corrective measures:**

As all the faculty members received more than 1 rating in feedback so no corrective measures are required. For the further improvement of teaching the faculty members participated various courses of NPTEL which help to improve teaching learning process and students are also improve knowledge and teaching skills of teaching-learning process.

The list of the faculty members participated in NPTEL courses and their result in different acedamic years are shown in Table 9.2 (5) – (7).

Table 9.2(5) Swayam NPTEL Course detail for CAYm3 (2019-20)

Swayam NPTEL Local Chapter 2019-2020					
Sr. No.	Course Name	Name	Department	Final Score in %	Certificate Type
1	Theory of Computation	Prof. Viralkumar H. Panchal	Computer Science and Engineering	68	Elite
2	C Programming and Assembly Language	Prof. Virang R. Patel	Electronics and Communication Engineering		-
3	Energy Conservation and Waste Heat Recovery - Online	Prof. Hitesh A. Tailor	Mechanical Engineering	36	-
4	Energy Conservation and Waste Heat Recovery - Online	Prof. Priyank P. Dave	Mechanical Engineering	45	-
5	Numerical methods - Online	Prof. Jinal M. Naik	Mathematics	61	Elite
6	Programming In Java - Online	Prof. Bhavesh D. Patel	Computer Science and Engineering	89	Elite+Silver
7	Numerical methods - Online	Prof. Priti D. Suthar	Mathematics	56	Successfully completed
8	Chemical Engineering Thermodynamics - Online	Prof. Paritosh Agnihotri	Chemical Engineering	-	-
9	Fundamentals of manufacturing processes - Online	Prof. Hitenkumar J. Mistry	Mechanical Engineering	56	Completed
10	Power System Analysis - Online	Prof. Janakkumar B. Patel	Electrical Engineering	68	Elite

<b>11</b>	Power System Analysis - Online	Prof. Achalkumar B. Mistry	Electrical Engineering	60	Elite
<b>12</b>	Electrical Machines I - Online	Prof. Pratap Kishore Chaini	Electrical Engineering	77	Elite+Silver
<b>13</b>	Manufacturing of Composites - Online	Prof. Piyush S. Jain	Mechanical Engineering	78	Elite+Silver
<b>14</b>	Introduction to Internet of Things - Online	Prof. Bhavesh D. Patel	Computer Science and Engineering	64	Elite
<b>15</b>	Accreditation undergraduate engineering programme (Swayam)	Dr. Miral R. Thakker	Chemical Engineering	73	Elite
<b>16</b>	Equipment design: Mechanical aspects	Prof. Princekumar J. Patel	Chemical Engineering	-	-
<b>17</b>	NBA NATE	Dr. Damyanti G. Badagha	Civil Engineering	66	Elite
<b>18</b>	Introduction to civil engineering	Prof. Neetu B. Yadav	Civil Engineering	78	Elite+Silver
<b>19</b>	Introduction to civil engineering	Prof. Sarika G Javiya	Civil Engineering	87	Elite+Silver
<b>20</b>	Project planning & control	Prof. Sarika G Javiya	Civil Engineering	47	-
<b>21</b>	Block Chain	Prof. Bhavesh D. Patel	Civil Engineering	66	Elite
<b>22</b>	IIOT	Prof. Bhavesh D. Patel	Civil Engineering	72	Elite
<b>23</b>	Programming in JAVA	Prof. Devarshi B. Naik	Computer Science and Engineering	92	Elite+ Gold
<b>24</b>	Network Analysis	Prof. Chirag A. Patel	Electrical Engineering	96	Elite+ Gold

<b>25</b>	Network Analysis	Prof. Arpita V. Shah	Electrical Engineering	93	Elite+ Gold
<b>26</b>	Mircro - processors and Micro Controllers	Prof. Virang R. Patel	Electrical Engineering	96	Elite+ Gold
<b>27</b>	Embedded system design with ARM	Prof. Virang R. Patel	Electronics and Communication Engineering	83	Elite+Silver
<b>28</b>	NBA NATE	Prof. Shakil A. Kagzi	Mechanical Engineering	78	Elite+Silver
<b>29</b>	Computer Integrated Manufacturing	Dr. Arif M. Varsi	Mechanical Engineering	91	Elite+ Gold
<b>30</b>	Digital land survayig and mapping	Dr. Mayri Prajapati	Civil Engineering	97	Elite+ Gold
<b>31</b>	Geotechnical engineering-I	Prof. Jenishkumar M. Mistry	Civil Engineering	42	-
<b>32</b>	Deep learning	Prof. Salman R. Bombaywala	Electronics and Communication Engineering	95	Elite+ Gold
<b>33</b>	Embedded system design with ARM	Prof. Vipul H. Mistry	Electronics and Communication Engineering	87	Elite+Silver
<b>34</b>	Electrical Vehicles-I	Prof. Maitri K. Mistry	Electrical Engineering	54	Successfully completed
<b>35</b>	CMOS digital VLSI design	Prof. Vipul H. Mistry	Electronics and Communication Engineering	73	Elite
<b>36</b>	Power system engineering	Prof. Pratap K. Chaini	Electrical Engineering	90	Elite+ Gold
<b>37</b>	Microprocessors and Micro Controllers	Prof. Vipul H. Mistry	Electronics and Communication Engineering	90	Elite+ Gold

<b>38</b>	Network Analysis	Prof. Samarth Gamlawala	Electrical Engineering	99	Elite+ Gold
<b>39</b>	Product design and Manufacturing	Prof. Nilesh V. Rana	Mechanical Engineering	81	Elite+Silver
<b>40</b>	Convective Heat transfer	Prof. Vishal U. Shah	Chemical Engineering	40	-
<b>41</b>	Computer Integrated Manufacturing	Prof. Nilesh V. Rana	Mechanical Engineering	89	Elite+Silver

Table 9.2(6) Swayam NPTEL Course detail for CAYm2 (2020-21)

Swayam NPTEL Local Chapter 2020-21					
<b>Sr. No.</b>	<b>Course Name</b>	<b>Name</b>	<b>Department</b>	<b>Final Score %</b>	<b>Certificate Type</b>
<b>1</b>	Introduction to civil engineering profession	Prof. Neetu B. Yadav	Civil Engineering	66	Elite
<b>2</b>	Introduction to civil engineering profession	Prof. Sarika G Javiya	Civil Engineering	75	Elite Silver
<b>3</b>	Introduction to civil engineering profession	Prof. Zalak P. Shah	Civil Engineering	-	-
<b>4</b>	Network analysis	Prof. Samarth M. Gamlawala	Electrical Engineering	75	Elite Silver
<b>5</b>	Mechanical operation	Prof. Darshan Sarang	Chemical Engineering	-	-
<b>6</b>	Principles of metal forming technology	Prof. Shakil A. Kagzi	Mechanical Engineering	90	Elite Gold
<b>7</b>	Refrigeration and air-conditioning	Prof. Chirag N. Chaudhari	Mechanical Engineering	72	Elite

8	Operations research	Prof. Piyush B. Savaj	Mechanical Engineering	-	-
9	Refrigeration and air-conditioning	Prof. Hiren B. Tamboli	Mechanical Engineering	80	Elite Silver
10	Customer relationship management	Prof. Vikas C. Prajapati	Business Administration	76	Elite Silver
11	Project planning & control	Prof. Neetu B. Yadav	Civil Engineering	47	-
12	Technologies for clean and renewable energy production	Prof. Priyank P. Dave	Mechanical Engineering	80	Elite Silver
13	Project planning & control	Prof. Sarika G Javiya	Civil Engineering	63	Elite
14	River engineering	Prof. Bankim R. Joshi	Civil Engineering	-	-
15	Fluid machines	Prof. Rinkesh B. Patel	Mechanical Engineering	84	Elite+Silver
16	Engineering drawing and computer graphics	Prof. Vishal Z. Dhimmar	Mechanical Engineering	68	Elite
17	Deep learning	Prof. Rutal S. Mahajan	Computer Science and Engineering	29	-
18	The joy of computing using python	Prof. Salman R. Bombaywala	Electronics and Communication Engineering	83	Elite+Silver
19	The joy of computing using python	Prof. Samarth M. Gemlawala	Electrical Engineering	93	Elite+ Gold
20	Power system analysis	Prof. Achal B. Mistry	Electrical Engineering	60	Elite
21	Introduction to composites	Prof. Piyush S. Jain	Mechanical Engineering	76	Elite+Silver
22	Integrated waste management for a smart city	Prof. Neetu B. Yadav	Civil Engineering		-
23	Fundamentals of	Prof. Milan R. Patel	Mechanical Engineering	71	Elite

	manufacturing processes				
<b>24</b>	Thermodynamics	Prof. Chetankumar P. Patel	Mechanical Engineering	-	-
<b>25</b>	Electronic waste management - issues and challenges	Dr Mayuri P. Prajapati	Civil Engineering	63	Elite
<b>26</b>	Electronic waste management - issues and challenges	Dr Nisha P. Soni	Civil Engineering	75	Elite+Silver
<b>27</b>	Construction methods and equipment management	Prof. Neetu B. Yadav	Civil Engineering	-	-
<b>28</b>	Python for data science	Prof. Rutal S. Mahajan	Computer Science and Engineering	63	Elite
<b>29</b>	Multivariable calculus	Dr Mansiben N. Zaveri	Mathematics		-
<b>30</b>	Machining science	Prof. Shakil A. Kagzi	Mechanical Engineering	76	Elite+Silver
<b>31</b>	Machining science	Prof. Vatsalkumar B. Maisuriya	Mechanical Engineering	29	-
<b>32</b>	Water supply engineering	Prof. Bankim R. Joshi	Civil Engineering	49	Successfully Completed
<b>33</b>	Principles of management	Prof. Hardik A. Patel	Applied Sciences & Humanity	-	-
<b>34</b>	Computer integrated manufacturing	Prof. Nilesh V. Rana	Mechanical Engineering	69	Elite



Table 9.2(7) Swayam NPTEL Course detail for CAYm1 (2021-22)

Swayam NPTEL Local Chapter (2021-2022)					
Sr. No.	Course Name	Name	Department	Final Score %	Certificate Type
1	Laplace Transform	Prof. Tejas B. Patel	A.S.H	86%	Elite+Silver
2	The Joy of Computing using Python	Prof. Virang R. Patel	Electronics And Communication	78%	Elite+Silver
3	Introduction to research-online	Dr. Niravkumar M. Patel	Mechanical Engineering	76%	Elite+Silver
4	Introduction to research-online	Prof. Vivekkumar B. Bhagat	Mechanical Engineering	67%	Elite
5	Stress Mangment	Prof. Vinodkumar B. Prajapati	Electrical Engineering	67%	Elite
6	Data Base Management System	Prof. Toral M. Desai	Computer Science And Engineering	62%	Elite
7	Computer Networks	Prof. Viral H. Panchal	Computer Science And Engineering	93%	Successfully Completed
8	Computer Networks	Prof. Darshan R. Chauhan	Computer Science And Engineering	81%	Successfully Completed
9	Computer Networks	Prof. sandipkumar K. Tandel	Computer Science And Engineering	80%	Successfully Completed
10	Stress Mangment	Prof. Manish Kumar N. Parmar	Electrical Engineering	57%	Successfully Completed
11	Data Base Management System	Prof. Zinal G. Solanki	Computer Science And Engineering	55%	Successfully Completed
12	Stress Mangment	Prof. Dilip K. Patel	Electrical Engineering	54%	Successfully Completed
13	Stress Mangment	Prof. Ravish H. Hirpara	Electrical Engineering	53%	Successfully Completed
14	Introduction to research-online	Prof. Mayankkumar B. Parmar	Mechanical Engineering	49%	Successfully Completed

### 9.3 Feedback on facilities (5)

The college with vast area has great potential for expansion of academic activities. The college has well-furnished class rooms, sophisticated state-of-the art laboratories, Internet facilities, spacious administrative buildings, a library, e-resources, computers, lawns and a great green ambience.

Facilities include A/C auditorium, health centre (Fig. 9.3 (1)), vehicle parking sheds, Transport facilities, Cafeteria (Fig. 9.3(2)), waste (solid and liquid) Recycling / reuse systems, garden, stationery shop (Fig. 9.3 (3)), Temple (Fig. 9.3(4)), etc. Institute is also providing the banking facility. Vidyabharti Co-operative Credit Society Ltd. Bank established on date 23-07-2008 which is facilitated for student as well as faculties (Fig. 9.3(5)).



Fig 9.3(1) Hospital Facility



Fig 9.3 (2) Canteen Facility



Fig 9.3(3) Stationery shop



Fig 9.3(4) Temple Facility



Fig 9.3(5) Bank Facility

All open terraces are fitted with collection pipes which collect rainwater and sent to the ground through designed drains. Our Institute allows only restricted entry of motored vehicles inside the campus with well planned parking facility. To maintain eco-friendly environment, battery operated vehicles are functioning in our college premises.

Separate hostels for girls with good infrastructure are available as shown in Fig. 9.3(6). The aesthetically designed modern hostels provide home atmosphere. Total Capacity of hostel: 50 Rooms and 3 students are stay in each room.



Fig 9.3(6) Girls Hostel Facility

Here are few listed facilities available for ours students-Uninterrupted power supply, Dedicated Generator with 100% backup, Wi-Fi facility with 300MbPS speed leased line, aesthetically built architecture, Mineral water facility, Stationery shop etc.

### **Feedback collection process**

- For the improvement in the facilities provided by institute feedback is collected and analysed as per following steps.
- The feedback is usually taken once during the semester. It contain question on the facilities provided by the college such as Availability of teaching aids such as multimedia projectors, speakers etc. in classrooms/tutorial rooms, Library space and ambience, timings and usage , library or range of text and reference books, Drinking water facilities & their maintenance , Canteen facilities, Hostel & Hostel Mess facilities , Medical & first-aid facilities , Sport Facilities,



Housekeeping & maintenance, Infrastructure for Co-curricular and extra-curricular activities , Mentoring system to help students at individual level.

- The Feedback is collected by head of department and Principal. Necessary actions are taken based on feedback analysis and consultation of H.O.D, concerned committee and principal.
- The Fig. 9.3(7) and (8) shows the sample online feedback form filled by the student for the infrastructure facilities.

**SITARAMBHAJI NARANJI PATEL INSTITUTE OF TECHNOLOGY & RESEARCH CENTRE, UMRKHAH**  
(Formerly Walajehani Trust Institute of Technology & Research Centre)

Home ABOUT US KNOWLEDGE DEPARTMENTS FACILITY COMMITTEE T & P STUDENT CORNER QUICK LINKS CONTACT

**Students Feedback Form on infrastructure and Facilities**

Kindly rate for following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement.  
Excellent: 5, Very Good: 4, Good: 3, Satisfactory: 2, Not Satisfactory: 1

Enrollment No:

Last Name:

First Name:

Middle Name:

Department:

Academic Year:

Semester:

☐ Anonymous

1.	Availability of teaching aids such as multimedia projector, speakers etc. in classrooms/ tutorial rooms.	<input type="text" value="0"/>
2.	Library space and ambience, fittings and usage.	<input type="text" value="5"/>
3.	Adequacy of number of books in library or range of text and reference books covering syllabus relating to different courses.	<input type="text" value="5"/>
4.	Internet facilities are available in the department.	<input type="text" value="5"/>
5.	Equipment is in the lab in working condition.	<input type="text" value="5"/>
6.	Drinking water facilities & their maintenance.	<input type="text" value="5"/>
7.	Canteen facilities.	<input type="text" value="5"/>
8.	Facilities for sports and cultural activities.	<input type="text" value="5"/>
9.	Hostel & Hostel mess facilities.	<input type="text" value="5"/>
10.	Fire safety facilities.	<input type="text" value="5"/>
11.	Medical & first aid facilities.	<input type="text" value="5"/>
12.	Housekeeping & maintenance.	<input type="text" value="5"/>
13.	Infrastructure for Co-curricular and extra-curricular activities.	<input type="text" value="5"/>
14.	The campus is green and eco-friendly.	<input type="text" value="5"/>
15.	Mentoring system to help students at individual level.	<input type="text" value="5"/>
16.	The campus has adequate power supply.	<input type="text" value="5"/>

Figure 9.3(7) Online system for Student feedback on Infrastructure and facilities



**SITARAMBHAI NARANJI PATEL**  
INSTITUTE OF TECHNOLOGY AND RESEARCH CENTRE, UMRAKH

A Vidyapeeth Trust Institution  
 Knowledge Campus, At Umrakh, Tal. Bardol, Dist. Bardol, Gujarat  
 Ph: 02222224501, 2203811 • Fax: 20222-217401, 225456  
 Email: snpit@snpit.ac.in, rd@snpit.ac.in, admin@snpit.ac.in  
 Website: www.snpit.ac.in



**Shri Sitarambhai Naranji Patel Institute of Technology and Research Centre, Umrakh**

Students Feedback Form on Infrastructure and Facilities

Name : Chaudhary Chaudhari Babubhai      Enrolment No : RC450113010

Department : Mechanical Engineering      Semester : Semester 4

**2019 - 2020**

Kindly rate for following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement.

**Excellent = 5, Very Good = 4, Good = 3, Satisfactory = 2, Not Satisfactory = 1**

	Score
01. Availability of teaching aids such as multimedia projectors, speakers etc. in classrooms/ tutorial rooms	5
02. Library space and ambience, timings and usage	5
03. Adequacy of number of titles in library or range of text and reference books covering syllabus relating to different courses	4
04. Internet facilities are available in the department	5
05. Equipment in the labs are in working condition.	3
06. Drinking water facilities & their maintenance.	4
07. Canteen facilities.	5
08. Facilities for Sports and cultural activities.	3
09. Hostel & Hostel Mess facilities	3
10. Fire safety facilities	5
11. Medical & first-aid facilities	3
12. Housekeeping & maintenance	3
13. Infrastructure for Co-curricular and extra-curricular activities.	3
14. The campus is green and eco-friendly.	3
15. Mentoring system to help students at individual level.	3
16. The campus has adequate power supply.	3



**PRINCIPAL**  
S. N. PATEL INSTITUTE  
OF TECHNOLOGY & RESEARCH CENTRE  
UMRAKH-384 345



Figure 9.3(8) Student feedback form on Infrastructure and facilities

Table 9.3(1) Facility Feedback Analysis

Feedback on all Facilities					
Sr. No	College Facilities	2019-2020 CAYm3	2020-2021 CAYm2	2021-2022 CAYm1	2022-2023 CAY
1	Availability of teaching aids such as multimedia projectors, speakers etc. in classrooms/ tutorial rooms	3.74	3.56	3.78	3.87
2	Library space and ambience, timings and usage	3.78	3.66	3.78	3.75
3	Adequacy of number of titles in library or range of text and reference books covering syllabus relating to different courses	3.72	3.65	3.74	3.76
4	Internet facilities are available in the department.	3.70	3.67	3.80	3.87
5	Equipment in the labs are in working condition.	3.76	3.68	3.77	3.86
6	Drinking water facilities & their maintenance	3.74	3.64	3.70	3.89
7	Canteen facilities	3.71	3.70	3.75	3.81
8	Facilities for Sports and cultural activities.	3.75	3.62	3.71	3.76
9	Hostel & Hostel Mess facilities	3.65	3.61	3.70	3.82
10	Fire safety facilities	3.68	3.72	3.74	3.73
11	Medical & first-aid facilities	3.67	3.63	3.78	3.92
12	Housekeeping & maintenance	3.74	3.68	3.77	3.82
13	Infrastructure for Co-curricular and extra-curricular activities.	3.65	3.68	3.71	3.86
14	The campus is green and eco-friendly.	3.64	3.68	3.75	3.91
15	Mentoring system to help students at individual level.	3.76	3.71	3.76	3.81
16	The campus has an adequate power supply.	3.71	3.77	3.74	3.89

Figure 9.3(8) shows Feedback on Facility of the Availability of teaching aids such as multimedia projectors, speakers etc. in classrooms/ tutorial rooms and Figure 9.3(9) Feedback Facility for Internet facilities availability in the department. Fig. 9.3 (10) shows

feedback on the availability of the Equipment in the labs and their working condition and Fig. 9.3 (11) the feedback on the availability of drinking water. Fig. 9.3(11) and (12) shows the feedback on the hostel facility and medical facility respectively.

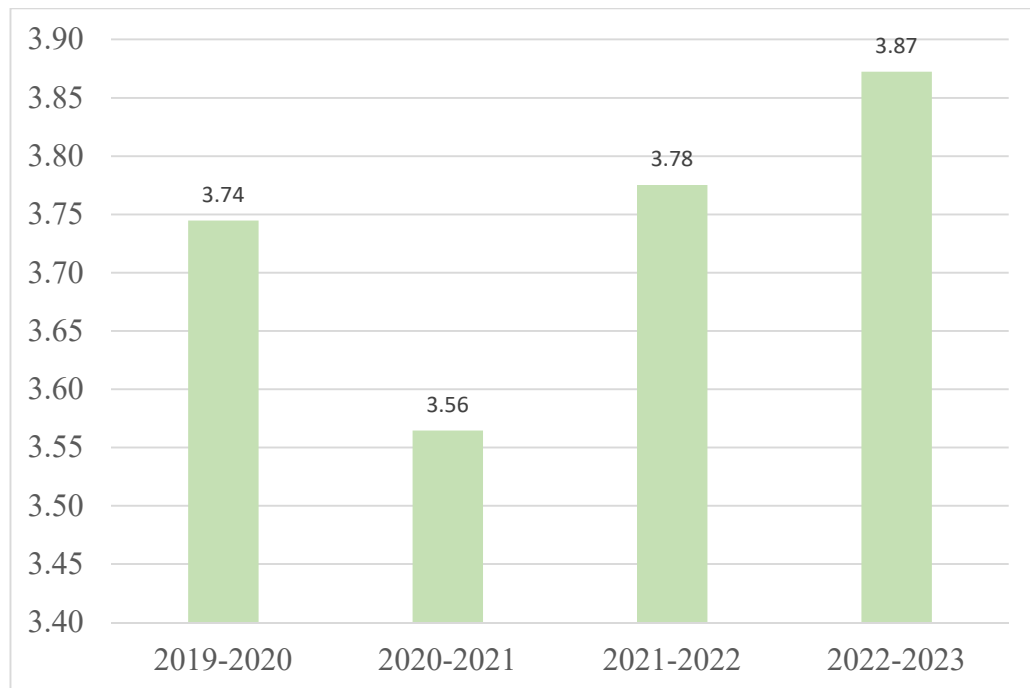


Figure 9.3(8) Feedback on availability of classrooms/Tutorial rooms

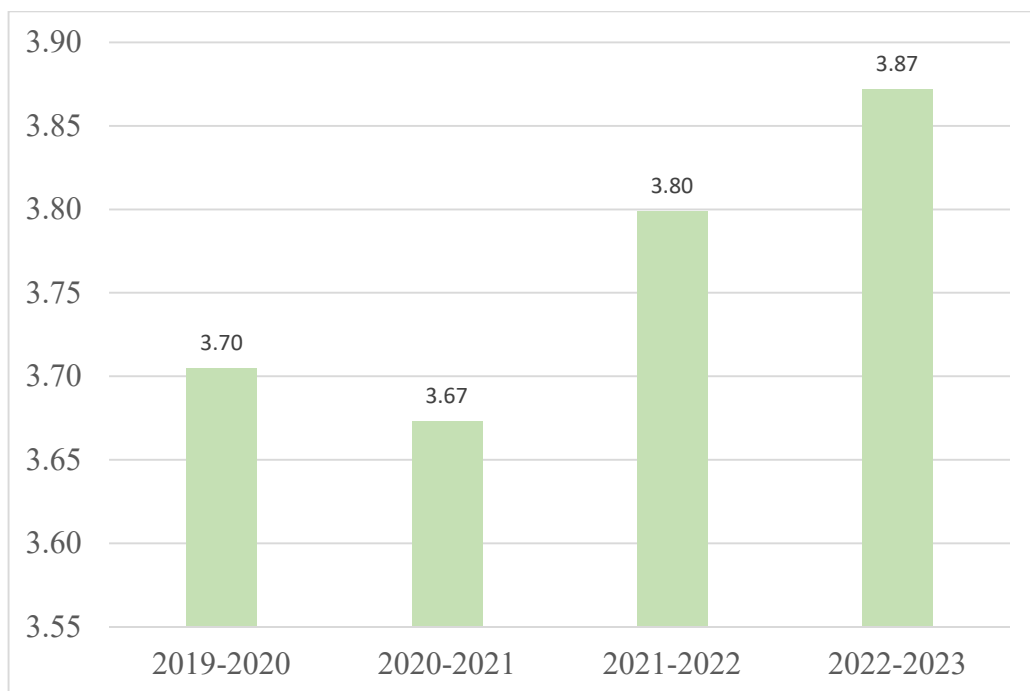


Figure 9.3(9) Feedback on internet facility



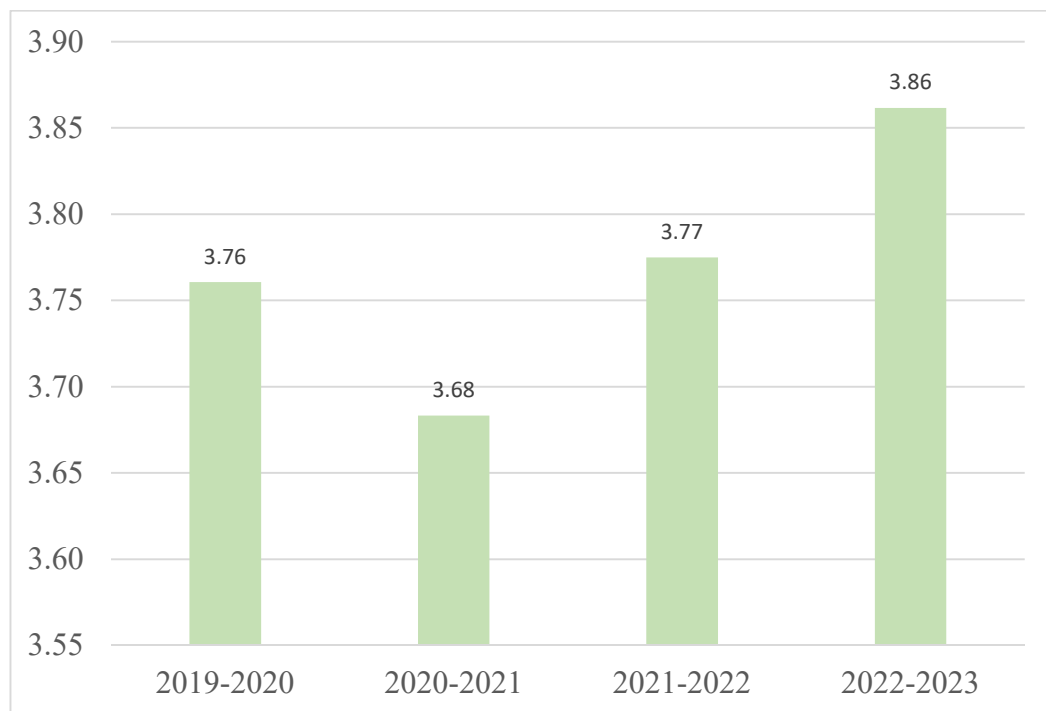


Figure 9.3(10) Feedback on the equipment and their working condition

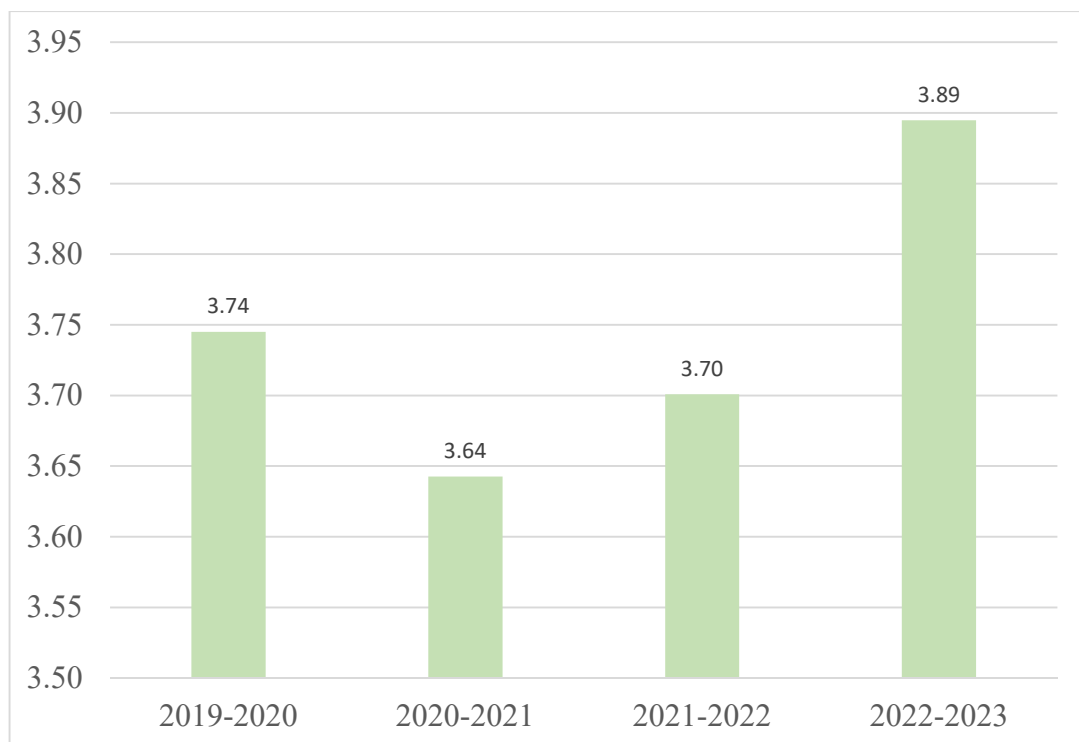


Figure 9.3(11) Feedback on availability of drinking water facility and respective maintenance

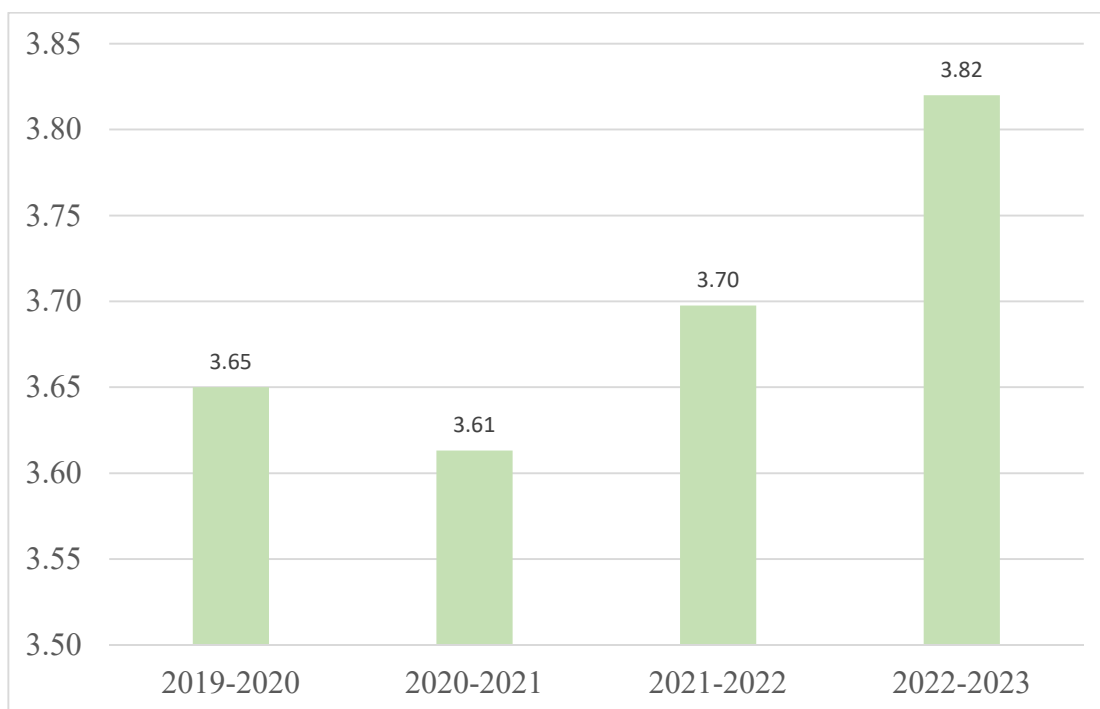


Figure 9.3(12) Feedback on the hostel facility

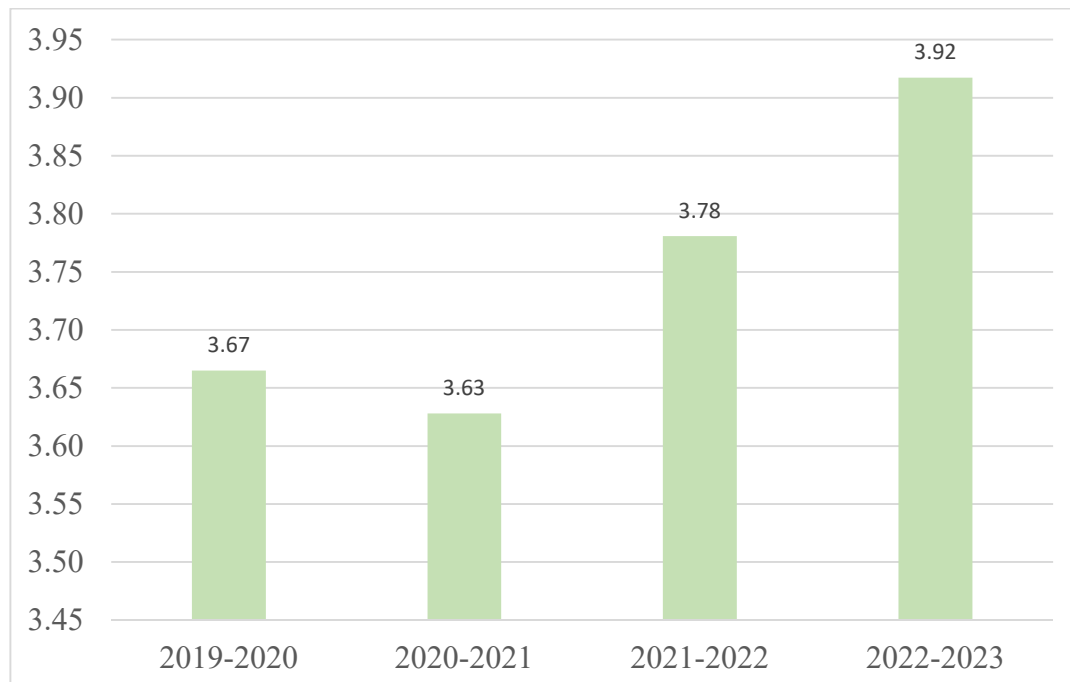


Figure 9.3(13) Feedback Facility medical and first aid facility

The Fig. 9.3(14), (15) and (16) shows Feedback on facility or co-curricular and extracurricular activities, feedback on green campus and library respectively.

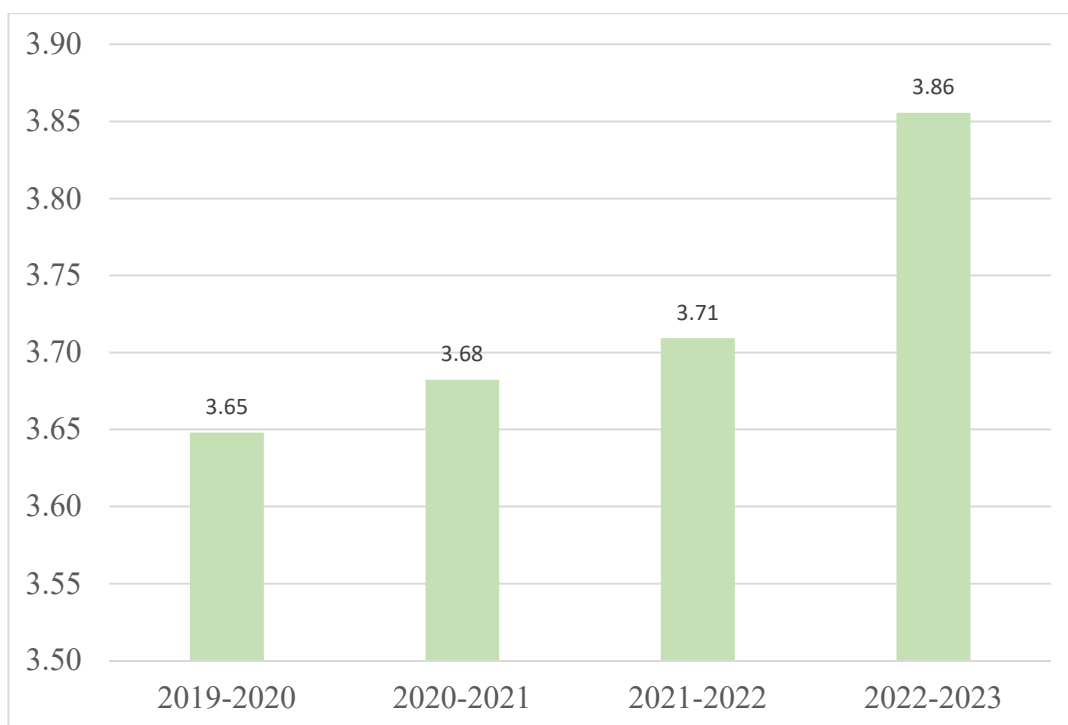


Figure 9.3(14) Feedback on facility or co-curricular and extracurricular activities

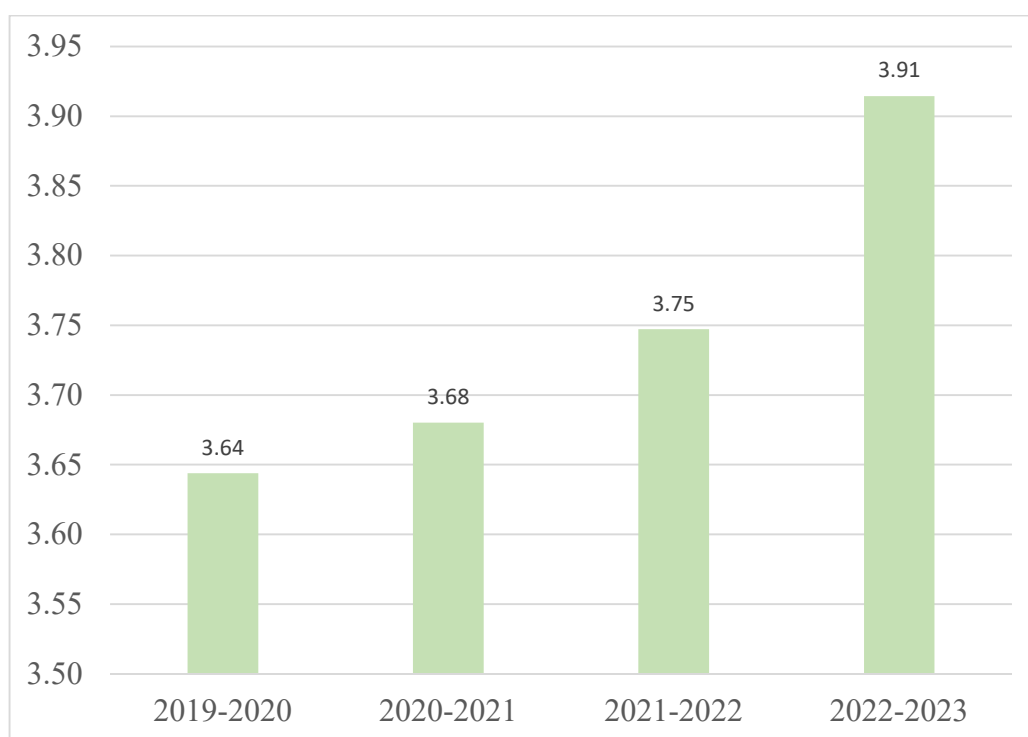


Figure 9.3(15) Feedback eco-friendly and green campus facility

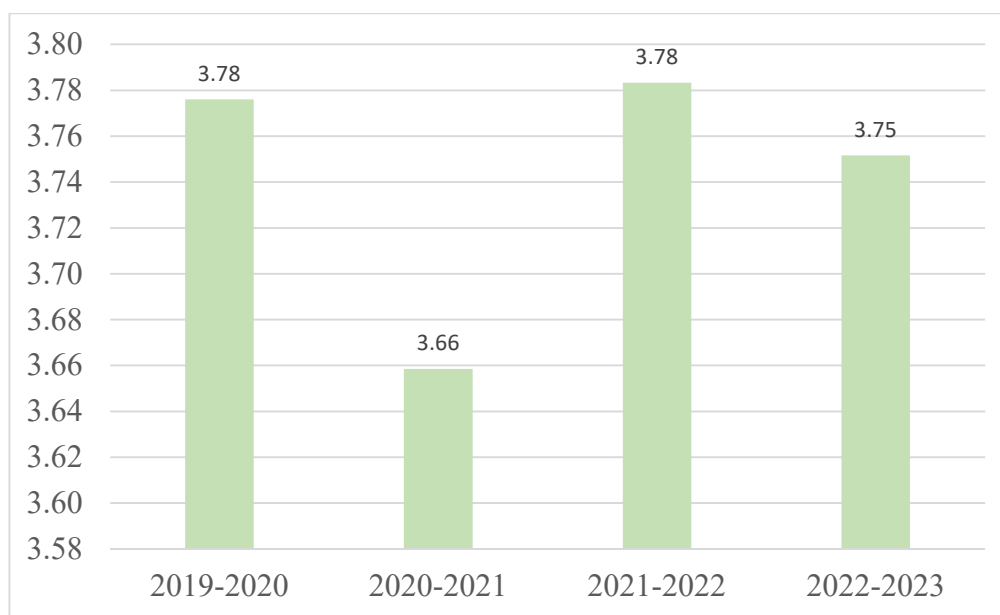


Figure 9.3(16) Feedback on space, ambience, timings and usage of library facility

Students can put feedback scale of 1-5 (Excellent = 5, Very Good = 4, Good = 3, Satisfactory = 2, Not Satisfactory = 1) which will then be forwarded to Principal and corrective measures will be taken on the merit basis. Table 9.3(2) shows the action taken on the feedback obtained from the students.

Table 9.3(2) Action taken on feedback

Year	Feedback on Facilities	Action taken
<b>2019-2020</b> <b>CAY</b> <b>m3</b>	Not aware about the online courses	Organized awareness program regarding the online courses
	Water Facility needed at each block	Water Facilities arranged of at building
	The campus has adequate power supply	Available Generator Facilities
<b>2020-2021</b> <b>CAY</b> <b>m2</b>	Fire safety facilities	Installed Fire Safety Facilities
	Hostel & Hostel Mess facilities	Constructed wet developed mess with proper dining facilities (approximate 400 student capacity at time)
<b>2021-2022</b>	The campus is green and eco-friendly.	developed Green and eco-friendly campus

<b>CAY m1</b>	Facilities for Sports	Sports equipment are made available and coordinator was appointed
	Canteen facilities	Food Quality was improved by arranging food menu and strictly followed.
<b>2022- 2023 CAY</b>	Fire safety facilities	Fill the fire extinguisher powder
	Facilities for Sports	Sports equipment are made available and coordinator was appointed

#### 9.4 Self-Learning (5)

Facilities available at the institute for self-learning includes Additional learning, reference books, review articles and books for competitive examinations are provided to the students. Seminars, guest lectures and workshops on latest trends are arranged. Students utilize the lab facilities to do projects and mini-projects.

The faculty members teach contents beyond syllabus to the students. Central computing, LAN, internet facilities and e-library facilities are also available.

College central library is equipped with latest editions of University prescribed Text books, reference books and supplementary books. References available and their utilisation at the institute library is shown in Table 9.4 (1) - (4). In addition to the well stacked central library, each department has its own library to augment and supplement information to the faculty, students and research scholars.

Table 9.4(1) Library Facilities

<b>Total Volumes in Library :-</b>	<b>19195</b>
<b>Total Titles :-</b>	<b>4440</b>
<b>Reference Book Volumes :-</b>	<b>4662</b>
<b>Branch wise Books Availability (For U.G &amp; P.G Courses)</b>	

Table 9.4(2) Library references department wise

Branch	No. of Titles	No. of Vol
<b>Computer Engineering</b>	586	2602
<b>Civil Engineering</b>	603	3235
<b>E.C. Engineering</b>	1168	3248
<b>Mechanical Engineering</b>	764	3716
<b>Electrical Engineering</b>	772	3386
<b>Chemical Engineering</b>	152	1480
<b>A.S.H.</b>	395	1528
<b>Total</b>	4440	19195

Table 9.4(3) Library references available in different academic years

Books & Journal Purchase Data					
Year	Book Purchase copy	Book Title	Book Purchase Amount	Journal Magazine Sub. Copy	Journal Magazine Sub. Amt.
<b>2019-2020</b>	6	6	2922	55	97420
<b>2020-2021</b>	3	3	1691	55	99470
<b>2021-2022</b>	140	21	62344	51	96050
<b>2022-2023</b>	0	0	0	55	110780
<b>Total</b>	149	30	66957	216	403720

Table 9.4(4) Books Issue in different academic years

Books Issue		
Sr. No	Year	Number of Books Issue
<b>1</b>	2019-2020	<b>2899</b>
<b>2</b>	2020-2021	<b>585</b>
<b>3</b>	2021-2022	<b>885</b>
<b>4</b>	<b>2022-2023</b>	<b>2084</b>

Faculty members motivate students to take maximum benefit of Internet and Wi-Fi facilities to learn contents from different sources in form of various media and material

including text, audio, images, video sequences etc. which encourages diverse ways to create self-learning environment. For example, Online video lectures from NPTEL Digital Library i.e. e-Books. Fig. 9.4 (1)-(4) shoes the certification available with the libraries.

The Table 9.4 (5) and (6) shows the availability of various E-books and E-Journal. Table 9.4 (6) - (8) shows the utilisation of library.



Figure 9.4(1) Membership Certificate

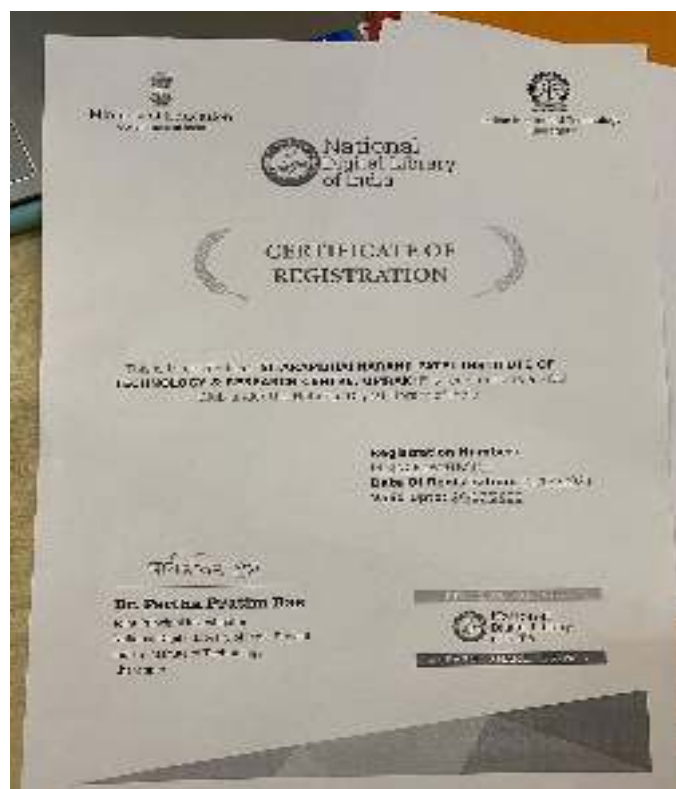


Figure 9.4(2) Registration Certificate of National Digital Library





Figure 9.4(3) Participation Certificate

Table 9.4(5) No of E-Book

Branch	No. of E-Book
	Title
<b>Civil Engineering</b>	55
<b>Mechanical Engineering</b>	99
<b>Electrical Engineering</b>	64
<b>Chemical Engineering</b>	76
<b>Computer Engineering</b>	54
<b>A.S.H.</b>	56
<b>Total</b>	404

Table 9.4(6) No of E-Journal

Title	Delnet E-Journal List
<b>Transportation</b>	<b>35</b>
<b>Mining and Metallurgy</b>	<b>20</b>

<b>Mechanical Engineering</b>	<b>40</b>
<b>Manufactures</b>	<b>25</b>
<b>Hydraulic Engineering</b>	<b>44</b>
<b>Electronics &amp; Communication Engineering</b>	<b>41</b>
<b>Construction &amp; Infrastructure</b>	<b>79</b>
<b>Chemical Engineering &amp; Technology</b>	<b>46</b>
<b>Technology</b>	<b>65</b>
<b>Military Sciences</b>	<b>23</b>
<b>Materials</b>	<b>36</b>
<b>Industrial Engineering</b>	<b>46</b>
<b>General &amp; Civil Engineering</b>	<b>115</b>
<b>Computer Science</b>	<b>160</b>
<b>Automobile Engineering</b>	<b>15</b>
<b>Electrical and Nuclear Engineering</b>	<b>70</b>
<b>Total</b>	<b>860</b>

Table 9.4(7) E-Library Utilization

E- Library Utilization by Students		
Year	Number of Students	
2019-2020	77	
2020-2021	14	
2021-2022	72	
2022-2023	194	
Computer Lab Data		
Department	Lab Location	No. of PC
Computer Eng. Dept.	A-20	65
	A-19	25
	A-18	30
	A-27	36
	A-29	63
	A-31	60
	B-26	22

<b>Civil Eng. Dept.</b>	C-4 (L-1,L-2,L-3)	<b>18</b>
<b>Mechanical Eng. Dept.</b>	A-30	<b>40</b>
	Research Lab Workshop Building	<b>12</b>
<b>Electrical Eng. Dept.</b>	B-8	<b>20</b>
	B-16	<b>15</b>
<b>EC Eng. Dept.</b>	B-12	<b>36</b>
<b>Total No of PC</b>		<b>442</b>

Table 9.4(8) Webinar Details

Webinar Details				
Sr. No	Year	Webinar Details	Date	No of Participants
<b>1</b>	2019-2020 (CAYm3)	Concrete - From Construction to Protection as a Civil Engineer	20/01/2020	464+
<b>2</b>		Study and Immigrate to Canada	19/06/2020	150
<b>3</b>		Design Thinking Methodology for Innovation in Engineering	17/06/2020	75+
<b>4</b>		Sanitization of Mind	06/06/2020	150
<b>1</b>	2020-2021 (CAYm2)	One Day Webinar on "Block Chain"	08/07/2020	93
<b>2</b>		Industrial Engineering & Meghdhanushna Rang, Kavya Ane Geet Ne Sang	15/09/2020	402
<b>3</b>		Meditation For Mental Well-Being & Success	29/09/2020	80+
<b>4</b>		Website Development-Shopping Site Layout Creation	20/02/2021	70+
<b>5</b>		Career Opportunities in Mechanical Engineering	20/02/2021	200+
<b>6</b>		Concrete - From Construction to Protection as a Civil Engineer	20/02/2021	464+
<b>7</b>		Training & Recruitment Awareness Webinar Series	23/03/2021 To 27/03/2021	60+
<b>8</b>		Training & Recruitment Awareness Webinar	23/03/2021	65+
<b>9</b>		Online Project Fair	2/5/2021	500

<b>10</b>		Common Aptitude Test for all UG & PG Students	08/05/2021	391
<b>11</b>		Logical Reasoning Quiz for competitive Exam Preparation for all Final & Pre-Final UG-PG Students	15/05/2021	70+
<b>12</b>		Technical Quiz for competitive Exam Preparation for all Final & Pre-Final UG-PG Student	22/05/2021	66+
<b>13</b>		Alumni Talk for Chemical Engineering Students	25/05/2021	35+
<b>14</b>		Online Sealing and Hot Tapping to Prevent Plant Shutdown	29/05/2021	45+
<b>15</b>		Computer Assisted Design and Machining (CADM-2021)	31/05/2021 to 12/05/2021	199
<b>16</b>		Environmental Auditing and Sample Analysis	31/05/2021 to 12/06/2021	74
<b>17</b>		Alumni Talk for Computer Science & Engineering Students	01/06/2021 to 05/06/2021	45+
<b>18</b>		Webinar on Top 10 Technologies for Computer Science & Engineering Students	03/06/2021	40+
<b>19</b>		A webinar on Android for Computer Science & Engineering Students	04/06/2021	60+
<b>1</b>	2021-2022 (CAY m1)	Recent Trends, Challenges and Opportunities in Electrical Market	03/07/2021	252+
<b>2</b>		Alccofine as a Mineral Admixture in Concrete Production	07/07/2021	60
<b>3</b>		Career Opportunities after Degree Engineering	09/07/2021	100+
<b>4</b>		Online Alumni Talk on Various Fields for Civil Engineering in Industry	10/07/2021	50
<b>5</b>		Expert Talk on Career for Electrical Engineer	17/07/2021	252+
<b>6</b>		IP Protocol and Addressing in the Internet	23/09/2021	49+
<b>7</b>		Security in Distributed System	25/09/2021	30+
<b>8</b>		Operation Research	06/10/2021	90

1	2022-2023 (CAY)	Interview Tips and Resume Building	29/07/2022	80+
2		Learn Live SQL on AWS	18/01/2023	30+
3		Important of Internship	09/03/2023	45+

### 9.5 Career Guidance, Training, Placement (10)

For the execution of career guidance and placement of the student, a training and placement cell was organised. The members of training and placement cell are shown in Table 9.5(1).

Table 9.5(1) Member of Training & Placement Cell

Sr. No.	Name	Position	Designation
1.	Dr. Jaydeepsinh M. Barad	Associate Professor Chemical Engineering Department	<b>Coordinator</b>
2.	Prof. Hitesh A. Tailor	Assistant Professor, Mechanical Engineering Department	<b>Member</b>
3.	Prof. Chirag G. Parmar	Assistant Professor, Chemical Engineering Department	<b>Member</b>
4.	Prof. Gaurav V. Patel	Assistant Professor, Computer Engineering Department	<b>Member</b>
5.	Prof. Nikunj M. Ashiyani	Assistant Professor, Civil Engineering Department	<b>Member</b>
6.	Prof. Tejas G. Mistry	Assistant Professor, Electrical Engineering Department	<b>Member</b>
7.	Prof. Mayank A. Patel	Assistant Professor, Electronics and Communication Engineering Department	<b>Member</b>

### Career Guidance:

Communication received from reputed institutions with respect to higher studies, campus placements, industry interaction concerning training/internship/ placements is periodically communicated to the students. Circulars are issued and also details are displayed on department and placement notice boards in addition to dissipation of information through the website.

The primary objective of this cell is to create a positive attitude about their career and the secondary objective is to train the students to get a job in their core company. T&P assists students in assessing their values, interests, abilities, skills and relating for employment opportunities. Awareness programs on Recruitment strategies, Skill set required for the engineering graduates were conducted by inviting the HR professionals from various organizations.

Training department helps the students to improve their employability skills in order to face the campus interview confidently and also to meet out the corporate expectations. We offer both internal and external kinds of training for the students. Training department provides aptitude, verbal and soft skills to the students as an internal training (Personality development Program) by framing exclusive syllabus and course plan. The syllabus is framed taking all aspects as criteria such as verbal and soft skills, aptitude and reasoning. Table 9.5 (2) shows different events organised for career guidance.

Table 9.5(2) Events for career guidance

Career Guidance Facilities				
Sr. No	Year	Title	Date	No of Participants
1	2019-2020 (CAYm3)	Getting ready for professional life	8/9/2019	80+
2		A report of motivational talk on Gandhi and Geeta	9/5/2019	410
3		Expert Talk by Dr. Pawan Dwivedi	21/08/2019	224
4		The seminar was organized in association with Mayuri foreign education.	24/01/2020	390
5		Study and immigrate to Canada	19/06/2020	150
6		Design thinking methodology for innovation in engineering	17/06/2020	65+
7		Sensitization of mind	6/6/2020	60+

<b>1</b>	<b>2020-2021 (CAYm2)</b>	Industrial Engineering & Meghdhanushna Rang, Kavya Ane Geet Ne Sang	15/09/2020	<b>402</b>
<b>2</b>		Meditation For Mental Well-Being & Success	29/09/2020	<b>46+</b>
<b>3</b>		A seminar on awareness about gpsc/upsc and other engineering competitive Examinations and opportunities	9/1/2020	<b>214</b>
<b>4</b>		Career opportunities in mechanical engineering	20/02/2021	<b>200+</b>
<b>1</b>	<b>2021-2022 (CAYm1)</b>	Recent trends, challenges and opportunities in electrical market	3/7/2021	<b>252+</b>
<b>2</b>		Career opportunities after degree engineering	9/7/2021	<b>100+</b>
<b>3</b>		Expert talk on career for electrical engineer	17/07/2021	<b>252+</b>
<b>4</b>		Seminar on career guidance for government jobs	22/10/2021	<b>80+</b>
<b>1</b>	<b>2022-2023 (CAY)</b>	Awareness and training program on “Intellectual Property Rights (IPRS)”	9/02/2023	<b>100+</b>
<b>2</b>		Overseas prospects after graduation	24/02/2023	<b>70+</b>
<b>3</b>		Important of internship	09/03/2023	<b>45+</b>

### Training:

With respect to specific training, a well-qualified outside agency is selected for the improvement of – Reasoning ability, verbal ability, group discussions, and personal interview, resume writing, general aptitude test to company questions, company specific training, online test and evaluation. Table 9.5(3) shows the events organised for development of these skills. The industrial visits were also regularly provided to the students for skill enhancement as shown in Table 9.5(4)

Table 9.5(3) Pre-Placement Detail

Pre-Placement Detail			
Sr. No	Year	Title	Date
<b>1</b>	<b>2019-2020</b>	Resume building & interview facing	<b>10/6/2018</b>
<b>2</b>	<b>(CAYm3)</b>	The seminar was organized in association with aspirations infinite to make students aware of IELTS examination pattern, preparations.	<b>27/01/2020</b>

<b>3</b>		Placement Readiness Test FNAT 2020 and FNcode 2020 Conducted for Computer Science Students.	<b>02/03/2020 &amp; 03/03/2020</b>
<b>1</b>	2020-2021 (CAYm2)	Training & recruitment awareness webinar series	<b>23/03/2021 To 27/03/2021</b>
<b>2</b>		Training & recruitment awareness webinar	<b>24/03/2021</b>
<b>3</b>		Online project fair	<b>2/5/2021</b>
<b>4</b>		Common Aptitude Test for all UG & PG Students	<b>8/5/2021</b>
<b>5</b>		Logical Reasoning Quiz for competitive Exam Preparation for all Final & Pre-Final UG-PG Students	<b>15/05/2021</b>
<b>6</b>		Technical Quiz for competitive Exam Preparation for all Final & Pre-Final UG-PG Student	<b>22/05/2021</b>
<b>7</b>		Alumni Talk for Chemical Engineering Students	<b>25/05/2021</b>
<b>8</b>		Alumni Talk for Computer Science & Engineering Students	<b>01/06/2021 to 05/06/2021</b>
<b>1</b>	2021-2022 (CAYm1)	Recent Trends, Challenges and Opportunities in Electrical Market	<b>3/7/2021</b>
<b>2</b>		Online alumni talk on various fields for civil engineering is industry	<b>10/07/2021</b>
<b>3</b>		Group discussion (Mechanical engineering)	<b>10/3/2022</b>
<b>1</b>	2022-2023 (CAY)	Group discussion (Electrical engineering)	<b>10/3/2022</b>
<b>2</b>		Group discussion (e.c Engineering)	<b>10/3/2022</b>
<b>3</b>		Group discussion (Computer Science Engineering)	<b>10/3/2022</b>
<b>4</b>		Group discussion (Civil Engineering)	<b>10/03/2022</b>
<b>5</b>		Technical quiz (Electrical Engineering)	<b>10/03/2022</b>
<b>6</b>		Technical quiz (Computer Science Engineering)	<b>10/03/2022</b>
<b>7</b>		Technical quiz (Mechanical Engineering)	<b>10/03/2022</b>
<b>8</b>		Technical quiz (Electronics and Communication Engineering)	<b>10/03/2022</b>
<b>9</b>		Technical quiz ( Civil Engineering)	<b>10/03/2022</b>
<b>10</b>		Interview tips & resume building	<b>29/7/2022</b>



Table 9.5(4) Industrial Visits

<u>Industrial Visit</u>					
Sr. no	Date of Visit	Name of Industry	Semester	Branch	No of Students
1	08-09-2023	Surat District Co-operative Milk Producers' Union Ltd (SUMUL), Surat	Semester-8	Mechanical Engineering (B.E.)	33
2	02-06-2023	Globe Enviro Care Ltd, Sachin GIDC, Surat	Semester-6	Chemical Engineering (B.E.)	25
3	27-04-2023	Sterlite Organics, Panoli GIDC	Semester-4	Chemical Engineering (B.E.)	47
4	27-04-2023	Apex Pharma Chem, Ankleshwar GIDC	Semester-4	Chemical Engineering (B.E.)	47
5	23-03-2023	Vrindavan Industries, Sachin, Surat	Semester-6	Mechanical Engineering (B.E.)	35
6	15-03-2023	Great White Global Pvt. Ltd.	Semester-6	Electrical Engineering (B.E.)	48
7	14-03-2023	Great White Global Pvt. Ltd.	Semester-6	Electrical Engineering (B.E.)	48
8	23-02-2023	Sardar Sarovar Dam	Semester-6	Civil Engineering (B.E.)	83
9	11-01-2023	Globe Enviro Care Ltd., GIDC Sachin, Surat	Semester-3	Chemical Engineering (B.E.)	56
10	09-12-2023	Great White Global Pvt. Ltd.	Semester-3	Electrical Engineering (B.E.)	67
11	06-12-2023	Great White Global Pvt. Ltd.	Semester-3	Electrical Engineering (B.E.)	62
12	18-10-2022	Velox Automation Pvt. Ltd, Sachin, Surat	Semester-7	Electrical Engineering (B.E.)	81
13	12-10-2022	Bharkadevi Ice-Cream Factory, Bardoli	Semester-7	Mechanical Engineering (B.E.)	73
14	13-03-2020	Sun Pharmaceuticals Industries Ltd.	Semester-8	Chemical Engineering (B.E.)	26
15	07-03-2020	Shree Khedut Sahakari Khand Udhog Mandli Ltd., Bardoli	Semester-2 & Semester-4	Mechanical Engineering (B.E.)	85
16	08-02-2020	Shree Khedut Sahakari Khand Udhog Mandli Ltd., Bardoli	Semester-2	Chemical Engineering (B.E.)	52

17	31-01-2020	Oil and Natural Gas Corporation Limited (ONGC), Hazira, Surat	Semester-6	Chemical Engineering	42
18	30-01-2020	BSNL RTTC, Ahmedabad	Semester-4	Computer Science & Engg. (B.E.)	56
19	24-01-2020	Bharkadevi Ice-Cream Factory	Semester-6	Mechanical Engineering (B.E.)	79
20	18-01-2020	Surat District Co-operative Milk Producers' Union Ltd (SUMUL), Surat	Semester-6	Mechanical Engineering (B.E.)	78
21	18-01-2020	Nish Techno Projects Pvt. Ltd., SURAT	Semester-6 & Semester-8	Electronics & Communication Engg. (B.E.)	23
22	18-01-2020	Bharkadevi Ice-Cream Factory	Semester-4	Mechanical Engineering (B.E.)	69
23	20-07-2019	Sumul Dairy, Surat	Semester-7	Electronics & Communication Engg. (B.E.)	21
24	11-03-2019	Power Grid, Dastan	Semester-6	Electrical Engineering (B.E.)	58
25	08-03-2019	Wipro Technologies Ltd., Pune	Semester-6 & Semester-8	Computer Science & Engg. (B.E.)	53
26	31-01-2019	GNFC (Gujarat Narmada Velly Fertilizer Company)	Semester-8	Chemical Engineering (B.E.)	51
27	28-01-2019	Engineering Technique, Vadodara	Semester-6	Mechanical Engineering (B.E.)	110
28	28-01-2019	Indira Gandhi Dock	Semester-8	Civil Engineering (B.E.)	47
29	28-01-2019	Tacheometry Project, Saputara	Semester-4	Civil Engineering (B.E.)	139
30	18-01-2019	JMT Casting, Sachin	Semester-4	Mechanical Engineering (B.E.)	130
31	09-01-2019	CETP (Common Effluent Treatment Plant)	Semester-4	Chemical Engineering (B.E.)	45
32	08-01-2019	Sumul Dairy, Surat	Semester-6	Mechanical Engineering (B.E.)	120

**Placement Portal:**

Institute has developed their online placement portal where students have to register themselves along with their academic and personal details. Placement portal is used to post the jobs which are visible to all students and final year students who can apply to a particular job if they are interested and eligible for a job.

Institute also posts any news related to job and related updates, seminars or any other career related activity on placement portal. Placement portal is also used by staff to get the list of students along with their academic details whenever demanded by companies and used for their career advancement. The placement ratio for various department in various academic years is shown in Table 9.5 (5).

Table 9.5(5) Placement Ratio

Branch	Year	No. of Students appeared in year examination (N)	No. of students Graduated out of students appeared in final year examination (G)	Z = (No of student placed + Selected for higher studies + opted Entrepreneurship)	Placement ratio (Z/N)
Mechanical Dept.	2022-2023	106	103	8	<b>0.08</b>
	2021-2022	77	66	26	<b>0.34</b>
	2020-2021	95	91	32	<b>0.34</b>
	2019-2020	89	89	27	<b>0.30</b>
	2018-2019	108	108	36	<b>0.33</b>
Civil Dept.	2022-2023	156	155	23	<b>0.15</b>
	2021-2022	137	137	21	<b>0.15</b>
	2020-2021	128	128	24	<b>0.19</b>

	2019-2020	119	119	41	<b>0.34</b>
	2018-2019	118	109	42	<b>0.36</b>
Chemical Dept.	2022-2023	70	70	26	<b>0.37</b>
	2021-2022	54	54	4	<b>0.07</b>
	2020-2021	45	45	12	<b>0.27</b>
	2019-2020	46	46	2	<b>0.04</b>
	2018-2019	53	53	9	<b>0.17</b>
Electrical Dept.	2022-2023	117	117	41	<b>0.35</b>
	2021-2022	130	130	39	<b>0.30</b>
	2020-2021	112	112	27	<b>0.24</b>
	2019-2020	72	72	24	<b>0.33</b>
	2018-2019	77	68	26	<b>0.34</b>
Computer Dept.	2022-2023	83	83	25	<b>0.30</b>
	2021-2022	67	67	21	<b>0.31</b>
	2020-2021	63	63	24	<b>0.38</b>
	2019-2020	64	64	27	<b>0.42</b>

	2018-2019	66	66	26	<b>0.39</b>
<b>EC Dept.</b>	2022-2023	19	19	8	<b>0.42</b>
	2021-2022	3	3	3	<b>1.00</b>
	2020-2021	18	18	11	<b>0.61</b>
	2019-2020	11	11	5	<b>0.45</b>
	2018-2019	3	3	2	<b>0.67</b>

### 9.6 Entrepreneurship Cell (5)

The institute has an Entrepreneurship Development Cell. The cell organizes seminars and workshops periodically. We have an active Entrepreneurship cell of faculty members and students. Students and faculty members convene and participate in conferences and meetings aimed at promoting the concept of entrepreneurship.

They learn finer financial management and marketing. We have conducted various activities in the institute for students to create awareness about entrepreneurship.

#### Entrepreneurship Initiatives

The cell organized many programs across the year to support innovation which can lead to entrepreneurship. Table 9.6 (1) shows the member of entrepreneurship cell. The program includes webinars, seminars etc. The cell aims to motivate students to be job creators then job seekers through entrepreneurship.

This also helps them to know collaborative work on research areas for their future entrepreneurship opportunities.

Table 9.6 (1) Entrepreneurship Cell

Sr. No.	Name	Position	Designation
1.	Dr. Piyush S.Jain	Principal	<b>Chairman</b>
2.	Dr. Jaydeepsinh M. Barad	Associate Professor Chemical Engineering Department	<b>Co-Coordinator</b>
3.	Prof. Hitesh A. Tailor	Assistant Professor, Mechanical Engineering Department	<b>Member</b>
4.	Prof. Chirag G. Parmar	Assistant Professor, Chemical Engineering Department	<b>Member</b>
5.	Prof. Gaurav V. Patel	Assistant Professor, Computer Engineering Department	<b>Member</b>
6.	Prof. Nikunj. M. Ashiyani	Assistant Professor, Civil Engineering Department	<b>Member</b>
7.	Prof. Tejas. G. Mistry	Assistant Professor, Electrical Engineering Department	<b>Member</b>

**Lectures Organized:**

Conducted “Entrepreneurship awareness camp” during 04-04-2019 to 06-04-2019 for the students to get aware about the financial aspects of the SSI unit including salient features of a project report and support and financial assistance from Govt. agencies, banks, financial institutions, SFCs etc. conducted “GTU Zonal Youth Festival (Zone-5) XITIJ: 2019” during 19-09-2019 to 21-09-2019 at SNPIT&RC organized by Gujarat Technological University (GTU) at zonal level (zone-5, Surat) to encourage students for participating in Co-Curricular activities and Games and promote commitment towards ethical principles and understanding their responsibilities as participant or sportsperson.

- Conducted “GTU Zonal Youth Festival (Zone-5) XITIJ: 2019” during 19-09-2019 to 21-09-2019 at SNPIT&RC organized by Gujarat Technological University (GTU) at zonal level (zone-5, Surat).
- Organized a technical event “Technokruti 2019” during 21-02-2019 & 22-02-2019 at the SNPIT&RC.
- Conducted an expert lecture entitled “Getting ready for professional life” on 09-08-2019 at SNPIT&RC under the ISTE student chapter delivered by Mr. Niravkumar Bhatt, Process Engineer, Oil and Gas Industry, Qatar for students to learn about the importance of communication skills in professional life.
- Conducted webinar entitled “Idea to MVP (Minimum Viable Product)” on 13-06-2020 delivered by Mr. Pancham Baraiya, Start-ups Mentor, Innovator & Strategic Planner, GTU Start-up & Innovation Centre, Surat.
- Organized online project fair on 02-05-2021 at SNPIT&RC for students to have the exposure to the academic experts and to receive reviews/suggestions for students to learn professional ethics, responsibilities, and norms of the engineering practice.
- Additional webinar entitled “New National Education Policy 2020” on 22-09-2020 delivered by the internal faculties of SNPIT&RC i.e., Dr. Koshal Kishor, Dr. Mayuri prajapati, prof. Hitesh tailor, for students with the purpose of introducing the standards, norms and ethical principles of new education.
- The training and recruitment awareness webinar was organized by SNPIT&RC during 23-03-2021 to 27-03-2021 with a view of improving the communication skills and student performance for the on-campus or off-campus recruitments.
- Conducted webinar on “Santitization of Mind” on 06-06-2020 delivered by Gyanvatsal Swami, popular motivational speaker and social reformer from Akshardham, BAPS Swaminarayan Mandir for students to learn about the Work-Life balance, Ethics in Profession, Character building etc.
- Table 9.6(2) shows the activities of Entrepreneurship Cell. Fig. 9.6(1)-(2) shows appreciation certificate for the formation of Institute Innovation Council.

Table 9.6(2) Entrepreneurship Cell Activity

Sr. No	Name of Activities	Date
1	Entrepreneurship Awareness camp	04/04/2019
2	Student Startup and Innovation Policy	05/09/2019
3	ISTE Best Student Award 2019	21/09/2019
4	Project Fair 2020 & SSIP Internal Screening	28/02/2020
5	SSIP Organized Webinar on Idea to MVP(Minimum Viable Product)	13/06/2020
6	Entrepreneurship and Innovation as Career Opportunity	12/03/2021
7	Webinar Startup & Innovation Awareness and Opportunities for faculty Members & Students	29/05/2021
8	Celebration of Energy Conservation Day	14/12/2021
9	Fundamental of IPR & Patent Research	30/07/2022



Figure 9.6(1) Appreciation Certificate 1





Figure 9.6(2) Appreciation Certificate 2

## 9.7 Co-curricular and Extra-Curricular Activities (10)

Our SNPIT & RC Umrah Institute encourages the students for various sports and physical activities. Our department students are participating in various activities inside and outside colleges. Our University provides concerned facilities for Indoor as well as Outdoor sports and other allied activities. Students are engaged in co-curricular and extracurricular activities which provide opportunities for students to explore new fields of interest, cultivate leadership skills, and learn teamwork.

In this regard, institution has formed various committees for participating and organizing the cultural and sports activities. These association activities benefit in developing leadership skills and make them work in teams.

### Availability of Sports and Cultural facilities:

The institute encourages students to actively participate in various activities organized by the institutes and university. There is separate room available for some indoor

games like Carrom, Chess and Table tennis. Fig 9.7 (1) – (2) shows the events organised for co-curricular and extracurricular activities.



Fig 9.7(1) Chess Event location B-5



Fig 9.7(2) Table-Tennis Event location A-2



Fig 9.7(3) Carrom Event location B-8



Fig 9.7(4) Cricket Event



Fig 9.7(5) Volleyball Event



Fig 9.7(6) Auditorium facilities





Fig 9.7(7) GTU Zonal Youth Festival



Fig 9.7(8) GTU Zonal Youth Festival

### Co-curricular and Extra-Curricular Activities:

Every year there is an abundance of stimulating programs and activities are conducted from which students learn a lot. Co-curricular activities are an integral part of college life, offering students additional values to explore their talents, passions and interests. Participating in co-curricular activities which are conducted by our college and other institutions, our students continue to apply what they learn in the classroom to enhance their knowledge and performance.

Table 9.7(1) Co-curricular activities

Co-curricular and Extra-Curricular Activities		
Activities of Year CAYm3 (2019-2020)		
Sr. No	Name of Activities	Date
1	Annual Day HARMONY-2019	7/2/2019
2	State level Technical Festival TECHNOKRUTI 1150 registration teams in about 60 events	21/02/2019 & 22/02/2019
3	Graduation Day for 2019 Pass-out student	21/07/2019
4	Expert Lecture on Getting Ready for Professional Life	9/8/2019
5	Dahi Handi Celebration	23/08/2019
6	GTU Zonal Youth Festival ( Zone-5) Xitij:2019	19/9/2019 to 21/9/2019
7	Annual Day HARMONY-2020	20/2/2020
8	Gandhi vichar manjusha	2020
9	Three Day YES + Accelerating Excellence Youth Empowerment Skills Program (19 Participants )	26/02/2020 to 28/02/2020
Activities of Year CAYm2 (2020-21)		
1	MEDITATION FOR MENTAL WELL-BEING & SUCCESS” (89 students)	29/09/2020
2	“SANITIZATION OF MIND” (4 lakh students)	6/6/2020
3	Energy Swaraj	25/1/2021
4	Online Project Fair 104 groups of students (500 Students)	2/5/2021

5	Academic Warriors Awards Achieved by Institute & faculty Members from Gujarat Technological University on the 14th Foundation Day of GTU Celebration 550 faculty members and students joined	17/05/2021
Activities of Year CAYm1 (2021-2022)		
1	Prism-2022 (science Fair)	16/12/2022 to 17/12/2022
2	Technokruti (Technical Festival)	28/04/2022 to 29/04/2022
Activities of Year CAY (2022-2023)		
1	Xitij - 2022	14/09/2022 to 16/09/2022
2	State Level Science Exhibition and Project Competition	23/01/2023 to 25/01/2023
3	Day Celebration 2023	16/04/2023 to 21/04/2023
4	Graduation Day Ceremony	28/04/2023
5	Annual Day Ceremony	29/04/2023

Different extracurricular activities organised at institute level along with their coordinators in different academic years are shown in Table 9.7 (2) - (7). It includes the sports activities and girls tournament. Fig. 9.7 (9)-(13) shows the glimpses of these activities held in different academic years.

Apart from these activities institute also organises regular events under National Service Scheme (NSS). A committee for organising these activities is framed. The members of this committee is shown in Table 9.7 (8). The activities organised under NSS, for different academic years are listed in Table 9.7 (9).

Table 9.7(2) Sport activities organised in CAYm3 (2019-20)

Sports Winner List-2019					
Sr. No.	Event	Event Winner/ runners up	Trophy	Winner	Presenter Name
1		Winner	1	4 <sup>th</sup> Year Year Civil-A	Prof. Biren Parmar

	Cricket (Boys,Girls, Faculty)	Runners up	1	4 <sup>th</sup> Year Chemical	Prof. Vishal Patel
		Man of the series	1	Pranav Patel	Prof. Sandeep Patel
				4 <sup>th</sup> Year Civil	
		Best Bowler	1	Asif Patel	Prof. Pragnesh Patel
				4 <sup>th</sup> Year Chemical	
		Best Batsman	1	Pranav Patel	Mr. Jignesh Soni
				4 <sup>th</sup> Year Civil	
		Girls Winner	1	4 <sup>th</sup> Year Civil	Prof. Milan Patel
		Girls Runners up	1	Computer	Mr. Nilesh Patel
		Faculty Winner	1	SNPIT Eleven	Dr. Piyush S. Jain
		Man of the series (Faculty)	1	Prof. Vismay Vaidya	Dr. Ajay V. Shah
		Man of the match (Faculty)	1	Prof. Biren Parmar	
2	Volleyball	Winner	1	3 <sup>rd</sup> Year Civil-A	Prof. Chirag Patel
		Runners up	1	4 <sup>th</sup> Year Mech-A	Prof. Janak Patel
		Faculty Winner	1	Electrical	Dr. Vipul Mistry
3	Carrom	Boys Winner	1	4 <sup>th</sup> Year Civil	
				Mistry Viren, Patel Jay	Prof. Mayank Patel
		Boys Runners up	1	3 <sup>rd</sup> Year Mech	Prof. Virang Patel
				Chaudhari Kishan,Joshi Neel	
		Girls Winner	1	3 <sup>rd</sup> Year EC	Prof. Forum Patel
				Raut Prajakta, Sharma Neha	
		Girls Runners up	1	3 <sup>rd</sup> Year EC	Prof. Rachana Patel
				Mistry Nisha, Patel Kinjal	
4	Chess	Winner	1	1 <sup>st</sup> Year Mech	Prof. Bankim Joshi
				Mayur Salve	
		Runners up	1	3 <sup>rd</sup> year Civil	
				Jaydeep Gajera	



5	Table-Tennis	Winner	1	4 <sup>th</sup> Year Mech Dixit Mistry	Prof. Harshal Shukla
		Runners up	1	4 <sup>th</sup> Year Mech Ark Vyas	
6	Kabaddi	Winner	1	4 <sup>th</sup> Year Mech-A	Prof. Hiren Rathod
		Runners up	1	4 <sup>th</sup> Year Civil-B	Prof. Rushbh Shah
7	Hand Ball	Winner	1	4 <sup>th</sup> Year Civil-A	Prof. Rushbh Shah
		Runners up	1	4 <sup>th</sup> Year Mech-B	Prof. Bhavin Kasiyani
8	Rope Pulling	Boys	1	3 <sup>rd</sup> Year Mech-B	Prof. Vismay Vaidya
		Girls	1	3 <sup>rd</sup> Year CSE	Prof. Toral Desai
9	Three leg(only for girls)	Girls	1	3 <sup>rd</sup> Year Computer Padhiyar Aditi	Dr. Miral Thakker
				Nagarsheth Manasvi	
10	Kho-Kho(only for girls)	Winner	1	2 <sup>nd</sup> Year Electrical and Civil	Prof. Mansi Zaveri
11	Musical Chiar (only for girls)	Winner	1	3 <sup>rd</sup> Year CSE Tailor Meghavi	Prof. Khyati Patel
12	Lemon spoon(only for girls)	Winner	1	1 <sup>st</sup> Year CSE Patel Disha Ratilal	Prof. Kajal Isamaliya
13	1 minute game(only for girls)	Winner	1	3 <sup>rd</sup> Year Comp Dinky Patel	Mrs. Bijal Vyas
14	Sack Race/ Kothada daud	Winner	1	2 <sup>nd</sup> Year Computer Umretiya Dharti	Prof. Rutal Mahajan

### Some of the glimpse of the sports week



Fig 9.7(9) Glimpse of Sport activities organised in CAYm3 (2019-20)

Table 9.7(3) Sport activities organised in CAYm2 (2020-21)

Activities of the Year 2020 Date: 16-02-2020 To 19-02-2020			
Sr No	Event	Event Coordinator	Location
1	Cricket(Boys,Girls)	Prof. Biren Patel	B-15
2	Volleyball	Prof. Chirag A. Patel	B-3
3	Carrom	Prof. Mayank Patel	B-13
4	Chess	Prof. Bankim Joshi	B-4
5	Table-Tennis	Prof. Harshal Shukla	A-26
6	Athletics (100 Mtr Race) Boys,Girls	Prof. Harshal Shukla	A-26
7	Athletics (Cyclathon) Boys, Girls	Prof. Darshan Chauhan	A-18
8	Athletics (Walkathon) Boys,Girls		
9	Kabaddi	Prof. Nikunj Ashiyani Prof. Rushabh Shah	B-26
10	Rope Pulling (Boys)	Prof.Vishmay Vaidya	A-18
11	Rope Pulling (girls)	Prof. Toral Desai	A-31
12	Three Lag Race (Only for girls)	Prof.Khushbu Mahta	Chemical L-1
13	Kho-Kho (only for girls)	Prof. Zalak Shah	B-4
14	Musical Chair (only for girls)	Prof. Khyati Patel	B-23
15	Lemon spoon (Only for girls)	Prof. Khushbu Karanjiya	B-14
16	1 Minute game (only for girls)	Mrs. Bijal Vyas	A-26
17	Sack Race (only for girls)	Prof. Rutal Mahajan	A-29



Fig. 9.7(10) Glimpse of Sport activities organised in CAYm2 (2020-21)



Table 9.7(4) Sport activities organised in CAYm1 (2021-2022)

Sr. No.	Event	Event coordinator	Location
1	Cricket (Boys, Girls)	Prof. Sandeep Patel	B-15
2	Volleyball	Prof. Janak Patel	B-8
		Prof. Chirag A. Patel	Outside
3	Carom	Prof. Janak Patel	B-8 Outside
4	Chess	Prof. Bankim Joshi	A-3
5	Table Tennis	Mr. Nilesh Patel	A-2
6	Athletics (Cyclothon) (Boys, Girls)	Prof. Sandip Tandel Prof. Darshan Chauhan	A-18
7	Athletics (Walkathon) (Boys, Girls)		
8	Kabaddi	Prof. Nikunj Ashiyani Prof. Prince Patel	B-5
9	Rope Pulling (Boys)	Prof. Sandip Tandel	A-18
10	Rope Pulling (Girls)	Prof. Toral Desai	A-18
11	Three leg Race (only for girls)	Prof. Mahek Chauhan	B-4
12	Kho-Kho (only for girls)	Prof. Riya Dalal	B-4
13	Musical Chair (only for girls)	Prof. Khyati Patel	A-26
14	Lemon spoon (only for girls)	Mrs. Bijal Vyas	A-2
15	1 minute game (only for girls)	Prof. Zinal Solanki	A-31
16	Sack Race/ Kothada Daud (only for girls)	Prof. Bhavisha Parmar	A-31

Table 9.7(5) Schedule for Girl Tournament in CAYm1 (2021-22)

Game	Date	Time	Location	Co-ordinator
<b>Kho-Kho</b>	15/3/2022	9:30 to 12:30	Front of B-Wing	Prof. Riya Dalal
<b>Musical Chair</b>	14/3/2022	9:30 to 12:30	Between A and B Wing	Prof. Khyati Patel
<b>Three Leg</b>	14/3/2022	1:00 to 4:00	Between A and B Wing	Prof. Mahek Chauhan
<b>Rope-Pulling</b>	15/3/2022	1:00 to 2:00	Besides Cricket Ground	Prof. Toral Desai
<b>Sack Race</b>	14/3/2022	1:00 to 4:00	Between A and B Wing	Prof. Bhavisha Parmar

<b>1 Minute Game</b>	16/3/2022	9:30 to 12:30	Front of workshop building	Prof. Zinal Solanki
<b>Lemon Spoon</b>	15/3/2022	2:00 to 4:00	Between A and B Wing	Mrs. Bijal Vyas



Fig 9.7(11) Glimpse of Sport activities organised in CAYm1 (2021-2022)

Table 9.7(6) Sport activities organised in CAY (2022-2023)

Sr. No.	Event	Event coordinator	Players (Team +reserve)	Faculty Location
1	Cricket (Boys, Girls)	Prof. Jenish Mistry	11+4	B-5
2	Volleyball	Prof. Janak Patel	6+6	B-8 Comp Lab
3	Carom	Prof. Pratap K. Chaini	2+0	B-11
4	Chess	Prof. Bankim Joshi	Individual	A-3
5	Table Tennis	Mr. Nilesh Patel	Individual	B-8 Left Side
6	Athletics (Cyclothon) (Boys, Girls)	Dr. Ravish Hirpara	Individual	B-11
7	Athletics (Walkathon) (Boys, Girls)		Individual	
8	Kabaddi	Prof. Nikunj Ashiyani	7+3	B-5
9	Rope Pulling (Boys)	Prof. Sandip Mistry	10+5	A-3
10	Rope Pulling (Girls)	Prof. Vishakha Parmar	10+5	B-4
11	Three leg Race (only for girls)	Prof. Arti Ragde	2	B-7
12	Kho-Kho(only for girls)	Prof. Nisha Ojha	9+3	L-3
13	Musical Chair (only for girls)	Dr. Rutal S. Mahajan	Individual	A-29
14	Lemon spoon(only for girls)		Individual	
15	1 minute game(only for girls)	Alpa S. Valand	Individual	A-18
16	Sack Race/Kothadadaud (only for girls)	Urvi K. Bhavsar	Individual	A-20

Table 9.7(7) Girls Tournament organised in CAY (2022-2023)

Game	Date	Time	Location	Co-ordinator
<b>Rope-Pulling</b>	16/03/2023	The match Schedule is displayed	Besides Cricket Ground	<b>Prof. Vishakha Parmar</b>
<b>Three Leg</b>	17/03/2023	9:30 am to 11:30 am	Between A and B Wing	<b>Prof. Arti Ragde</b>
<b>Sack Race</b>	17/03/2023	2:00 pm onwards	Between A and B Wing	<b>Prof. Urvi K. Bhavsar</b>
<b>Kho-Kho</b>	18/03/2023	9:30 am onwards	Front of B-Wing	<b>Prof. Nisha Ojha</b>
<b>Athletics</b>	20/03/2023	9:30 am to 11:30 am	Front of B-Wing	<b>Dr. Ravish Hirpara</b>
<b>One Minute Game</b>	20/03/2023	2:00 pm onwards	Front of workshop building	<b>Prof. Alpa S. Valand</b>
<b>Musical Chair</b>	21/03/2023	9:30 am to 11:30 am	Between A and B Wing	<b>Dr. Rutal S. Mahajan</b>
<b>Lemon Spoon</b>	21/03/2023	2:00 pm onwards	Between A and B Wing	<b>Dr. Rutal S. Mahajan</b>
<b>Cricket</b>	18/03/2023	Match Schedule is displayed	Cricket Ground	<b>Prof. Jenish Mistry</b>





Fig 9.7(12) Glimpse of Sport Activities in CAY (2022-23)



Fig 9.7(13) Glimpse of girls tournament in year CAY (2022-23)

Table 9.7(8) NSS committee members

Sr No.	Name	Position	Designation
1	Dr. Ajay V. Shah	I/C Principal	Chairman
2	Prof. Hitesh A. Tailor	Assistant Professor, MED	Coordinator
3	Prof. Priyank P. Dave	Assistant Professor, MED	Member
4	Prof. Neetu B. Yadav	Assistant Professor, CED	Member
5	Prof. Vishmay M. Vaidya	Assistant Professor, CS&ED	Member
6	Prof. Denish A. Prajapati	I/C Head, EED	Member
7	Dr. Miral R. Thakker	Head, CHED	Member
8	Prof. Mayank A. Patel	Assistant Professor, EC&ED	Member

Table 9.7 (9) Activities performed under NSS

NSS Activities		
Activities of the Year CAYm3 (2019-20)		
Sr. No	Name of Activities	Date
1	International Women's Day Celebration	08/04/2019
2	CAST YOUR VOTE	20/04/2019
3	Motivational Talk on Gandhi and Geeta	05/09/2019
4	Blood Donation Camp	05/09/2019
5	Women's Day Celebration	06/04/2020
6	Sainik Welfare Fund	13/04/2020
7	World Environment Day Celebration	05/06/2020
8	International Yoga Day	21/06/2020
9	Facilitation of Study on Impact of Covid-19 & 1918 Pandemic (H1N1 VIRUS)	29/06/2020
Activities of the Year CAYm3 (2020-21)		
1	Webinar on IEC ABHIYAN COVID-19	17/10/2020
2	Webinar on New National Education Policy	22/09/2020
3	International Yoga Day	21/06/2021
4	Sainik Welfare Fund	10/02/2021
5	International Women's Day Celebration	08/03/2021
Activities of the Year CAYm3 (2021-22)		
1	International Women's Day Celebration	08/03/2022
2	Tree Plantation Drive-2021	08/07/2021
Activities of the Year CAYm3 (2022-23)		
1	World Environment Day Celebration	05/06/2022
2	Kite Day Celebration	13/01/2023
3	Republic Day Celebration	26/01/2023
4	Women's Day Celebration	03/03/2023
5	International Yoga Day (Yog Shibir)	14/06/2023



**10. GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES  
(120)****10.1 Organization, Governance and Transparency (40)****10.1.1 State the Vision and Mission of the Institute (5)****Vision**

To be recognized as a peer technical and research institution by facilitating transformation of students into ethical citizens and competent technocrats to meet the growing technological and socio-economic needs.

**Mission**

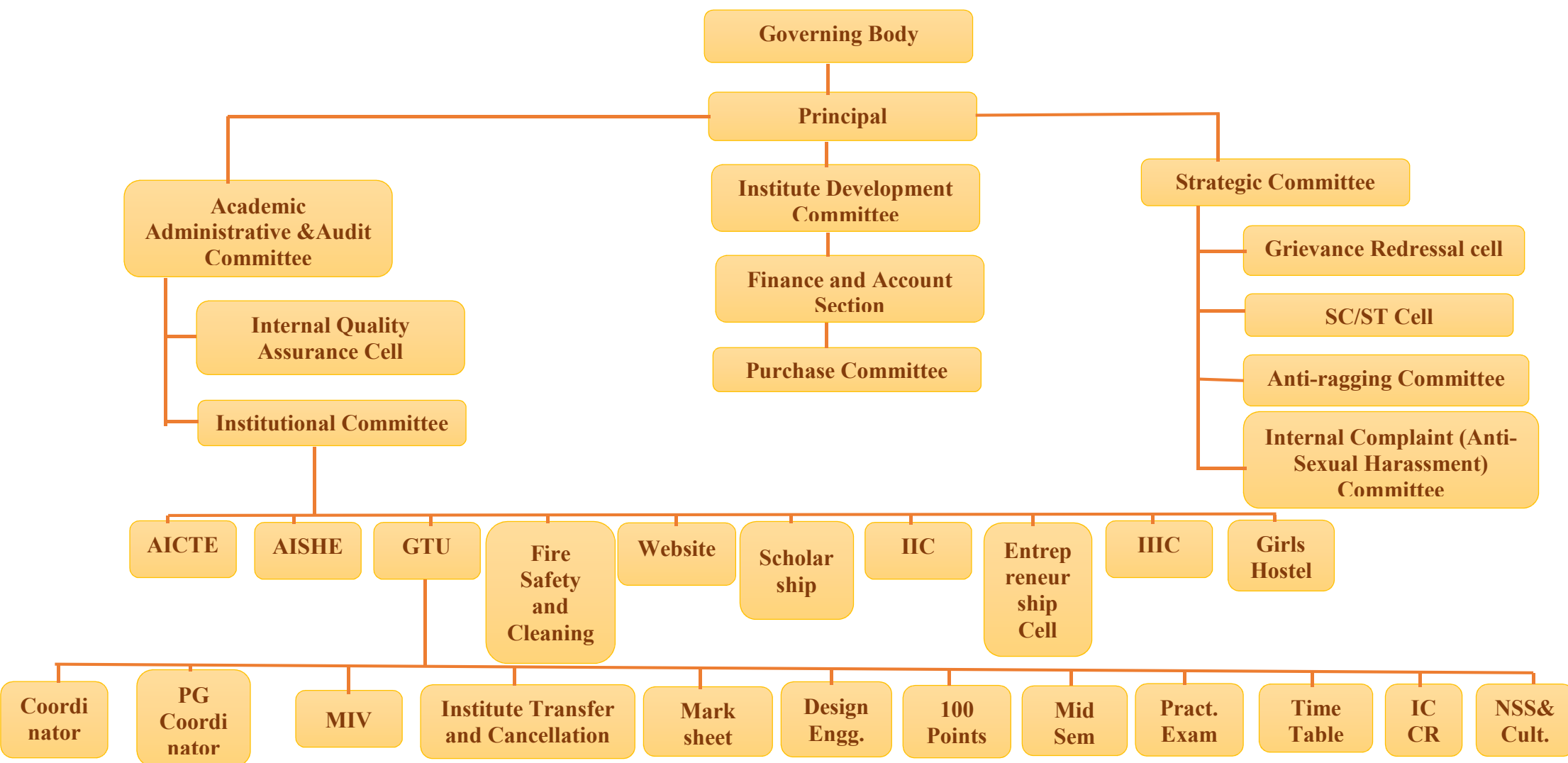
1. To provide high quality, innovative and competitive learning experience through creative balance of academic and extracurricular programs in collaboration with other academic and research institutions as well as government bodies.
2. Enable students to develop skills to solve complex technological problems of current era through industry-academia interaction and mould themselves as future leaders.
3. To synergize the students, staff, society and industries by developing competency, employability, entrepreneurship and research skills.
4. To promote new ideas, research and consultancy services for industrial and societal needs.

**10.1.2. Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Procedures, Recruitment and Promotional Policies (10)**

*List the governing, senate, and all other academic and administrative bodies; their memberships, functions, and responsibilities; frequency of the meetings; and attendance therein, the participation of external members in a tabular form. A few sample minutes of the meetings and action-taken reports should be annexed.*

Shri Sitarambhai Naranji Patel Institute of Technology, Managed by Vidyabharti Trust, UmraKh - Bardoli (SNPIT) is managed by Vidyabharti Trust, UmraKh, Ta. Bardoli, Dist. Surat, Gujarat. SNPIT was set up by a reputed and well-known academician-India to transformation of students into ethical citizens and competent technocrats is reflected in the institutional vision. The other promoters of the Vidyabharti Trust are also leaders in their

respective fields. The SNPIT institute is also keen on contributing to the sustainability of the south Gujarat region, upliftment of the rural youth of the region and their seamless merger with the national mainstream is accorded utmost priority by the management. SNPIT prides itself on its democratic, consensus-based and inclusive decision-making processes, which involve the participation of all the stakeholders; it is not a “one-way” “top-down” decision making process. On the contrary, the focus is on consensus building at various levels which allows members to partake, and in a way, this ensures their willing participation in its growth and progression. The institute is governed by Governing Body (GB) and academic and administrative and audit committee. The functions of the institute are based on the organizational chart as Fig. 10.1.2.(1).



**Fig 10.1.2. (1) Organizational chart of Shri Sitarambhai Naranji Patel Institute of Technology, Managed By Vidyabharti Trust, Umrakh**

The important academic and administrative bodies of the institute are listed below:

#### 10.1.2.1. GOVERNING BODY:

The Governing body of the institute is the supreme administrative body. Governance is the key activity that develops the relationship among the management, staff, students and the community, institute believes that it should be effective, efficient and economical and support modern governance and proper administration. The institute also believes that the duties of the governing body should be carried out in a way that actively acknowledges diversity. The structure of governing body is given in Table 10.1.2.1.(1)

**Table 10.1.2.1. (1): The structure of governing body**

Sr No.	Name	Representation of GB	Designation of GB Member
1	Shri. Manharbhai L.Patel	Chairman	Managing Trustee, Vidyabharti Trust, Umrakh
2	Shri. Kiritbhai N. Patel	Member (Nominee of Chairman, VBT, Umrakh)	Secretary, Vidyabharti Trust, Umrakh
3	Shri. Bharatbhai S. Patel	Member	Co-Secretary, Vidyabharti Trust, Umrakh
4	Ex-officio	Member (Nominee of AICTE Regional Officer-CRO)	Regional Officer & Deputy Director, CRO, AICTE, Bhopal
5	Ex-officio	Member (Director DTE, Nominee of State Government- DTE)	Director, DTE, Gujarat
6	Ex-officio Dr. S. R. Joshi	Member (Nominee of GTU by Vice Chancellor)	Principal GEC, Bharuch
7	Dr. Piyush S. Jain	Member Secretary	Principal, Shri S. N. Patel Institute of Technology, Umrakh
8	Prof. Neetu B. Yadav	NBA Coordinator	Assistant Professor, Civil Engineering Department
9	Prof. Keyur P. Shah	Member	I/C HOD, Civil Engineering Department
10	Prof. Bhavesh D. Patel	Member	I/C HOD, Computer Science & Engineering Department
11	Dr. Hitesh S. Jariwala	Member	HOD, Mechanical Engineering Department

12	Dr. Chirag A. Naik	Member	HOD, Electrical Engineering Department
13	Dr. Miral R. Thakker	Member	HOD, Chemical Engineering Department
14	Dr. Salman R. Bombaywala	Member	HOD, Electronics & Communications Engineering Department
15	Dr. Mansi N. Zaveri	Member	HOD, Applied Science and Humanities Department
<b>Frequency of Meeting: Meetings are held half yearly or earlier if required.</b>			

The Governing Body has the following functions:

- To provide general superintendence, directions to control functioning of the Institute by using all such powers as are provided by this Act or the statutes, ordinances, regulations or rules made there under.
- To approve the budget and annual report of the Institute.
- To lay down the policies to be followed by the Institute.
- Governing Body provides the necessary direction for the growth of the institute.

#### **10.1.2.2. INSTITUTE DEVELOPMENT COMMITTEE**

Prepare an overall comprehensive development plan of the college regarding academic, administrative and infrastructural growth, which enable college to foster excellence in curricular, co-curricular and extra-curricular activities.

##### **Functions of Institute Development Committee:**

- Decide about the overall teaching programme or academic calendar of the college.
- Recommend to the management about introducing new academic courses and the creation of additional teaching and administrative posts.
- Make specific recommendations to the management to encourage and strengthen research culture, consultancy and extension activities in the college.
- Make specific recommendations to the management to foster academic collaborations to strengthen teaching and research. Make specific recommendations to the management to encourage the use of information and communication technology in teaching and learning process.



- Make specific recommendations regarding the improvement in teaching and suitable training programme for the employees of the college.
- Prepare the annual financial estimates (budget) and financial statements of the college or institution and recommend the same to the management for approval.
- Formulate proposals of new expenditure not provided for in the annual financial estimates (Budget).
- Make recommendations regarding the students and employees welfare activities in the college.
- Discuss the reports of the Internal Quality Assurance Committee and make suitable recommendations.
- Frame suitable admissions procedure for different programme by following the statutory norms.
- Plan major annual events in the college, such as annual day, sports events, cultural events, etc.
- Recommend the administration about appropriate steps to be taken regarding the discipline, safety and security issues of the college.
- Consider and make appropriate recommendations on inspection reports, local inquiry reports, audit report, report of National Assessment and Accreditation Council, etc.
- Perform such other duties and exercise such other powers as may be entrusted by the management and the university.

There shall be a separate Institute Development Committee comprising of the following members, namely.

**Table 10.1.2.2. (1) Institute Development Committee**

Sr No.	Name	Representation of IDC	Designation of IDC Member
1	Shri. Manharbhai L. Patel	Chairperson	Managing Trustee, Vidyabharti Trust, UmraKh
2	Shri. Kiritbhai N.Patel	Member (Nominee of Chairman, VBT, UmraKh)	Secretary, Vidyabharti Trust, UmraKh
3	Dr. Piyush S. Jain	Secretary	Principal, Shri S. N. Patel Institute of Technology, UmraKh
4	Prof. Keyur P. Shah	Member	I/C HOD, Civil Engineering Department
5	Dr. Salman R. Bombaywala	Nominated by the Principal (Teaching Staff)	HOD, Electronics & Communications Engineering Department
6	Prof. Bhavesh D. Patel	Nominated by the Principal (Teaching Staff)	I/C HOD, Computer Science & Engineering Department
7	Dr. Hitesh S. Jariwala	Nominated by the Principal (Teaching Staff)	HOD, Mechanical Engineering Department
8	Dr. Chirag A. Naik	Nominated by the Principal (Teaching Staff)	HOD, Electrical Engineering Department
9	Dr. Miral R. Thakker	Nominated by the Principal (Teaching Staff)	HOD, Chemical Engineering Department
10	Dr. Mansi N. Zaveri	Nominated by the Principal (Teaching Staff)	HOD, Applied Science and Humanities Department
11	Ms. Falguniben R. Rathod	Nominated by the Principal (Non- Teaching Staff)	Librarian
<b>Frequency of Meeting: Meetings are held half yearly or earlier if required.</b>			

**10.1.2.3. ACADEMIC ADMINISTRATION & AUDIT COMMITTEE**

The Academic Council being principal Academic Authority, supervises, directs and controls the standards of instructions, education and examinations and other matters connected with the obtaining of degrees and exercise such powers and perform such other duties as specified by institute.

The composition of Academic Council is as follows:

**Table 10.1.2.3. (1) Compositions of academic administration & audit committee**

Sr No.	Name	Designation	Position
1	Dr. Piyush S. Jain	Principal	Coordinator
2	Mr. Bipin B. Maisuria	Clerk	Account Section Head
3	Dr. Salman R. Bombaywala	HOD, Electronics and Communications Engineering Department	Admission Committee Head
4	Prof. Chirag B. Patel	Assistant Professor, Electrical Engineering Department	Examination Committee Head Attendance Committee Head
5	Prof. Keyur P. Shah	I/C HOD, Civil Engineering Department	Member
6	Prof. Pratap K. Chaini	Assistant Professor, Electrical Engineering Department	Library Committee Head
<b>Frequency of Meeting: Meetings are held half yearly or earlier if required.</b>			

**Academic Administration & Audit Committee Functions:**

- To exercise general supervision over the academic policies of the Institute, and to give directives regarding methods of instructions, combined teaching among Academic Units, evaluation of research or improvements in academic standards.
- To monitor the academic and administrative activities of the institute.
- To frame regulations in consonance with the subsequent statutes and ordinances regarding the academic functioning of the institute, discipline, residence, admissions, award of fellowships and studentships, attendance, internal assessment, library etc.
- To form various institute level committees and fix their functions. To consider the recommendations of the institute level committees and to take necessary actions.
- To monitor adherence to academic work and to provide direction regarding methods of teaching, evaluation and improvements in academic standards.
- To take necessary steps for admissions governed by admission committee for Professional Courses (ACPC). To verify all the original documents of students admitted.
- To ensure that adequate number of books are made available at library. To prepare the list of books/journals as per the requirement of various departments. To suggest

improvements to run the library smoothly, orderly and satisfactorily. To maintain all the records related to library.

- To conduct an audit of store and library.
- To collect the attendance from course coordinators and monitor regularity in attendance of the students.
- To arrange guest lectures, workshop, national and international seminar, conference to update the current knowledge and scenario of industry to students.
- Strengthen the institute industry interaction by planning industrial training, industrial tour and consultancy.
- Planning for the improvement of infrastructure facilities, instruments, equipment and library resources.
- To encourage the faculties for research, fetching grants, participation in FDP and enroll for SWAYAM, MOOC etc., government agency approved courses.
- To monitor faculty performance with respect to teaching, research activity and publications.
- To take timely appropriate measures against the communications received from GTU, AICTE etc.

#### **10.1.2.4. INTERNAL QUALITY ASSURANCE COMMITTEE (IQAC)**

To ensure quality culture as the prime concern for the Higher Education Institutions through institutionalizing and internalizing all the initiatives taken with internal and external support. Since quality enhancement is a continuous process, the IQAC will become a part of the institution's system and work towards realization of the goals of quality enhancement and provisions. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of institutions.

**Table 10.1.2.4.(1) Composition of IQAC**

Sr No.	Name	Designation	Position
1	Dr. Piyush S. Jain	Principal	Chairperson
2	Shri. Kiritbhai N. Patel	Secretary, Vidyabharti Trust, Umrakh	Member (Management)

3	Dr. Hitesh S. Jariwala	Assistant Professor, Mechanical Engineering Department	Member Secretary
4	Mr. Chirag K.Bakshi	General Manager, K.K Retroflex Solutions	External Industrial Expert of Quality Management
5	Mr. Khusal J. Parmar	Deputy Executive Engineer-Narmada Project Canal Sub Division	External Industrial Expert of Quality Management
6	Dr. Miral R. Thakker	Associate Professor, Chemical Engineering Department	Member (Faculty Level)
7	Prof. Keyur P. Shah	Assistant Professor, Civil Engineering Department	Member (Faculty Level)
8	Dr. Chirag A. Naik	Associate Professor, Electrical Engineering Department	Member (Faculty Level)
9	Prof. Bhavesh D. Patel	Assistant Professor, Computer Science and Engineering Department	Member (Faculty Level)
10	Dr. Salman R. Bombaywala	Assistant Professor, Electronics and Communications Engineering Department	Member (Faculty Level)
11	Dr. Mansi N. Zaveri	Assistant Professor, Applied Science and Humanities Department	Member (Faculty Level)
12	Mr. Rikesh B. Prajapati	Alumni	Member(Alumni)
13	Mr. Yash A. Khengar	Alumni	Member(Alumni)
14	Mr. Jitendrabhai Mistry	Parents	Member(Parents)
15	Mr. Bipinbhai B. Maisuriya	Parents	Member(Parents)
<b>Frequency of Meeting: Meetings are held quarterly or earlier if required.</b>			

#### **Functions:**

- To develop and apply a quality bench mark for various academic and administrative activities of the institute.
- To discuss and disseminate decision taken by academic administration & audit committee.
- To facilitating the creation for a student to quality education and faculty to adopt the required knowledge and technology for participatory teaching and learning process.
- To collect and analyse feedback for improvement in the performance of the institute, channelize the efforts and implement the corrective measures to achieve academy excellence from all stakeholders on quality-related institutional processes.

- To schedule and regulate the theory and practical exams. To arrange necessary requirements for smooth conduct of the internal as well as end semester examination.
- Ensuring the quality of question papers, transparent conduct of examination and evaluation.
- To discuss results analysis of examination and decide remedial steps wherever required.
- Documentation of the various programmes/activities leading to quality improvement;
- Documentation of the proceedings of the committee and action taken.
- Scrutinizing the data presented to bodies such as GTU, AICTE, NBA etc.
- Implementation of staff appraisal's systems and analysis of faculty performance, career advancement, rewards etc.
- To frame and implement various policies for the smooth functioning of the institutes.

#### **10.1.2.5. INSTITUTE LEVEL COMMITTEES**

##### **10.1.2.5.1 PURCHASE COMMITTEE**

**Table 10.1.2.5.1. (1) Composition of the purchase committee:**

<b>Sr No.</b>	<b>Name</b>	<b>Designation</b>	<b>Position</b>
<b>1</b>	Dr. Piyush S. Jain	Principal	Coordinator
<b>2</b>	Prof. Keyur P. Shah	I/C HOD, Civil Engineering Department	Member Secretary
<b>3</b>	Prof. Bhavesh D. Patel	I/C HOD, Computer Science & Engineering Department	Member
<b>4</b>	Dr. Hitesh S. Jariwala	HOD, Mechanical Engineering Department	Member
<b>5</b>	Dr. Chirag A. Naik	HOD, Electrical Engineering Department	Member
<b>6</b>	Dr. Miral R. Thakker	HOD, Chemical Engineering Department	Member
<b>7</b>	Dr. Salman R. Bombaywala	HOD, Electronics & Communications Engineering Department	Member
<b>8</b>	Dr. Mansi N. Zaveri	HOD, Applied Science and Humanities Department	Member
<b>9</b>	Mr. Keyur K. Patel	Store In-Charge	Member
<b>10</b>	Ms. Bijal N. Vyas	Laboratory Assistant, Mechanical Engineering Department	Member
<b>11</b>	Mr. Nilesh A. Patel	Laboratory Assistant, Electrical Engineering Department	Member
<b>12</b>	Mr. Mayur R. Parmar	Laboratory Assistant, Civil Engineering Department	Member

13	Mr. Bhavin P. Desai	Laboratory Assistant, Chemical Engineering Department	Member
14	Mr. Mitesh R. Mistry	Laboratory Assistant, Computer Science & Engineering Department	Member
15	Ms. Urvi Bhavsar	Laboratory Assistant, Computer Science and Engineering Department	Member
16	Ms. Falguniben R. Rathod	Librarian	Member
<b>Frequency of Meeting: Meetings are held quarterly or earlier if required.</b>			

**Table 10.1.2.5.1.(2) Purchase procedure (mode of purchase)**

Sr. No	Amount	Process
1	Up to Rs.5000/-in each cash memo	By local/cash purchase in accordance with rules in force, after recording that purchase has been made after a thorough market search and after ensuring that price has been reasonable.
2	More than 5000/- each item of purchase/works	By quotation – through issuing enquiries to a limited number of suppliers/contractors as approved by the Stores & Purchase Committee – based on the lowest technically acceptable quotation out of at least three valid tenders/quotations

**Functions:**

- To coordinate all activities related to purchase for the smooth running of the institute.
- To invite departmental requirements such as consumables, semi-consumables, non-consumables.
- To compile list of departmental requirements and invite quotations.
- Analysing quotations and bids etc., and preparation of comparative statement (quotation charts).
- Finalized the vendor and acquire the best quality items with competitive price.
- Issue of Purchase Orders for the required demands and Follow-up of purchase orders for delivery in due time.

- To verify received goods against the purchase order.
- To collect technical inputs from relevant staff as required.
- To maintain all the documents related to purchase.

#### **10.1.2.5.2 INDUSTRY INSTITUTE INTERACTION CUM ALUMNI ASSOCIATION CELL (IIIC)**

The objective of the IIIC is to reduce the gap between industry expectations (practice) and academic offerings (theory) by direct involvement of industry to attain a symbiosis. All the Stakeholders, namely: Institutions, Industry, Students and Society stand to gain as it can be a win-win partnership.

**Table 10.1.2.5.2. (1) Industry Institute Interaction Cum Alumni Association Cell**

<b>Sr No.</b>	<b>Name</b>	<b>Position</b>	<b>Designation</b>
<b>1</b>	Dr. Jaydeepsinh M. Barad	Associate Professor, CHED	Coordinator
<b>2</b>	Prof. Hitesh A. Tailor	Assistant Professor, MED	Member
<b>3</b>	Prof. Shreyans R. Mahant	Assistant Professor, CHED	Member
<b>4</b>	Dr. Ravish H. Hirpara	Associate Professor, EED	Member
<b>5</b>	Prof. Nikunj M. Ashiyani	Assistant Professor, CED	Member
<b>6</b>	Prof. Gaurav V. Patel	Assistant Professor, CSED	Member
<b>7</b>	Prof. Mayank A. Patel	Assistant Professor, ECED	Member
<b>8</b>	Mr. Sankalp Patel	Alumni MED	Member
<b>9</b>	Mr. Harsh Mahadevwala	Alumni CHED	Member
<b>10</b>	Mr. Arun H. Prajapati	Alumni CED	Member
<b>11</b>	Mr. Sharad J. Parekh	Alumni ECED	Member
<b>12</b>	Mr. Tej Patel	Alumni EED	Member
<b>13</b>	Ms. Pratiksha Maheshwari	Alumni CSED	Member
<b>Frequency of Meeting: Meetings are held half yearly or earlier if required.</b>			

#### **Functions:**

- To co-ordinate all the activities related to industrial training.
- To make students familiar with the Industrial environment and culture.
- To provide an opportunity to students to have a closer look on the operations carried out in Industries.



- To make students aware about the latest updates in Industries (latest equipment's being used/procedures being performed, standards to be met and so on) by arranging industrial tour and industrial training
- To identify and facilitate Guest Lectures, Interactive Workshops, Conferences, Seminars, Brain Storming Sessions, Technical Discussions etc. with members of the Industry, outside experts, eminent personalities at regular interval.
- To initiate and co-ordinate for MOU between SNPIT and various Engineering industries.
- To maintain documents related to training, MOU.
- To plan and coordinate all the activities related to the Alumni Association of the institute.
- To organize an Alumni Association meeting.
- To maintain documentation related to Alumni Association.
- To meet the Industries recruitment process with leading industries for training & Placement.
- To motivate students to develop Technical knowledge and soft skills in terms of career planning, goal setting for better placement of the students.
- To motivate students, aspire for higher studies and guiding them to take competitive exams such as GATE, IES, UPSC, GPSC etc
- Aiming to Place the maximum number of students through campus & off-campus interviews conducted by the top companies.
- To develop confidence in students through Personality Development Program.
- To enhance Communication Skills of students through Communication Skill Program.
- To develop Group Discussion Practice among students.
- To create healthy environment for students through Entrepreneurship Development Program.
- To conduct Mock Interview Sessions through various training program & interactive sessions with expert.
- To avail in plant Training to maximum numbers of students.
- To increase numbers of participations of students in Government exams through Public Sector Competitive Exams Training.
- To give better placement to students for their bright future.
- Revised IIC team will work as a team in different sectors for complete transformation of T & P Cell.

### 10.1.2.5.3 CULTURAL and NSS ACTIVITY COMMITTEE

**Table 10.1.2.5.3. (1) CULTURAL and NSS Committee**

Sr. No.	Name	Position	Designation
1	Dr. Piyush S. Jain	Principal	Chairman
2	Prof. Hitesh A. Tailor	Assistant Professor, MED	Coordinator
3	Dr. Miral R. Thakker	Vice Principal, CHED	Member
4	Dr. Yazad C. Jabbar	Assistant Professor, CED	Member
5	Prof. Kinjal J. Patel	Assistant Professor, CED	Member
6	Dr. Nilesh S. Dumore	Assistant Professor, CHED	Member
7	Prof. Nisha S. Ojha	Assistant Professor, CHED	Member
8	Prof. Gaurav V. Patel	Assistant Professor, CSED	Member
9	Prof. Hemangini J. Patel	Assistant Professor, CSED	Member
10	Prof. Ashish A. Patel	Assistant Professor, EED	Member
11	Prof. Janak B. Patel	Assistant Professor, EED	Member
12	Prof. Mayank B. Parmar	Assistant Professor, MED	Member
13	Prof. Mehul M. Jikar	Assistant Professor, MED	Member
14	Prof. Purva S. Patel	Assistant Professor, ASHD	Member
15	Prof. Hinal H. Desai	Assistant Professor, ASHD	Member
16	Mr. Bipin B. Maisuriya	Accountant	Member
<b>Frequency of Meeting: Meetings are held half yearly or earlier if required.</b>			

#### **Functions:**

- To plan, schedule and coordinate cultural events, Blood Donation, Tree Plantation, Joy of Giving in the institute.
- To provide the facility to student's participation at various cultural events, Blood Donation, Tree Plantation, Joy of Giving.
- To maintain records of cultural activities, Blood Donation activities, Tree Plantation activities, Joy of Giving activities.

#### 10.1.2.5.4 SPORTS ACTIVITY COMMITTEE

**Table 10.1.2.5.4. (1) Sports activity Committee**

Sr. No.	Name	Position	Designation
1	Dr. Piyush S. Jain	Chairperson	Principal
2	Mr. Mahendra G. Parmar	Coordinator	Physical Instructor
3	Prof. Milan R. Patel	Member	Assistant Professor, Mechanical Engineering Department
4	Mr. Vrutik Tandel	Member	Student
5	Ms. Riya Mistry	Member	Student
<b>Frequency of Meeting: Meetings are held half yearly or earlier if required.</b>			

#### **Functions:**

- To plan, schedule and coordinate college sports events, Inter College sports events and University Level sports events in the institute.
- To provide the facility to student's participation at various college sports events, Inter College sports events and University Level.
- To maintain records of college sports events, Inter College sports events and University Level.

#### 10.1.2.5.5 OTHER INSTITUTE LEVEL COMMITTEES AND THEIR FUNCTIONS

**Table 10.1.2.5.5. (1) Other institute level committees and their functions**

Sr. No.	Post	Name of Faculty	Functions of Committee
1	AICTE Coordinator	Dr. Salman R. Bombaywala	<ul style="list-style-type: none"><li>• AICTE Portal related all activities including Extension of Approval Process online Data entry</li><li>• All AICTE related calculations as per APH and conducting Scrutiny, Re-Scrutiny, EVC</li></ul>
2	AISHE Coordinator	Prof. Pratap Kishor Chaini	<ul style="list-style-type: none"><li>• AISHE Portal related all activities including online Data entry</li></ul>
3	GTU Coordinator	Prof. Chirag B. Patel	<ul style="list-style-type: none"><li>• Day to day circular, University correspondence, End semester theory exam, other university related work.</li><li>• Rechecking/ Reassessment work</li></ul>

			<ul style="list-style-type: none"> <li>• Regular theory &amp; Practical Exam conduction</li> <li>• Remedial/ end semester exam arrangement</li> <li>• <a href="mailto:bec049owner@gtu.edu.in">bec049owner@gtu.edu.in</a> and Admin Panel Updating</li> <li>• Student Enrolment Form</li> <li>• Exam Form</li> <li>• Elective Subject Entry</li> <li>• Academic time table preparation, Online attendance / Muster collection and plan of work</li> </ul>
4	GTU PG Coordinator	Prof. Keyur P. Shah	<ul style="list-style-type: none"> <li>• Day to day circular, University correspondence, End semester theory exam, other university related work.</li> <li>• Rechecking/ Reassessment work</li> <li>• Regular Practical Exam conduction</li> <li>• Remedial/ end semester exam arrangement</li> <li>• <a href="mailto:mec049owner@gtu.edu.in">mec049owner@gtu.edu.in</a> and Admin Panel Updating</li> <li>• Student Enrolment Form</li> <li>• Exam Form</li> <li>• Elective Subject Entry</li> <li>• PG Student Related work</li> <li>• Academic time table preparation, Online attendance / Muster collection and plan of work</li> </ul>
5	MIV Online Marks entry Coordinator	Prof. Milan R. Patel	<ul style="list-style-type: none"> <li>• Internal marks record/online submission of marks</li> </ul>
6	Institute Transfer, Admission Cancellation Coordinator	Prof. Achal B. Mistry	<ul style="list-style-type: none"> <li>• D2D Seat matrix</li> <li>• Vacant seat list</li> </ul>
7	Design Engineering Committee	Prof. Hiren B. Tamboli Prof. Sandip K. Tandel Prof. Pratap K. Chaini Prof. Mayank A. Patel Prof. Rinkesh B. Patel Prof. Nikunj M. Ashiyani Prof. Jignesh A. Parmar	<ul style="list-style-type: none"> <li>• Design Engineering Portal related All work</li> <li>• Departmental coordinator has to match Student list with online portal registered students list and group formation. So, no students will leave without</li> </ul>

			<p>registration and group formation.</p> <ul style="list-style-type: none"> <li>If any query is not solve through Head login than Departmental coordinator has to inform Institute Design Engineering Coordinator about it through call and mail. So, He can forward that mail to GTU and Query will be sort out.</li> </ul>
8	Mark sheet Committee	Prof. Chirag A. Patel	<ul style="list-style-type: none"> <li>GTU Mark sheet and Provisional Degree Certificate Collection</li> <li>GTU Mark sheet and Provisional Degree Certificate Distribution to Department Coordinator and Ms. Vibhuti Mistry</li> </ul>
9	Practical Exam(UG) Coordinator	Prof. Rinkesh B. Patel	<ul style="list-style-type: none"> <li>Student Allocation</li> <li>Practical Mark sheet cover preparation</li> <li>Practical exam Day wise remuneration File Preparation</li> </ul>
10	Mid-Sem Exam Coordinator	Prof. Keyur P. Shah	<ul style="list-style-type: none"> <li>Mid-Sem Time Table Preparation and Display</li> <li>Duty allocation of Block Supervisor</li> </ul>
11	Time-Table Coordinator	Prof. Bhavesh D. Patel	<ul style="list-style-type: none"> <li>Do meeting with Department Level Time-Table Members.</li> <li>Compile All Department Time-Table Without Clashing</li> <li>Display all Time-Table on the Notice board and on website of the institute</li> </ul>
12	Infrastructure , Fire And Cleaning Committee	Prof. Janak B. Patel Prof. Sandip A. Patel Dr. Shakil A. Kagzi Prof. Kevin K. Prajapati Prof. Tejas B. Patel Mr. Bhadresh C. Patel Mr. Nilesh A. Patel Mr. Hardip D. Patel Mr. Kanti M. Parmar Mr. Jignesh P. Soni Mr. Ajay I. Patel Mrs. Mittal N. Chaudhari Mr. Rahul All Peons	<ul style="list-style-type: none"> <li>Communications with Floor and Wing Supervisor on Regular Basis regarding cleanliness and Infrastructure</li> <li>Maintain all Dead stock with same location from Floor and Wing Supervisor and submit its report on weekly basis</li> <li>Take Complaints regarding Infrastructure from Floor and Wing Supervisor and do maintenance within short duration of time</li> </ul>

			<ul style="list-style-type: none"> <li>• Mock of fire and Check Fire extinguishers Expiry date on regular basis</li> <li>• Keep records of instruments lab wise in each department. Maintain dead stock and expandable.</li> <li>• Keep perfect record of furniture with location which also includes electric appliances excluding soft computing devices.</li> <li>• Any requirement/ maintenance required is to be reported to coordinator and execute through proper channel.</li> <li>• Keep record of all consumables and stationary used with purpose and date.</li> </ul>
13	Website Committee	Dr. Rutal S. Mahajan Prof. Ashish A. Patel Prof. Mehul M. Jikar Prof. Nikunj M. Ashiyani Prof. Arun H. Prajapati Prof. Pratap K. Chaini Prof. Virang R. Patel Prof. Nisha S. Ojha Prof. Seemabano A. Shah Prof. Dhaval J. Patel Mr. Jignesh S. Patel	<ul style="list-style-type: none"> <li>• Update student SMS portal regularly as per enrolled students and class coordinator regularly. All relevant to SMS is assigned to Team.</li> <li>• App Management and interaction with service provider is assigned to Team.</li> <li>• Home, about us, Admission, Department, Facility are assigned to while Training and placement, student section, committee, quick link, contact us is assigned to.</li> <li>• Upcoming events, Achievements and notice board is assigned to Team while headlines, brochure request, scholarship and all remaining is assigned to Team.</li> <li>• Innovative ideas and regular updates on website is utmost required and expected this task by committee.</li> <li>• For any query, please meet coordinator.</li> <li>• Do update website all tabs on regular Basis</li> <li>• Upload important circulars on website</li> </ul>

			<ul style="list-style-type: none"> <li>• Update Online notice board on regular Basis</li> <li>• Upload program/event/industrial Visit report on website</li> <li>• Update placement details on website on regular Basis</li> </ul>
14	Scholarship Committee	Prof. Sandip K. Mistry Mr. Mahendra G. Parmar Prof. Jenish M. Mistry Prof. Ankur S. Gamit Prof. Manish N. Parmar Prof. Sandip K. Tandel Mrs. Bijal N. Vyas Mr. Nilesh A. Patel Mr. Mayur R. Parmar Mr. Bhavin P. Desai Ms. Arti R. Ragde	<ul style="list-style-type: none"> <li>• Respective faculties must inform all eligible students to fill the form</li> <li>• Prepare eligible student list with necessary details</li> <li>• Follow given guidelines for scholarship document verification and submit the completed form as soon as possible</li> <li>• Coordinator is instructed to keep all record in google drive and share with member as well as with head of the Institute.</li> <li>• Provide guidelines to students about Documents require for Scholarship and online filling of Scholarship forms</li> <li>• Online Verification of Scholarship form</li> <li>• Solve query of Online Scholarship forms</li> </ul>
15	100 Point Activity Committee	Prof. Keyur P. Shah Prof. Mayank B. Parmar Prof. Pratap K. Chaini Prof. Dhaval J. Patel Prof. Mayank A. Patel Prof. Nisha S. Ojha Prof. Nikunj M. Ashiyani	<ul style="list-style-type: none"> <li>• Inform to all students about upload all events Documents as per GTU schedule</li> <li>• Inform all Department Level Coordinator to verify all Documents of Students of Respective Department as per schedule</li> </ul>
16	Institute Innovation Cell	Prof. Pratap Kishore Chaini Dr. Yazad C. Jabbar Prof. Hiren B. Tamboli Dr. Hitesh S. Jariwala Prof. Nisha S. Ojha	<ul style="list-style-type: none"> <li>• To conduct various Innovation, IPR and entrepreneurship activities prescribed by MIC in time bound fashion.</li> <li>• Organize periodic workshops/ Seminars/ Interaction with entrepreneurs, investors, Professionals.</li> <li>• Network with Peers &amp; National entrepreneurship organizations.</li> <li>• Create an Institution's Innovation Portal to high light</li> </ul>

			<p>Innovative Projects carried out by Institution's faculty and students.</p> <ul style="list-style-type: none"> <li>• Organise idea Competition</li> </ul>
<b>17</b>	Girls Hostel Committee	Prof Khyati J.Patel Mrs Bijal N. Vyas Ms Aarti R. Ragde Mrs. Mittal N.Chaudhari	<ul style="list-style-type: none"> <li>• Maintain complete record of both girls hostel including PEN, Name, Department, Semester, status of fee, Hostel Name, Room number, student mobile number, location, address of student, parents contact number (if feasible of two). Coordinator instructed to report update status on last week of month (25-28th date).</li> <li>• Proper management of local bus from shanti gram girl's hostel to college.</li> <li>• Any grievance of girl's hostel must be properly entertained and resolved. Committee members instructed to visit twice in both hostel and interact regularly with warden and students through call as well as meeting. Food quality is also expected to be properly investigated on regular basis.</li> <li>• It is must for coordinator and members to assign duty to other member in case of leave.</li> </ul>
<b>18</b>	NPTEL Coordinator	Prof. Ravish H. Hirpara	Maintain all faculties and student enrolment, exam, Completion certificate record.
<b>19</b>	ICCR Mentor	Prof. Priyank P. Dave	<ul style="list-style-type: none"> <li>• International student Collect from Air-port and take them up to college</li> <li>• Provide accommodation to International student</li> <li>• Do all relevant procedure with GTU, Embassy, Police verification etc.</li> <li>• Dispatch Students up to air-port when course completed</li> <li>• Solve International student's any type complaint related to study</li> </ul>



#### 10.1.2.5.6 FINANCE COMMITTEE

Finance committee is responsible for all the monetary activities in the institution. Student's fee collection, funds for procurement of equipment, dispatching salaries and remuneration are under the purview of this committee. The committee meets four times in a year. The composition of finance committee is given below:

**Table 10.1.2.5.6. (1) Composition of Finance Committee**

Sr. No.	Name	Position
1	Dr. Piyush S. Jain	Principal
2	Mr. Bipin B. Maisuriya	Clerk
3	Mr. Dharmesh N. Panchal	Clerk
<b>Frequency of Meeting: Meetings are held half yearly or earlier if required.</b>		

The major functions of finance committee are given below:

- All proposals relating to revision of grades, up gradation of the pay scales and those items which are not included in the budget, are examined by the Finance Committee before those are considered by the governing body.
- The Finance Committee fixes the limits for the total recurring and non-recurring expenditure for the year

#### ***10.1.2(B). The published Service rules, policies and procedures with a year of publication***

The service rules and all other employment policies are well defined and are updated from time to time as per requirement. For the rules not mentioned in the HR manual, AICTE regulations and Gujarat Government rules are followed. Rules concerned with the general administration of the college, service rules, leave rules policies of promotion and increment are framed properly and are available on the website. All the policies and procedures are made clear to every individual who joins the organization and these are updated from time to time as per requirement.

**Table no: 10.1.2.7 List of policies implemented in the institute by IQAC.**

Sr. No.	Name of Policy	Year of Publications
1	Code of Conduct	2018-19
2	Admission Policy	2018-19
3	Discipline Policy	2018-19
4	Student's attendance Policy	2018-19

5	Examination Policy	2018-19
6	Library Policy	2018-19
7	Course Coordinator Policy	2018-19
8	Mentor Policy	2018-19
9	Purchase Policy	2018-19
10	Placement Policy	2018-19
11	Staff Appraisal System Policy	2018-19
12	Laboratory In-charge Policy	2018-19
13	Research and Development Policy	2018-19
14	Plagiarism Policy	2018-19
15	Information and Technology (IT) Policy	2018-19
16	Anti-ragging Policy	2018-19
17	SC/ST Policy	2018-19
18	Anti-Sexual Harassment Policy	2018-19

#### 10.1.3. Decentralization in Working and Grievance Redressal Mechanism (10)

*List the names of the faculty members who are administrators/decision makers for various responsibilities. Specify the mechanism and composition of grievance Redressal cell.*

The curricular, co-curricular and extra- curricular activities of the institute are managed and monitored through different committees and cells formed for the same. It ensures a fair degree of decentralization and distribution of the responsibilities. A faculty member is the coordinator of each committee.

**Table 10.1.3. (1) List of the administrators/decision makers for various responsibilities**

Sr. No.	Name of Committee	In Charge
1	Academic Administration & Audit Committee	Dr. Piyush S. Jain
2	IQAC	Prof. Neetu B. Yadav
3	Admission Committee	Dr. Salman R. Bombaywala
4	Academic Coordinator	Dr. Piyush S. Jain
5	Examination Committee	GTU Coordinator (Prof. Chirag B. Patel)

6	Purchase Committee	Dr. Piyush S. Jain
7	Library Committee	Prof. Pratap K. Chaini
8	Attendance Committee	Prof. Chirag B. Patel
9	Industry Institute Interaction Cell	Dr. Jaydeepsinh M. Barad
10	Cultural Committee	Prof. Hitesh A. Tailor
11	Sports Committee	Mr. Mahendra G. Parmar
12	Alumni Association	Dr. Jaydeepsinh M. Barad
13	Faculty Mentor	Dr. Piyush S. Jain
14	Scholarship	Prof. Sandip K. Mistry
15	NBA	Prof. Neetu B. Yadav

#### 10.1.3.1 GRIEVANCES REDRESSAL COMMITTEE

As per AICTE APH 2018-19 and notification F. No. AICTE/PG/2012/20/SRO/06/1143, dated 25/07/2012, Grievance Redressal Cell has been constituted. Shri Sitarambhai Naranji Patel Institute of Technology Managed By Vidyabharti Trust Umrakh-Bardoli has constituted a Grievance Redressal Committee as per the advice of the AICTE. This committee is focused to solve the grievances of students, staff and parents. The Grievance Redressal Committee has been formulated with following member.

**Table 10.1.3.1. (1) Composition of grievance Redressal Committee**

Sr. No.	Name	Designation	Position
1	Dr. Piyush S. Jain	Principal	Chairman
2	Dr. N. K. Arora	GEC Bharuch	Member Nominated by Vice Chancellor
3	Prof. Bhavesh D. Patel	Assistant Professor, CSED	Member
4	Dr. Salman R. Bombaywala	Assistant Professor, ECED	Member
5	Prof. Neetu B. Yadav	Assistant Professor, CED	Member
6	Mr. Jaydeep D. Kokani	Student	Member
7	Ms. Aayushi H. Prajapati	Student	Member
8	Mr. Sahilkumar U. Chaudhari	Student	Member

#### Objectives of the Grievances Redressal Committee

The Grievances Redressal Committee ensures that all grievances are timely redressed with fair and acceptable decisions. The process of the grievances is carried out in a strictly confidential manner. Emphasis on procedural fairness is given with a view to “the right to be heard and right to be treated without bias”.

The objectives of the committee are as follows:

- To support the students who are deprived of the services offered by the Institute, for which he/she is entitled.
- To make the staff responsive, accountable and courteous in dealing with the students.
- To ensure an effective solution to the student’s grievances related to academic matters with an impartial and fair approach.
- To evaluate complained received and to judge its gravity.
- To provide a fearless environment to express the grievances/ problems freely and frankly.

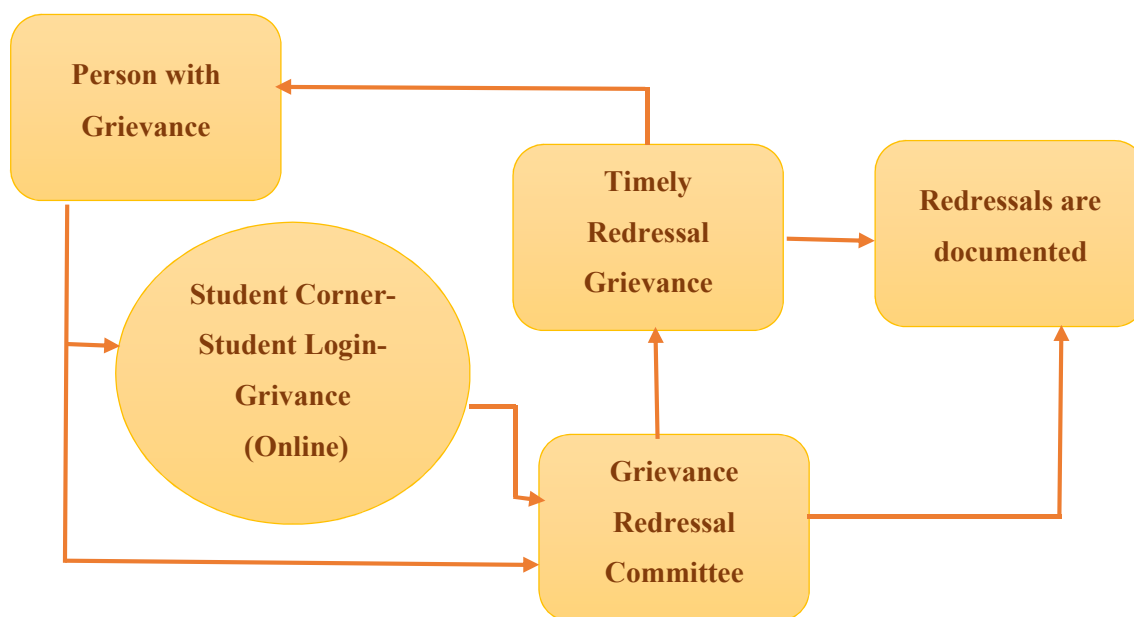
#### **Grievances Addressed by the Committee**

Grievances addressed by the committee for Redressal are as follows:

- **Grievances related to Academic matters:** Grievances pertaining to teaching methodology, teaching-learning process, syllabus completion, examination outcomes, delay in conduct of examinations or declaration of results, assessment methodologies, non-transparent or unfair evaluation practices and quality education.
- **Grievances related to Non-Academic matters:** Grievances pertaining to discrimination by students from Scheduled Caste, Scheduled Tribes, OBC, women, minority or disabled categories, provision of student amenities, ragging, sexual harassment, and grievances related to classroom and other facilities.

#### **Mechanism**

- online grievance submission facility is made available for students at: <https://www.snpitrc.ac.in/StudentLogin.aspx>
- on receipt of specific complains/grievances, it is forwarded to concern head and corrective measure were discusses by the committee and the remedial steps are taken with a fair decision in a timely manner.



**Figure 10.1.3.1. (1) Mechanism of the Grievances Redressal Committee**

#### 10.1.3.2 ANTI-RAGGING COMMITTEE

Engineering is a noble profession. Its members are revered for their human values, compassion and consideration for their fellow human beings. Every Engineering student shall therefore learn to be self-disciplined and observe rules and regulations as a matter of habit rather than because of fear of consequences. They shall at all times conduct themselves with proper dignity and decorum expected of a budding Engineer. Composition of anti-ragging Committee as per All India Council for Technical Education notified Regulation for prevention and prohibition of ragging in AICTE approved Technical Institutions vide No. 37-3/ Legal/ AICTE/ 2009 dated 01.07.2009 and AICTE APH 2018-19.

**Table 10.1.3.2. (1) Composition of anti-ragging committee**

Sr. No.	Name	Designation	Contact Detail
1	Dr. Piyush S. Jain	Proctor- Head of the Institute	9925897065 Piyush.jain@snpitrc.ac.in
2	Mr.Bhavinbhai Maisuriya	Member- Civil Administration Representative(T.C.M)	9913013433
3	Mr.Hareshbhai Dangar	Member- Police Administration Representative	9427247557
4	Mr. Pritesh M. Malvi	Member- Local Media	8000099911

5	Mr. Ayush Parmar	Member- NGO	9825541319 Ayushparmar273@gmail.com
6	Dr. Salman R. Bombaywala	Member- Faculty Representative	9033202882 Salman.bombaywala@snpitrc.ac.in
7	Mr. Pareshkumar Patel	Member- Parents Representative	9974848749
8	Ms. Helvi P. Patel	Member- First year Student Representative	7383638177 helvipatel3@gmail.com
9	Mr. Om Gedia	Member- Senior Student Representative	7069851268 omgedia9154@gmail.com
10	Mrs. Bijal N. Vyas	Member- Non-Teaching Staff	9429446986 Bijal.vyas@snpitrc.ac.in

The anti-ragging committee was constituted to control ragging and provide relief to students who come under this shadow. The committee has the powers to take stringent action on students involving in such activities.

The Institution follows the policy of zero tolerance to ragging.

- Ragging within or outside the campus of the institution is strictly prohibited.
- Ragging means doing an act which causes or likely to cause INSULT or ANNOYANCE or FEAR or APPREHENSION or THREAT or INTIMIDATION or OUTRAGE OF MODESTY or INJURY to a student.

As per AICTE notified Regulation for prevention and prohibition of ragging in technical institutions vide No. 37-3/Legal/AICTE/2009 dated 01/07/2009, and AICTE APH 2018-19 Anti ragging committee has been constituted with the objective of prevention of ragging.

#### **Function:**

- Implementation of Govt./University directives against the menace of ragging
- Setting up of Anti-Ragging Cell and Squad
- Regular interaction and counselling with the students
- Identification of trouble-triggers
- Mention of Anti-Ragging warning in the Institution's prospectus shall be ensured
- Ensure anti-ragging instructions are displayed at prominent places
- Surprise inspection of hostels, canteens, common rooms, toilets, bus-stands and any other measures which would augur well in preventing/quelling ragging and any uncalled-for behaviour /incident shall be undertaken, to ensure that there is no ragging in the campus or hostel.
- To hold periodical meetings with first year students.

- Arrange for the visit of local law enforcing authorities to hostel/college as a confidence building measure.
- In case of inadequacy of the member detailed in their respective teams, they may float additional requirements to the in-charge of anti-ragging committee.

*Any victim may complain in writing to the Principal or to 'Anti ragging cell' which would be kept confidential.*

### **10.1.3.3 INTERNAL COMPLAINT (ANTI-SEXUAL HARASSMENT) COMMITTEE**

In order to strictly prevent any kind of sexual harassment in the working place, the Shri. Sitarambhai Naranji Patel Institute of Technology Managed by Vidyabharti Trust Umrakh-Bardoli has constituted the Internal Complaint (Anti-Sexual Harassment) Committee chaired by a Senior Women Staff member. The key and primary targets of this committee are to ensure a harassment-free environment for all those women who are studying or working in the Institute, and to timely address any complaint pertaining to sexual harassment.

#### **The key objectives of the Internal Complaint (Anti-Sexual Harassment) Committee:**

- To make an environment free of gender-based discrimination.
- To create a secure environment which will deter acts of sexual harassment.
- To promote an environment that will raise awareness about sexual harassment.
- To ensure that the complaints related to sexual harassment are addressed in timely manner

The Anti-Sexual Harassment Committee has been formulated with following members:

**Table 10.1.3.3.(1) Composition of Internal Complaint (Anti-Sexual Harassment) Committee**

<b>Sr. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Contact Detail</b>
<b>1</b>	Dr. Miral R. Thakker	Chairperson	8141361235 Miral.thakker@snpitrc.ac.in
<b>2</b>	Prof. Bankim R. Joshi	Member- Senior Faculty Member	9998961211 Bankim.joshi@snpitrc.ac.in
<b>3</b>	Dr. Mansi N. Zaveri	Member- Senior Faculty Member	9925445089 Mansi.zaveri@snpitrc.ac.in
<b>4</b>	Mr. Mayur R. Parmar	Member- Non-Teaching Staff Member	9998375557 Mayur.parmar@snpitrc.ac.in

5	Mrs. Bijal N. Vyas	Member- Non-Teaching Staff Member	9429446986 bijal.vyas@snpitrc.ac.in
6	Mr. Harsh Panchal	Member- Student	7433007752 harshpanchal4640@gmail.com
7	Mr. Shivkumar Patel	Member- Student	9724727455 shivp8742@gmail.com
8	Ms. Jayda Patel	Member- Student	9624020677 Pateljayda1999@gmail.com

#### 10.1.3.4. COMMITTEE FOR SC/ST

**Table 10.1.3.4.(1) Composition of the committee for SC/ST**

Sr. No.	Name	Designation	Contact Detail
1	Dr. Piyush S. Jain	Chairman	9925897065 Piyush.jain@snpitrc.ac.in
2	Prof. Manish N. Parmar	Member-SC	8866865096 Manish.parmar@snpitrc.ac.in
3	Prof. Jignesh A. Parmar	Member-SC	9904673347 jignesh.parmar@snpitrc.ac.in
4	Ms. Falguniben Rathod	Member-ST	9574595575 falguni.rathod@snpitrc.ac.in
5	Prof. Vishakha H. Parmar	Member-SC	7698258940 vishakha.parmar@snpitrc.ac.in

#### **Functions:**

- To uplift of the students and staff belonging to the SC/ST categories.
- To keep watch on any activities related to discrimination on the basis of caste at the institute premises.

#### **10.1.5 TRANSPARENCY AND AVAILABILITY OF CORRECT/UNAMBIGUOUS INFORMATION IN PUBLIC DOMAIN (5)**

*(Instruction: Availability and dissemination of information through the Internet. Information to be provided in accordance with the Right to Information Act, 2005).*

##### **A) Information regarding policies, rules, processes etc.**

The website (<http://www.snpitrc.ac.in>) hosted by the institute contains information regarding institute policies, various rules and regulation for student and faculties, various academic and non-academic processes, institute committees, institute facilities, and other information of the institute. The same will be assessed by all stake holder which prove its transparency and it will be disseminate to all concern.

##### **B) Dissemination of Information**



Apart from above document following information are also available on institute website.

- Approval letters from governing agency (like AICTE, GTU).
- Audited financial statements of institute
- Both academic and administrative instructions are declared in a systematic way through notice boards, circulations, emails, course website and social messaging applications.
- All staff and students are made aware of the rules, regulations and various policies from time to time.
- All the decisions are taken by the IDC, academic administration & audit committee, IIC, IQAC are informed to all the staff in meetings.
- All the information related to course such as academic calendar, syllabus, academic lesson plans, course time table, lecture notes, course topic related useful links, sessional examination results, student of the month, attendance records, previous year question papers and course coordinator/faculty details etc. through Institute websites. Institute websites: <https://snpitrc.ac.in>

## 10.2 BUDGET ALLOCATION, UTILIZATION, AND PUBLIC ACCOUNTING AT INSTITUTE LEVEL (30)

Summary of current financial year's budget and actual expenditure incurred (forth institution exclusively) in the three previous financial years.

Total Income at Institute level: for CFY, CFYm1, CFYm2, CFYm3 & CFYm4

CFY: Current Financial Year, CFYm1: Current Financial Year minus 1, CFYm2: Current Financial Year minus 2, CFYm3: Current Financial Year minus 3, CFYm4: Current Financial Year minus 4

Budget allocation and utilization: The details of budget allocation in terms of income earned and expenditure incurred for the last four consequent previous years are given below.

**Table 10.2 (1) Institute income & expenditure for CFY 2022-23**

Total Income: Rs.81712085				Actual expenditure Rs. 106195162 (Till :31-03-2023)			Total No. of students: 1807
Fee	Govt.	Grants	Other sources (Advertisement, Stationary etc.,)	Recurring including salaries	Non- recurring	Special projects (land, building, any other)	Expenditure per student
81712085	0	0	0	69625145	36570017	0	58768.76701

**Table 10.2 (2) Institute income & expenditure for CFYm1 2021-22**

Total Income: Rs. 107746391				Actual expenditure Rs. 136318702 (Till :31-03-2022)			Total No. of students: 2114
Fee	Govt.	Grants	Other sources (Advertisement, Stationary etc.,)	Recurring including salaries	Non- recurring	Special projects (land, building, any other)	Expenditure per student
107746391	0	0	0	76159961	60158741	0	64483.77578

**Table 10.2 (3) Institute income & expenditure for CFYm2 2020-21**

Total Income: Rs. 99509385				Actual expenditure Rs. 103210119 (Till :31-03-2021)			Total No. of students: 2009
Fee	Govt.	Grants	Other sources (Advertisement, Stationary etc.,)	Recurring including salaries	Non- recurring	Special projects (land, building, any other)	Expenditure per student
99509385	0	0	0	61101899	42108220	0	51373.87705

**Table 10.2 (4) Institute income & expenditure for CFYm3 2019-20**

Total Income: Rs. 104506237				Actual expenditure Rs. 146174753 (Till :31-03-2020)			Total No. of students: 1851
Fee	Govt.	Grants	Other sources (Advertisement, Stationary etc.,)	Recurring including salaries	Non- recurring	Special projects (land, building, any other)	Expenditure per student
104506237	0	0	0	78066922	68107831	0	78970.69314

**Table 10.2 (5) Institute income & expenditure for CFYm4 2018-19**

Total Income: Rs. 100779535				Actual expenditure Rs. 136071397 (Till :31-03-2019)			Total No. of students: 1743
Fee	Govt.	Grants	Other sources (Advertisement, Stationary etc.,)	Recurring including salaries	Non- recurring	Special projects (land, building, any other)	Expenditure per student
100779535	0	0	0	70066654	66004743	0	78067.35341

**Table 10.2 (6) Summary of current financial year's budget and actual expenditure incurred (forth institution exclusively) in the three previous financial years.**

Items	Budgeted in CFY 2022-23	Actual expenses in CFY 2022-23	Budgeted in CFY m1 2021-22	Actual expenses in CFY m1 2021-22	Budgeted in CFY m2 2020-21	Actual expenses in CFYm2 2020-21	Budgeted in CFYm3 2019-20	Actual Expenses in CFYm3 2019-20	Budgeted in CFYm3 2018-19	Actual Expenses in CFYm3 2018-19
<b>Infrastructure Built up</b>	200000	0	200000	0	200000	0	200000	0	200000	0
<b>Library</b>	150000	127253	150000	117837	150000	105218	150000	111378	150000	106608
<b>Laboratory Equipment</b>	1000000	0	1000000	0	1000000	0	1000000	297000	3000000	2800000
<b>Laboratory Consumables</b>	1000000	690519	5000000	5395235	1500000	3079896	1500000	994309	1500000	1487138
<b>Teaching &amp; Non-Teaching Staff Salary</b>	80000000	69625145	80000000	76159961	80000000	61101899	80000000	78066922	80000000	70066654

<b>Maintenance and spares</b>	1000000	651253	1000000	11801672	10000000	7075181	10000000	8750241	10000000	12481086
<b>Research</b>	2000000	1790705	500000	130899	1000000	0	1000000	1020472	1000000	625455
<b>Development (Campus)</b>	1000000	633443	6000000	6033625	4000000	4018382	3500000	3190892	3000000	653777
<b>Training &amp; Travel</b>	500000	128745	2000000	1838207	500000	335803	1000000	836119	4000000	3470807
<b>Miscellaneous expenses</b>	20000000	16229690	30000000	23109840	25000000	19676926	25000000	26136236	25000000	26178100
<b>Electricity Charges</b>	2000000	2274932	2000000	1413187	2000000	1997073	2000000	3086017	2000000	1612784
<b>Accommodation Charges</b>	15000000	13665864	10000000	9324720	3000000	4703841	25000000	23037792	20000000	15915441
<b>AMC Charges</b>	10000	5900	10000	5900	10000	5900	10000	5900	10000	5900
<b>Affiliation Charges</b>	400000	290000	700000	791335	400000	410000	700000	614400	700000	654100
<b>Examination Charges</b>	0	0	0	0	0	0	0	0	0	0
<b>Others, specify</b>	100000	81713	500000	196284	500000	700000	25000	27075	25000	13547
<b>Total</b>	124360000	106195162	139060000	136318702	129260000	103210119	151085000	146174753	150585000	136071397

### 10.2.1 ADEQUACY OF BUDGET ALLOCATION (10)

(The institution needs to justify that the budget allocated during assessment years was adequate)

Budget is prepared annually according to the needs and requirements of the institute taking into consideration the annual intake of students, laboratory, infrastructure requirements and other expenses. The HOD, librarian, cultural/sports/exam coordinators, office superintendents are asked to submit the requirements for chemicals, glassware, furniture, books, equipment etc. along with proposed expenditure. The purchase committee evaluates the requirements department wise and then it is forwarded to management through principal for approval. The department heads and others are consulted while preparing the final budget and about 5-10% rise in the budget is generally presented every year. Adequate budget is allocated and expenditure is monitored.

**Table 10.2.1 (1) Institute planned budget and expenditure**

Sr. No.	Assessment Year	Budget Allocated in (Rs.)	Actual Expenditure in (Rs.)	Adequate/ Non Adequate
1	CFYm4 (2018-19)	150585000	136071397	Adequate
2	CFYm3 (2019-20)	151085000	146174753	Adequate
3	CFYm2 (2020-21)	129260000	103210119	Adequate
4	CFYm1 (2021-22)	139060000	136318702	Adequate
5	CFY (2022-23)	124360000	106195162	Adequate

### 10.2.2. UTILIZATION OF ALLOCATED FUNDS (15)

(The institution needs to state how the budget was utilized during assessment years)

**Table 10.2.2 (1) Utilization of allocated funds**

Sr. No.	Assessment Year	Budget Allocated in (Rs.)	Actual Expenditure in (Rs.)	Percentage of Utilization
1	CFYm4 (2018-19)	150585000	136071397	90.36%
2	CFYm3 (2019-20)	151085000	146174753	96.75%
3	CFYm2 (2020-21)	129260000	103210119	79.84%
4	CFYm1 (2021-22)	139060000	136318702	98.02%
5	CFY (2022-23)	124360000	106195162	85.39%

### **10.2.3 AVAILABILITY OF THE AUDITED STATEMENTS ON THE INSTITUTE'S WEBSITE (5)**

*Needs to make audited statements available on its website*

Institutional audit report for the last three years is available on the institute's website with link <https://www.snpitrc.ac.in/AuditedStatement.aspx>



### 10.3. PROGRAM SPECIFIC BUDGET ALLOCATION, UTILIZATION (30)

Summary of current financial year's budget and actual expenditure incurred (forth institution exclusively) in the three previous financial years.

Total Income at Institute level: for CFY, CFYm1, CFYm2, CFYm3 & CFYm4

CFY: Current Financial Year, CFYm1: Current Financial Year minus 1, CFYm2: Current Financial Year minus 2, CFYm3: Current Financial Year minus 3, CFYm4: Current Financial Year minus 4

Program Specific Budget Allocation, Utilization: The details of budget allocation in terms of income earned and expenditure incurred for the last four consequent previous years are given below.

**Table 10.3 (1) Program Specific (Mechanical) Budget Allocation & Utilization for CFY 2022-23**

Total Budget:5230000		Actual Expenditure:4130851 (Till:31 -03 -2023)		Total No. of Students:295
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per Student
5230000	0	4130851	0	14002.88

**Table 10.3 (2) Program Specific (Mechanical) Budget Allocation & Utilization for CFYm1 2021-22**

Total Budget: 12820000		Actual Expenditure: 11424911 (Till:31 -03 -2022)		Total No. of Students:358
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per Student
12820000	0	11424911	0	31913.16

**Table 10.3 (3) Program Specific (Mechanical) Budget Allocation & Utilization for CFYm2 2020-21**

<b>Total Budget: 10150000</b>		<b>Actual Expenditure: 7954740 (Till: 31-03-2021)</b>		<b>Total No. of Students:378</b>
<b>Non Recurring</b>	<b>Recurring</b>	<b>Non Recurring</b>	<b>Recurring</b>	<b>Expenditure per Student</b>
<b>10150000</b>	<b>0</b>	<b>7954740</b>	<b>0</b>	<b>21044.30</b>

**Table 10.3 (4) Program Specific (Mechanical) Budget Allocation & Utilization for CFYm3 2019-20**

<b>Total Budget: 10200000</b>		<b>Actual Expenditure: 9796643 (Till: 31 -03-2020)</b>		<b>Total No. of Students:343</b>
<b>Non Recurring</b>	<b>Recurring</b>	<b>Non Recurring</b>	<b>Recurring</b>	<b>Expenditure per Student</b>
<b>10200000</b>	<b>0</b>	<b>9796643</b>	<b>0</b>	<b>28561.64</b>

**Table 10.3 (5) Program Specific (Mechanical) Budget Allocation & Utilization for CFYm4 2018-19**

<b>Total Budget: 10650000</b>		<b>Actual Expenditure: 10554253 (Till: 31-03-2019)</b>		<b>Total No. of Students:401</b>
<b>Non Recurring</b>	<b>Recurring</b>	<b>Non Recurring</b>	<b>Recurring</b>	<b>Expenditure per Student</b>
<b>10650000</b>	<b>0</b>	<b>10554253</b>	<b>0</b>	<b>26319.83</b>

**Table 10.3 (6) Summary of Program Specific (Mechanical) current financial year's budget and actual expenditure incurred (forth institution exclusively) in the three previous financial years.**

<b>Items</b>	<b>Budgeted in CFY 2022-23</b>	<b>Actual expenses in CFY 2022-23</b>	<b>Budgeted in CFYm1 2021-22</b>	<b>Actual expenses in CFYm1 2021-22</b>	<b>Budgeted in CFY m2 2020-21</b>	<b>Actual expenses in CFY m2 2020-21</b>	<b>Budgeted in CFYm3 2019-20</b>	<b>Actual Expenses in CFYm3 2019-20</b>	<b>Budgeted in CFYm4 2018-19</b>	<b>Actual Expenses in CFYm3 2018-19</b>
<b>Laboratory Equipment</b>	<b>170000</b>	<b>0</b>	<b>170000</b>	<b>0</b>	<b>170000</b>	<b>0</b>	<b>170000</b>	<b>0</b>	<b>170000</b>	<b>0</b>
<b>Software</b>	<b>10000</b>	<b>0</b>	<b>10000</b>	<b>0</b>	<b>10000</b>	<b>0</b>	<b>10000</b>	<b>0</b>	<b>10000</b>	<b>0</b>
<b>Laboratory Consumables</b>	<b>150000</b>	<b>49745</b>	<b>1000000</b>	<b>1125493</b>	<b>250000</b>	<b>489230</b>	<b>300000</b>	<b>212493</b>	<b>150000</b>	<b>136039</b>
<b>Maintenance and spares</b>	<b>200000</b>	<b>136763</b>	<b>2400000</b>	<b>2832401</b>	<b>2400000</b>	<b>1698043</b>	<b>2400000</b>	<b>2100058</b>	<b>2400000</b>	<b>2995461</b>
<b>Research</b>	<b>400000</b>	<b>376048</b>	<b>120000</b>	<b>31416</b>	<b>240000</b>	<b>0</b>	<b>240000</b>	<b>244913</b>	<b>240000</b>	<b>150109</b>
<b>Development(Campus)</b>	<b>200000</b>	<b>133023</b>	<b>1440000</b>	<b>1448070</b>	<b>960000</b>	<b>964412</b>	<b>840000</b>	<b>765814</b>	<b>720000</b>	<b>156906</b>
<b>Training &amp; Travel</b>	<b>100000</b>	<b>27036</b>	<b>480000</b>	<b>441170</b>	<b>120000</b>	<b>80593</b>	<b>240000</b>	<b>200669</b>	<b>960000</b>	<b>832994</b>
<b>Miscellaneous expenses</b>	<b>4000000</b>	<b>3408235</b>	<b>7200000</b>	<b>5546362</b>	<b>6000000</b>	<b>4722462</b>	<b>6000000</b>	<b>6272697</b>	<b>6000000</b>	<b>6282744</b>
<b>Total</b>	<b>5230000</b>	<b>4130851</b>	<b>12820000</b>	<b>11424911</b>	<b>10150000</b>	<b>7954740</b>	<b>10200000</b>	<b>9796643</b>	<b>10650000</b>	<b>10554253</b>

### 10.3.1 ADEQUACY OF BUDGET ALLOCATION (10)

(The institution needs to justify that the budget allocated during assessment years was adequate)

Budget is prepared annually according to the needs and requirements of the institute taking into consideration the annual intake of students, laboratory, infrastructure requirements and other expenses. The HOD, librarian, cultural/sports/exam coordinators, office superintendents are asked to submit the requirements for chemicals, glassware, furniture, books, equipment etc. along with proposed expenditure. The purchase committee evaluates the requirements department wise and then it is forwarded to management through principal for approval. The department heads and others are consulted while preparing the final budget and about 5-10% rise in the budget is generally presented every year. Adequate budget is allocated and expenditure is monitored.

**Table 10.3.1 (1) Program Specific planned budget and expenditure (Mechanical)**

Sr. No.	Assessment Year	Budget Allocated in (Rs.)	Actual Expenditure in (Rs.)	Adequate/ Non Adequate
1	CFYm4 (2018-19)	10650000	10554253	Adequate
2	CFYm3 (2019-20)	10200000	9796643	Adequate
3	CFYm2 (2020-21)	10150000	7954740	Adequate
4	CFYm1 (2021-22)	12820000	11424911	Adequate
5	CFY (2022-23)	5230000	4130851	Adequate

### 10.3.2. UTILIZATION OF ALLOCATED FUNDS (20)

(The institution needs to state how the budget was utilized during assessment years)

**Table 10.3.2 (1) Utilization of allocated funds (Mechanical)**

Sr. No.	Assessment Year	Budget Allocated in (Rs.)	Actual Expenditure in (Rs.)	Percentage of Utilization
1	CFYm4 (2018-19)	10650000	10554253	99.10%
2	CFYm3 (2019-20)	10200000	9796643	96.04%
3	CFYm2 (2020-21)	10150000	7954740	78.37%
4	CFYm1 (2021-22)	12820000	11424911	89.11%
5	CFY (2022-23)	5230000	4130851	78.98%

#### 10.4 Library and Internet (20)

*It is assumed that a zero-deficiency report was received by the Institution, Effective availability and utilization to be demonstrated.*

##### 10.4.1. Quality of learning resources (hard/soft) (10)

- The relevance of available learning resources including e-resources:
- Accessibility to Students:

The institute's library is spacious, ventilated and furnished with seating arrangement of 150 learners. It is enriched with good quality reference books, text books, peer reviewed journals, thesis and magazines covering all core subjects of pharmaceutical sciences as well as remedial subjects. Currently, Numbers of book titles 4440, Numbers of book volumes 19195, journals and magazine 55, post graduate thesis in soft and hard copies are available. Repository of question papers for midterm and end term examination is also maintained. The institute has adopted a book bank facility where 10 to 15 books are issued to each student before commencement of the new academic year. There is a separate area for e-library where 10 computers with LAN connection having 300 MBPS speed are available. The library has its own website where all the necessary information regarding learning resources is made available to students. The institute has also subscribed database 'DELNET' through which students can have easy access to e-learning resources as given below.

**Table 10.4.1. (1) Number of e-Journals**

Year	DELNET
2018-2019	780
2019-2020	800
2020-2021	830
2021-2022	860
2022-2023	911

**Table 10.4.1. (2) Number of Hard copies of Journals**

Year	National	International	Magazines
2018-2019	53	2	5
2019-2020	53	2	5
2020-2021	53	2	5
2021-2022	46	5	2
2022-2023	41	10	4

**Table 10.4.1.(3) Number of books (title and volume) available**

<b>Year</b>	<b>Number of new titles added</b>	<b>Number of new volumes added</b>
<b>2018-2019</b>	<b>25</b>	<b>88</b>
<b>2019-2020</b>	<b>17</b>	<b>44</b>
<b>2020-2021</b>	<b>1</b>	<b>1</b>
<b>2021-2022</b>	<b>23</b>	<b>142</b>
<b>2022-2023</b>	<b>47</b>	<b>62</b>

**10.4.2. Internet (10)**

*Name of the Internet provider Available bandwidth Wi-Fi availability Internet access in labs, classrooms, library and offices of all Departments Security arrangements*

**Table 10.4.2 (1) Details of internet facility**

<b>Facility</b>	<b>Specification</b>
<b>Name of the Internet provider</b>	<b>Smart link, Bardoli</b>
<b>Available bandwidth</b>	<b>300 Mbps</b>
<b>Wi -Fi availability</b>	<b>Yes, in all Classrooms, Laboratory and staff cabin of the college</b>
<b>Internet access in labs, classrooms, library and other offices</b>	<b>Yes, available through Wi-Fi/LAN</b>
<b>Security arrangements</b>	<b>Yes, SOHPOS-SG-310, Full Guard (SF-OS) Firewall with Universal threat Management (UTM) Internet traffic is filtered and logged Intrusion detection system (IDS)</b>

## **Declaration**

(The head of the institution needs to make a declaration as per the format given)

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self-Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA, in case any false statement/information is observed during pre-visit, visit, post visit and subsequent to grant of accreditation.

**Date: 30-09-2023**

**Place: Umrakh, Bardoli**

**Head of the Institute**  
Dr. Piyush Shantiswaroop Jain  
Principal

## ANNEXURE I:

### (A) PROGRAM OUTCOMES(POs)

**Engineering Graduates will be able to:**

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.



10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

**(B) PROGRAM SPECIFIC OUTCOMES (PSOs)**

1. Graduates would be able to understand and analyze mechanical systems in a discipline of thermal, fluid, energy design and production engineering.
2. Graduates would be able to analyze and solve complex industrial as well as research problem through an engineering concepts and various graphical, computational, experimental and mathematical tools.

