

JNTUA COLLEGE OF ENGINEERING, ANANTAPUR, ANDHRA PRADESH.

SELF ASSESSMENT REPORT (TIER - I) FOR Chemical Engineering

Part A : Institutional Information

1 Name and Address of the Institution

JNTUA COLLEGE OF ENGINEERING, ANANTAPUR, ANDHRA PRADESH.,
SIR MOKSHAGUNDAM VISVESWRAIAH.ROAD,

2 Name and Address of Affiliating University

NIL

3 Year of establishment of the Institution:

1946,2006

4 Type of the Institution:

<input type="radio"/> Institute of National Infortance	<input type="radio"/> Autonomous
<input type="radio"/> University	<input type="radio"/> Any other(please specify)
<input type="radio"/> Deemed University	

5 Ownership Status:

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

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

Name of Institutions	Year of Establishment	Programs of Study	Location

7 Details of all the programs being offered by the Institution under consideration:

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
B.Tech Chemical Engineering	UG	1989	1989	30	Yes	60	Granted accreditation for 3 years for the period (specify period)	2019	2022	Yes	4
M.Tech Nano Technology	PG	2012	2012	25	No	25	Eligible but not applied	--	--	No	2
M.Tech Environmental Engineering	PG	2016	2016	25	No	25	Eligible but not applied	--	--	No	2

8 Programs to be considered for Accreditation vide this application:

S No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Civil Engg.
2	Under Graduate	Engineering & Technology	Chemical Engineering

9 Total number of employees

A. Regular* Employees (Faculty and Staff):

Items	2021-22		2020-21		2019-20	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	31	34	33	33	30	30
Faculty in Engineering (Female)	20	20	17	17	17	17
Faculty in Maths, Science & Humanities teaching in engineering program (Male)	5	5	5	5	5	5
Faculty in Maths, Science & Humanities teaching in engineering program (Female)	7	7	7	7	7	7
Non-teaching staff (Male)	106	109	96	96	107	107
Non-teaching staff (Female)	23	23	21	21	19	19

B. Contractual* Employees (Faculty and Staff):

Items	2021-22		2020-21		2019-20	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	43	43	46	46	57	57
Faculty in Engineering (Female)	34	34	39	39	38	38
Faculty in Maths, Science & Humanities teaching in engineering Programs (Male)	6	6	6	6	8	8
Faculty in Maths, Science & Humanities teaching in engineering Programs (Female)	5	5	4	4	4	4
Non-teaching staff (Male)	65	65	64	64	62	62
Non-teaching staff (Female)	21	21	23	23	22	22

10 Total number of Engineering students:

Engineering and Technology- UG	<input checked="" type="checkbox"/> Shift1	<input type="checkbox"/> Shift2
Engineering and Technology- PG	<input checked="" type="checkbox"/> Shift1	<input type="checkbox"/> Shift2
Engineering and Technology- Polytechnic	<input type="checkbox"/> Shift1	<input type="checkbox"/> Shift2
MBA	<input type="checkbox"/> Shift1	<input type="checkbox"/> Shift2
MCA	<input checked="" type="checkbox"/> Shift1	<input type="checkbox"/> Shift2

Engineering and Technology- UG Shift-1

Course Name	2021-22	2020-21	2019-20
Total no. of Boys	199	211	233
Total no. of Girls	187	178	169
Total	386	389	402

Engineering and Technology- PG Shift-1

Course Name	2021-22	2020-21	2019-20
Total no. of Boys	163	290	248
Total no. of Girls	67	144	120
Total	230	434	368

Engineering and Technology- MCA Shift-1

Course Name	2021-22	2020-21	2019-20
Total no. of Boys	36	35	42
Total no. of Girls	30	31	30
Total	66	66	72

11 Vision of the Institution:

- Committed to expanding the horizon and inspiring young minds towards academic excellence.
- Aims at scaling new heights through advanced research and innovative techniques to keep pace with the ever changing needs of industry and society at large.

12 Mission of the Institution:

- To identify and implement proven, prevention-oriented, forward-looking solutions to critical scientific and technological problems.
 - To make technology a principal instrument of economic development of the country and to improve the quality of life of the people through technological education, innovation, research, training and consultancy.
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13 Contact Information of the Head of the Institution and NBA coordinator, if designated:

Head of the Institution	
Name	Prof. P. Sujatha
Designation	Principal
Mobile No.	9000551425
Email ID	principal.cea@jntua.ac.in

 NBA Coordinator, If Designated

Name	Dr. S. Sharada
Designation	Associate Professor & NBA Co
Mobile No.	9642853207
Email ID	sharadas.chemengg@jntua.ac.

PART B: Criteria Summary

Criteria No.	Criteria	Total Marks	Institute Marks
1	VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES	50	50.00
2	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	100	100.00
3	COURSE OUTCOMES AND PROGRAM OUTCOMES	175	175.00
4	STUDENTS' PERFORMANCE	100	87.26
5	FACULTY INFORMATION AND CONTRIBUTIONS	200	162.05
6	FACILITIES AND TECHNICAL SUPPORT	80	80.00
7	CONTINUOUS IMPROVEMENT	75	75.00
8	FIRST YEAR ACADEMICS	50	46.84
9	STUDENT SUPPORT SYSTEMS	50	50.00
10	GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES	120	120.00
	Total	1000	946

Part B : Criteria Summary

1 VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (50)

Total Marks 50.00

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

Total Marks 5.00

Institute Marks : 5.00

Vision of the institute	<ul style="list-style-type: none"> Committed to expanding the horizon and inspiring young minds towards academic excellence. Aims at scaling new heights through advanced research and innovative techniques to keep pace with the ever changing needs of industry and society at large. 										
Mission of the institute	<ul style="list-style-type: none"> To identify and implement proven, prevention-oriented, forward-looking solutions to critical scientific and technological problems. To make technology a principal instrument of economic development of the country and to improve the quality of life of the people through technological education, innovation, research, training and consultancy. 										
Vision of the Department	<p>i. To become a globally recognized Chemical Engineering program coupled with excellence in education, training, research and consultancy in Chemical Engineering and to serve as a valuable resource for industry and society.</p> <p>ii. Aims at scaling new heights in Chemical Engineering through advanced research and innovative technologies to keep pace with the changing needs of industry and society at large.</p>										
Mission of the Department	<table border="1"> <thead> <tr> <th data-bbox="546 849 657 927">Mission No.</th> <th data-bbox="657 849 1971 927">Mission Statements</th> </tr> </thead> <tbody> <tr> <td data-bbox="546 927 657 997">M1</td> <td data-bbox="657 927 1971 997">To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.</td> </tr> <tr> <td data-bbox="546 997 657 1036">M2</td> <td data-bbox="657 997 1971 1036">To develop infra-structure that promotes internationally recognized research, creativity and an entrepreneurial culture.</td> </tr> <tr> <td data-bbox="546 1036 657 1105">M3</td> <td data-bbox="657 1036 1971 1105">To foster ethical leadership and activities those support the administration, advancements, governance and regulation of chemical engineering education and the engineering profession.</td> </tr> <tr> <td data-bbox="546 1105 657 1175">M4</td> <td data-bbox="657 1105 1971 1175">To undertake collaborative projects/consultancy works which provide opportunities for long – term interaction with academia, industry and other research organizations.</td> </tr> </tbody> </table>	Mission No.	Mission Statements	M1	To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.	M2	To develop infra-structure that promotes internationally recognized research, creativity and an entrepreneurial culture.	M3	To foster ethical leadership and activities those support the administration, advancements, governance and regulation of chemical engineering education and the engineering profession.	M4	To undertake collaborative projects/consultancy works which provide opportunities for long – term interaction with academia, industry and other research organizations.
Mission No.	Mission Statements										
M1	To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.										
M2	To develop infra-structure that promotes internationally recognized research, creativity and an entrepreneurial culture.										
M3	To foster ethical leadership and activities those support the administration, advancements, governance and regulation of chemical engineering education and the engineering profession.										
M4	To undertake collaborative projects/consultancy works which provide opportunities for long – term interaction with academia, industry and other research organizations.										

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

Total Marks 5.00

Institute Marks : 5.00

PEO No.	Program Educational Objectives Statements
PEO1	To prepare the students for successful careers in industry and/or to excel in pursuit of higher studies.
PEO2	To provide students with the necessary Chemical Engineering skills required for the workforce including knowledge of Chemical and Allied Engineering techniques and the ability to utilize science, mathematics, and engineering principles to analyze and solve problems, which are more essential to societal needs.
PEO3	To provide students with professional skills necessary to be effective and succeed in the modern workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professionalism.

1.3 Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders (15)

Total Marks 15.00

A. Adequacy in respect of publication & dissemination

The Vision, Mission and PEOs are published and disseminated among stakeholders at different locations as listed below:

Table 1: Dissemination of Vision and Mission

S. No.	Location	Dissemination of Vision and Mission
1.	College Website	http://www.jntuacea.ac.in/vision.php (http://www.jntuacea.ac.in/vision.php)
2.	Department Website	https://www.jntuacea.ac.in/aboutchem.php (https://www.jntuacea.ac.in/aboutchem.php)
3.	Department Entrance	Display Boards
4.	HOD Room	Display Boards
5.	Notice Boards of the Department	Display Posters
6.	Department Corridor	Display Boards
7.	Department Seminar Hall	Display Boards
8.	Department Library	Display Posters
9.	Department Staff-room	Display Posters
10.	Department Labs	Display Boards
11.	Class Rooms	Display Boards
12.	Direct Communication	During workshops conducted, symposiums, newsletters and student induction programs at first year level etc.,

Process of dissemination among stakeholders:

The list of stakeholders of the program is as follows:

Table 2: Classification of Stakeholders

INTERNAL STAKE HOLDERS	
Description	Purpose
Board of Governors & Advisory board	i. The college was established with the objective of providing higher technical education to the people of the diocese and the surrounding regions.

Faculty	<p>i. Involve a vital role in working of the program.</p> <p>ii. Faculty consists of members of the department - teaching and non teaching staff - who are responsible for meeting the program. Outcomes and objectives during the teaching and learning process.</p>
Students	<p>i. Students feedback is considered to introduce innovative teaching and learning methodologies</p> <p>ii. Students input will help in the program to introduce the elective courses to meet current trends.</p> <p>iii. It is expected that students become technically qualified, knowledgeable, and productive engineers upon graduation.</p>
Parents	<p>i. Expects their wards to be successful in their professional career</p>
EXTERNAL STAKEHOLDER	
Description	Purpose
Employers	<p>i. Represents the major end users of our graduates.</p> <p>ii. The employers range from public to private sectors and from small to large firms, research organizations and industrial companies.</p>
Industry	<p>i. Gives inputs, which overcome the gap between program and industry.</p>
Alumni	<p>i. Focus group, because they are a measure of the long-term success of our program.</p> <p>ii. Alumni feedback helps students to know the recent trends in industry.</p> <p>iii. Recollect their existence during their program study and advise the Department with necessary inputs in point of student career.</p>

- The dissemination of Vision and Mission statements across all stakeholders (students, parents, alumni, senior faculty, employers belonging to Government, industry, are as follows.
- The Vision, Mission and PEO statements are published in the college website and departmental magazine, departmental webpage.
- They are also disseminated to Alumni through Alumni meets, Social networking (WhatsApp, LinkedIn and Facebook).
- They are also disseminated to Parents through parent meetings, Social networking (Whatsapp, LinkedIn and Facebook).
- They are also disseminated to Employers through placement cell, electronic mails.

Table 3: Dissemination process for internal stakeholders

S. No.	Stakeholders	Dissemination process
1.	Students	<ul style="list-style-type: none"> • Sharing information to engineering aspirants during the orientation program conducted at the time of inauguration of first year classes (Orientation Day). • Discussed during student Counseling • Distributed along with Syllabus books, course files and lab manuals • Sharing information through email and social media • Sharing information through website. • Publishing in prominent locations accessible to students such as corridors, laboratories, HOD chamber, faculty chambers and R&D laboratories. • Presentations during workshops, conferences, seminars organized for students.
2.	Faculty and support staff	<ul style="list-style-type: none"> • Sharing information through institute website. • Publishing in prominent locations such as corridors, laboratories, HOD chamber, faculty chambers and R&D laboratories. • Discussions during faculty meetings. • Presentations during workshops, conferences, seminars and other training programs organized for faculty and support staff.
3.	Board of Studies (BoS)	<ul style="list-style-type: none"> • Presentations during College Academic Council meeting, BOS meetings. • Sharing information through institute website.

Table 4: Dissemination process for external stakeholders

S. No.	Stakeholders	Dissemination process
1.	Parents	<ul style="list-style-type: none"> • Sharing information during the orientation program conducted at the time of inauguration of first year classes. • Sharing information through institute website. • Through the published booklet by circulation
2.	Alumni	<ul style="list-style-type: none"> • Sharing information through institute website. • Discussions during alumni meet and visit to the department. • Through the published booklet by circulation
3.	Employers/Industry	<ul style="list-style-type: none"> • Presentations during the visit to the department. • Discussions during Industry Institute interaction. • Presentations during workshops, conferences, seminars and training programs by industry experts. • Sharing information through institute website. • Through the published booklet by circulation

Extent of awareness of Vision, Mission & PEOs among the stakeholder:

- Every faculty and students in the department are aware of the vision, mission statements and PEO's of the department.
- The vision and mission statements are displayed in every class room and in every faculty room.

- These vision, mission statements and PEO's are properly disseminated in every notice board of the department.

1.4 State the process for defining the Vision and Mission of the Department, and PEOs of the program (15)

Total Marks 15.00

Description of process involved for defining the Vision, Mission of the Department

The vision and mission are established through a consultation process involving the stake holders such as: Students, members of professional bodies, faculty members. The below flow chart (Fig 1) and Table 5 indicates the process for defining the vision and mission of the department.

Table 5: Steps to define Vision and Mission of the department

Step 1:	Program coordinator consults various stake holders and after collecting their views about the vision and mission of the department and submits the proposal to the program evaluation committee.
Step 2:	The program evaluation committee summarizes the collected views and formulates the accepted views based on which the vision and mission are to be established. The final recommendations of the BOS are submitted to the institute Senate.
Step 3:	The Senate after deliberations approved the recommendations of the BOS and hence the vision and mission of the department are established.

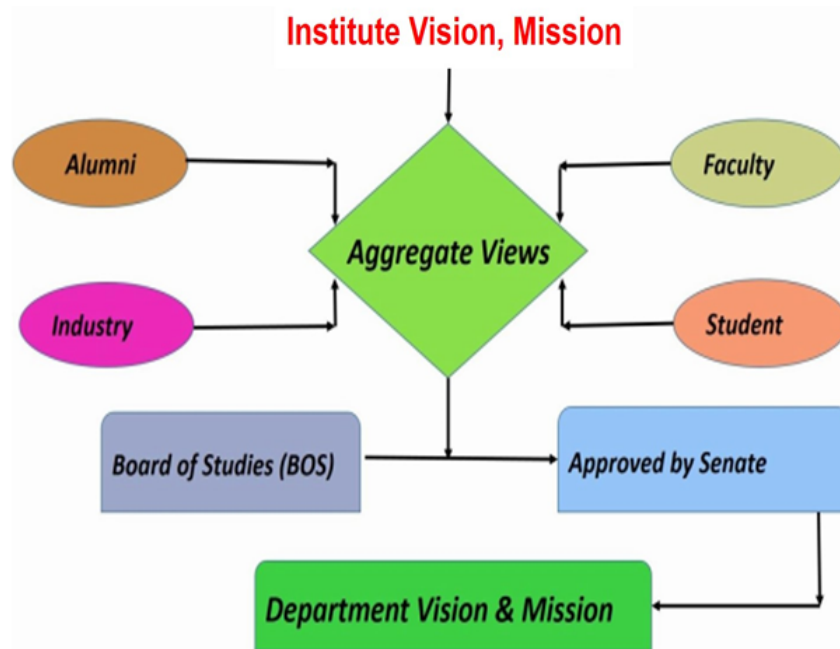


Fig1. Process to define Vision and Mission of the department

Description of process involved for defining the PEOs of the program:

The Program Educational Objectives (PEOs) are established through a consultation process involving the stake holders such as: Students, members of alumni/professional bodies, faculty members. The below flow chart (Fig 2 and Table 6) indicates the process for defining the vision and mission of the department.

Table 6: Steps to define PEOs

Step 1:	The vision and the mission of the department and the graduate attributes of NBA are kept in view and taken as basis to interact with the stake holders for framing PEOs.
Step 2:	Programme coordinator consults various stake holders and after collecting their views submits the proposal to the programme evaluation committee.
Step 3:	The programme evaluation committee summarizes the collected views and formulates the accepted views based on which PEOs are to be established.
Step 4:	The BOS after deliberations approves the recommendations of the PEOs and hence the PEOs are established.

The process followed for defining the Vision, Mission and PEO's of the department as shown in below flowchart:

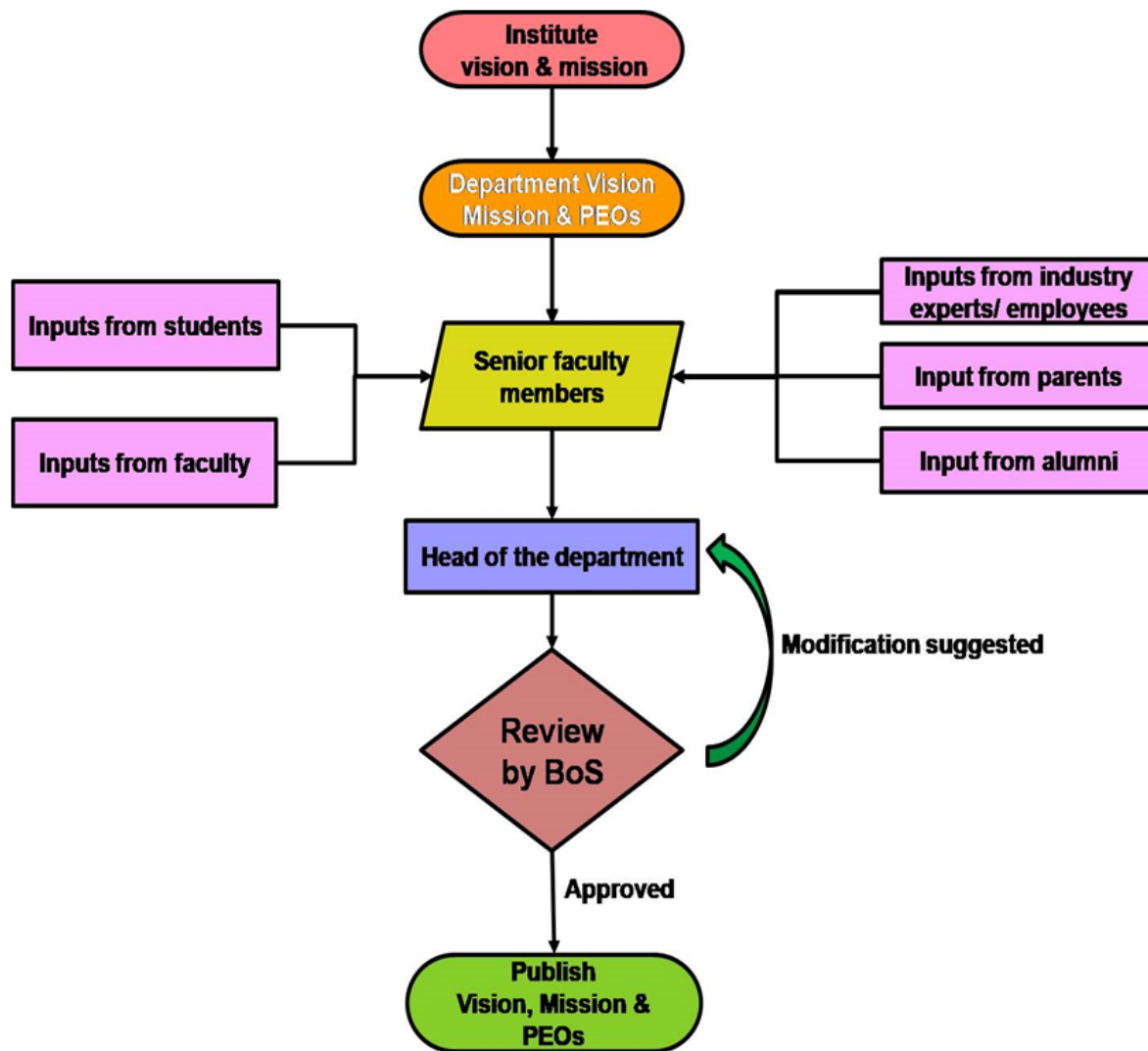


Fig 2. Process for establishing Vision, Mission and PEOs

- Vision and mission of department are framed by considering vision and mission of the institute.
- The vision and mission statements of the department are established through a thorough consultation process by involving the stakeholders of the department.

Stake holders include:

- **Senior Faculty members:** Formulation and consolidation of the views and ideas expressed by the experts and other stakeholders.
- **Employers (Industrial/Government sector):** To identify the gap between industry and academics based on the curriculum.
- **Alumni:** To identify the gap between academics and needs.
- **Parents:** Expectations of the wards about employment, quality of education and personality development.

- **Students:** Demands on the basis of participation in various national and state level technical programs and other competitive exams conducted by the state government, central government and other private agencies etc.,
- The department coordinator and various committee members discuss the key constituents, collect the information from various stake holders and their views are submitted to the senior faculty members
- The senior faculty members summarize the collected views and review the PEOs by considering Mission and Vision of the department, data collected from the stakeholders, current status of the department like Student admissions, Quality of the students, Teaching & Learning Process, Faculty strength etc.), data collected from identified industries and forward the same to the Head of the Department.
- The Head of the Department deliberate the views expressed by all the stake holders in the BOS meeting. Finally, all statements were reviewed and approved by BOS.
- The finalized Vision, Mission and PEOs are published and disseminated among the stakeholders to help the stakeholders to know about the career accomplishments of the Programme Outcomes (PO's).

1.5 Establish consistency of PEOs with Mission of the Department (10)

Total Marks 10.00

The Department of Chemical Engineering has 4 missions and are stated below:

M1: To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.

M2: To develop infra-structure that promotes internationally recognized research, creativity and an entrepreneurial culture.

M3: To foster ethical leadership and activities those support the administration, advancements, governance and regulation of chemical engineering education and the engineering profession.

M4: To undertake collaborative projects/consultancy works which provide opportunities for long – term interaction with academia, industry and other research organizations.

A. Consistency/justification of co-relation parameters of the above matrix (5)

PEO 1 is strongly mapped with the mission statement 1&4 because the attainment of this PEO will able to strengthen their employability skills and research proficiency thereby enhancing the technical skills that leads to improved proficiency to make them confident to face and overcome challenges posed by industry and society. Further it is moderately mapped with mission statement 2 & 3.

PEO 2 is strongly mapped with the mission statement 1&2 because by accomplishment of this PEO which establish that graduates have strong foundation knowledge in Chemical Engineering and related domain skills. Further it is moderately mapped with mission statement 4 and weakly mapped with the mission statement 3.

PEO 3 is strongly mapped with the mission statement 1&3 because This will enable them to take up higher education and professional roles of increasing responsibility and make tangible contributions to their growth as engineers. Further moderately mapped with mission statement 2 and weakly mapped with 4

Table 8: Important key components of Department Mission statement mapped with PEOs

Key components from the Department Mission	PEO1	PEO2	PEO3
Quality Education	Y	Y	
Innovation in Education	Y	Y	Y
Research and Education	Y	Y	Y
Consultancy		Y	Y
Contribution to Society	Y	Y	Y
Professional Ethics	Y		Y

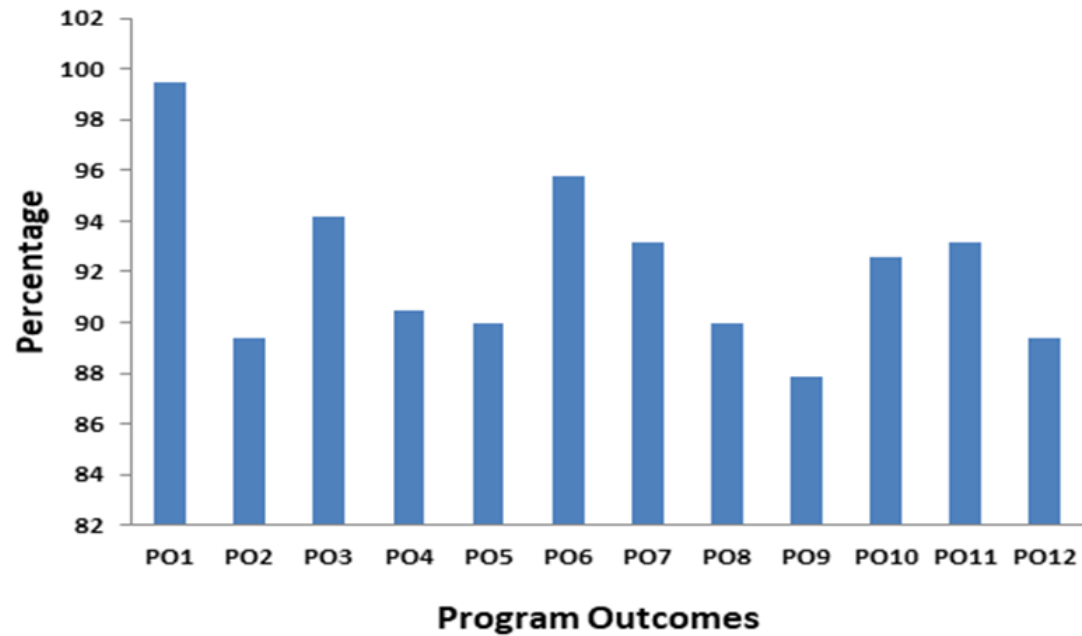
Batch 2017-2021

Academic year: 2020-2021:

Graduate Exit Survey:

POS	No. of Students	Highly Satisfied	Moderately Satisfied	Satisfied	Total	Percentage	>70 Attained
PO1	63	58	6	1	2.984127	99.4709	Attained
PO2	63	44	16	4	2.68254	89.41799	Attained
PO3	63	51	11	2	2.825397	94.17989	Attained
PO4	63	44	18	2	2.714286	90.47619	Attained
PO5	63	44	17	3	2.698413	89.94709	Attained
PO6	63	51	13	1	2.873016	95.7672	Attained
PO7	63	48	15	1	2.793651	93.12169	Attained
PO8	63	44	17	3	2.698413	89.94709	Attained
PO9	63	45	12	6	2.634921	87.83069	Attained
PO10	63	48	15	0	2.777778	92.59259	Attained
PO11	63	51	10	2	2.793651	93.12169	Attained
PO12	63	42	20	2	2.68254	89.41799	Attained

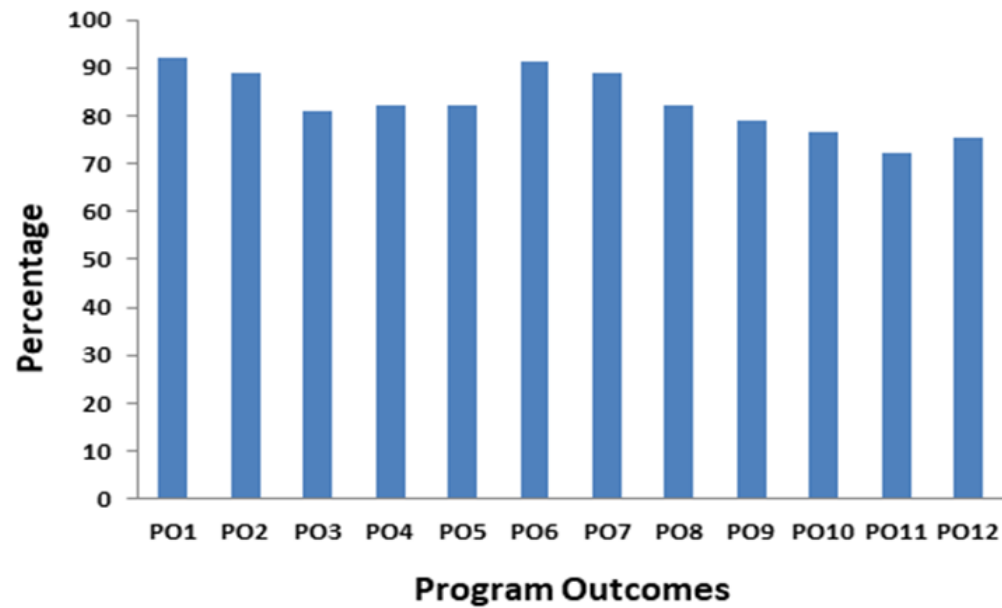
POs Attainment



Alumni Survey:

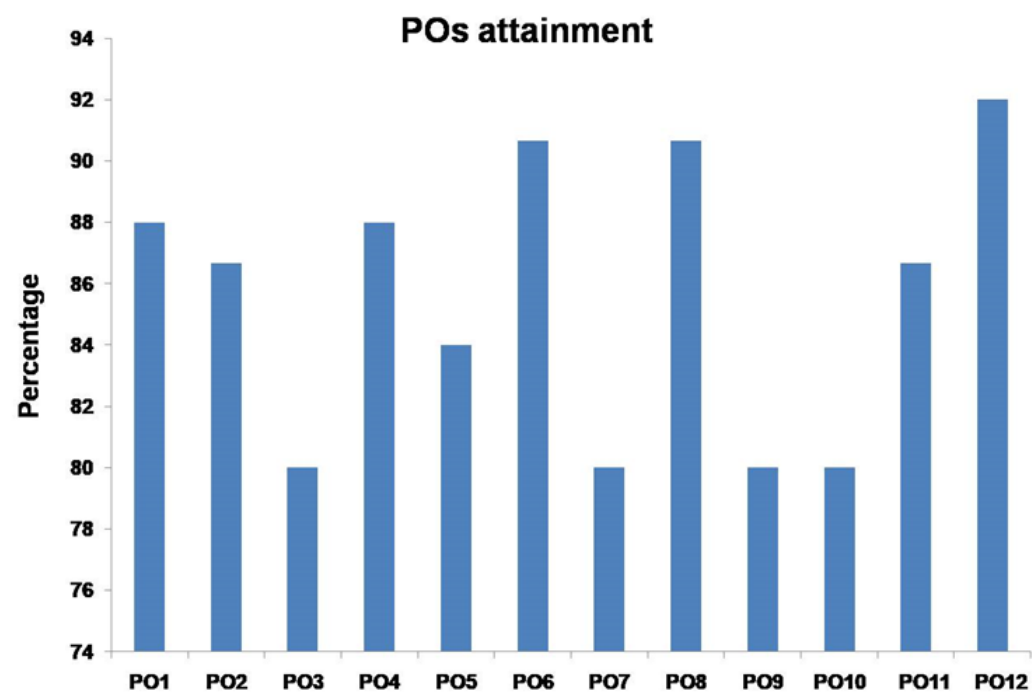
POS	No. of Students	Highly Satisfied	Moderately Satisfied	Satisfied	Total	Percentage	>70 Attained
PO1	30	24	5	1	2.766667	92.22222	Attained
PO2	30	21	8	1	2.666667	88.88889	Attained
PO3	30	17	9	4	2.433333	81.11111	Attained
PO4	30	17	10	3	2.466667	82.22222	Attained
PO5	30	17	10	3	2.466667	82.22222	Attained
PO6	30	22	8	0	2.733333	91.11111	Attained
PO7	30	21	8	1	2.666667	88.88889	Attained
PO8	30	16	12	2	2.466667	82.22222	Attained
PO9	30	17	7	6	2.366667	78.88889	Attained
PO10	30	15	9	6	2.3	76.66667	Attained
PO11	30	12	11	7	2.166667	72.22222	Attained
PO12	30	15	8	7	2.266667	75.55556	Attained

POs Attainment



Employers Survey

POS	Highly satisfied	Moderately satisfied	Satisfied	Total number of Employees	Total	Percentage	20% PO	>70 Attained
PO1	18	5	2	25	2.64	88.00	17.60	Attained
PO2	17	6	2	25	2.6	86.67	17.33	Attained
PO3	14	7	4	25	2.4	80.00	16.00	Attained
PO4	19	3	3	25	2.64	88.00	17.60	Attained
PO5	16	6	3	25	2.52	84.00	16.80	Attained
PO6	19	5	1	25	2.72	90.67	18.13	Attained
PO7	15	5	5	25	2.4	80.00	16.00	Attained
PO8	20	3	2	25	2.72	90.67	18.13	Attained
PO9	14	7	4	25	2.4	80.00	16.00	Attained
PO10	16	3	6	25	2.4	80.00	16.00	Attained
PO11	18	4	3	25	2.6	86.67	17.33	Attained
PO12	20	4	1	25	2.76	92.00	18.40	Attained

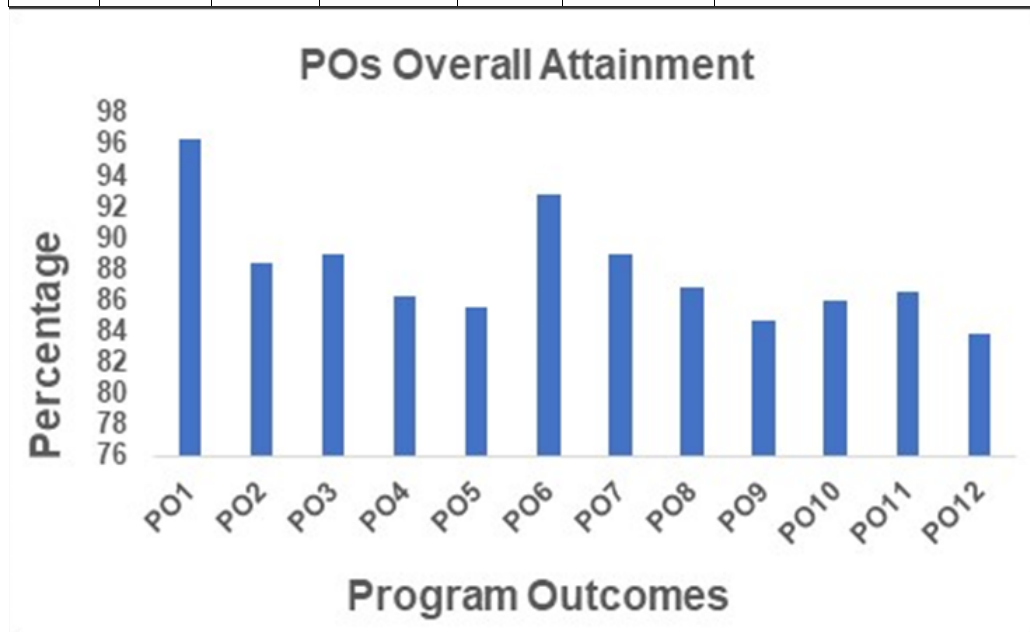


Program Outcomes

POS Overall Analysis:

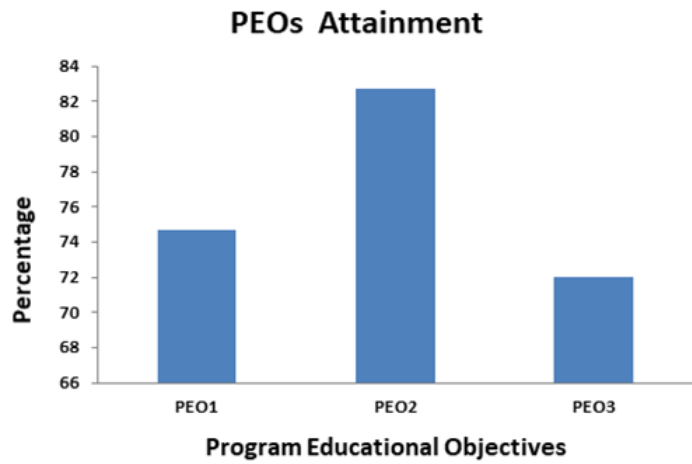
POS	Graduate Exit (60%)	Alumni (20%)	Employer (20%)	Total	PO(above>70 Attained)
PO1	59.683	18.444	18.222	96.35	Attained
PO2	53.651	17.778	16.888	88.32	Attained
PO3	56.508	16.222	16.222	88.95	Attained
PO4	54.286	16.444	15.556	86.29	Attained
PO5	53.968	16.444	15.112	85.52	Attained
PO6	57.460	18.222	17.112	92.79	Attained
PO7	55.873	17.778	15.334	88.98	Attained
PO8	53.968	16.444	16.444	86.86	Attained
PO9	52.698	15.778	16.222	84.70	Attained
PO10	55.556	15.333	15.112	86.00	Attained

PO11	55.873	14.444	16.222	86.54	Attained
PO12	53.651	15.111	15.112	83.87	Attained



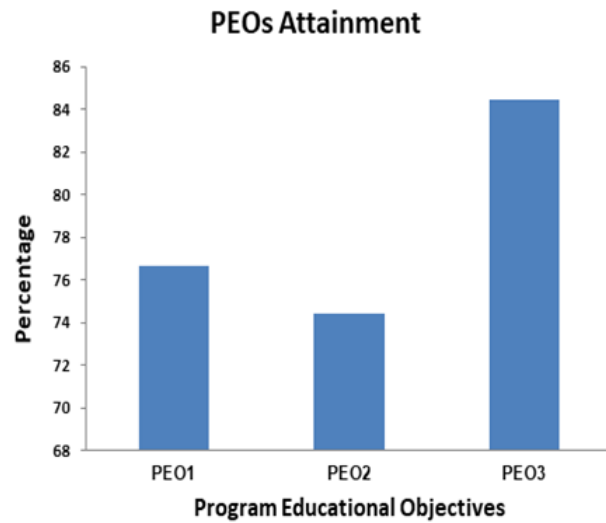
Graduate Exit Survey (PEO):

PEOs	No. of Students	Highly satisfied	Moderately satisfied	Satisfied	Total	%	>70 Attained
PEO1	63	39	16	8	2.24	74.67	Attained
PEO2	63	42	12	9	2.48	82.67	Attained
PEO3	63	45	9	9	2.16	72	Attained



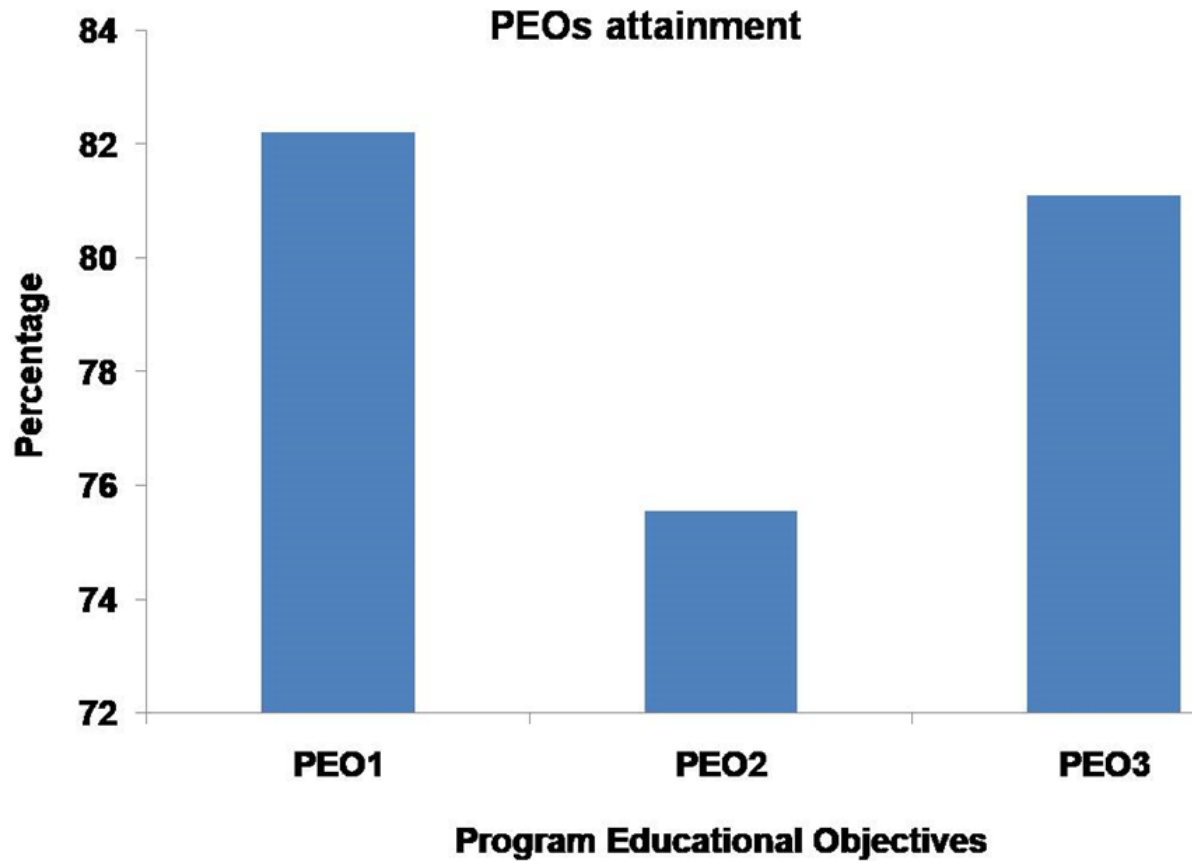
Alumni Survey (PEO):

PEOs	No. of Students	Highly satisfied	Moderately satisfied	Satisfied	Total	%	>70 Attained
PEO1	30	15	9	6	2.3	76.66667	Attained
PEO2	30	12	13	5	2.233333	74.44444	Attained
PEO3	30	19	8	3	2.533333	84.44444	Attained



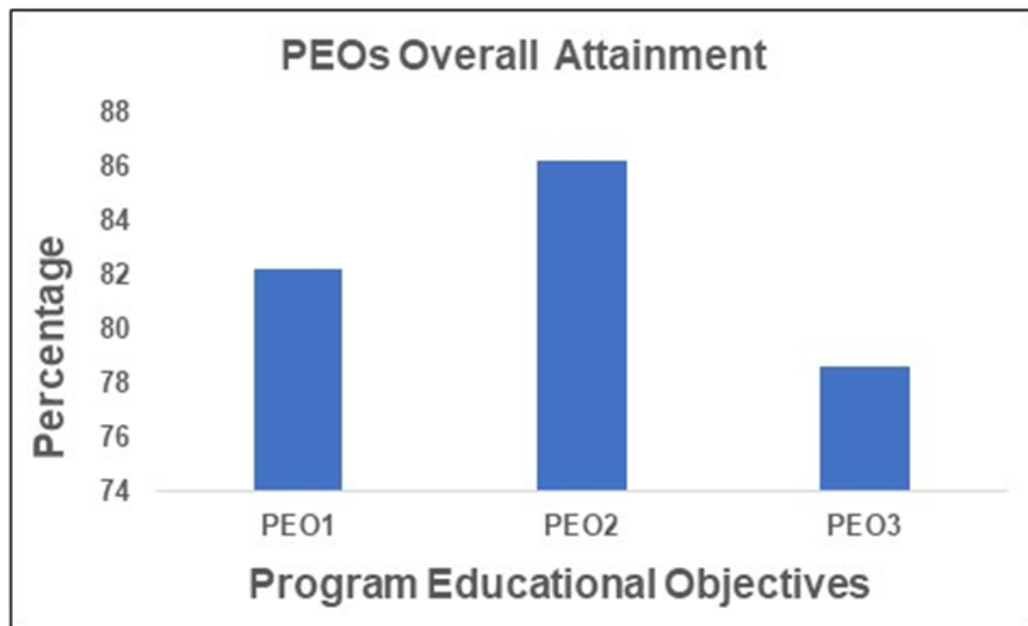
Employer Survey:

PEOS	Highly satisfied	Moderately satisfied	Satisfied	Total number of Employees	Total	%	>70 Attained
PEO1	18	8	4	30	2.47	82.22	Attained
PEO2	14	10	6	30	2.27	75.56	Attained
PEO3	16	11	3	30	2.43	81.11	Attained



PEOS Overall Analysis:

PEOS	Graduate Exit (40%)	Alumni (40%)	Employer (20%)	Total	>70 Attained
PEO1	29.868	33.6	18.75	82.218	Attained
PEO2	33.068	35.72	17.5	86.288	Attained
PEO3	28.8	33.552	16.25	78.602	Attained



PEO Statements	M1	M2	M3	M4
To prepare the students for successful careers in industry and/or to excel in pursuit of higher studies.	3	2	2	3
To provide students with the necessary Chemical Engineering skills required for the workforce including knowledge of Chemical and Allied Engineering techniques and the ability to utilize science, mathematics, and engineering principles to analyze and solve problems, which are more essential to societal needs.	3	3	1	2
To provide students with professional skills necessary to be effective and succeed in the modern workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professionalism.	3	2	3	1

2 PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES (100)

Total Marks 100.00

2.1 Program Curriculum (30)

Total Marks 30.00

2.1.1 State the process for designing the program curriculum (10)

Institute Marks : 10.00

Curriculum Design:

The department frames its program curriculum based on the vision and mission of the department. The curriculum is revised to help students to be industry ready. A brain storming session is held with stakeholders such as faculty of the department, alumni, industry, parents, etc., prior to the BOS meeting. The process flow for Curriculum Design is as follows:

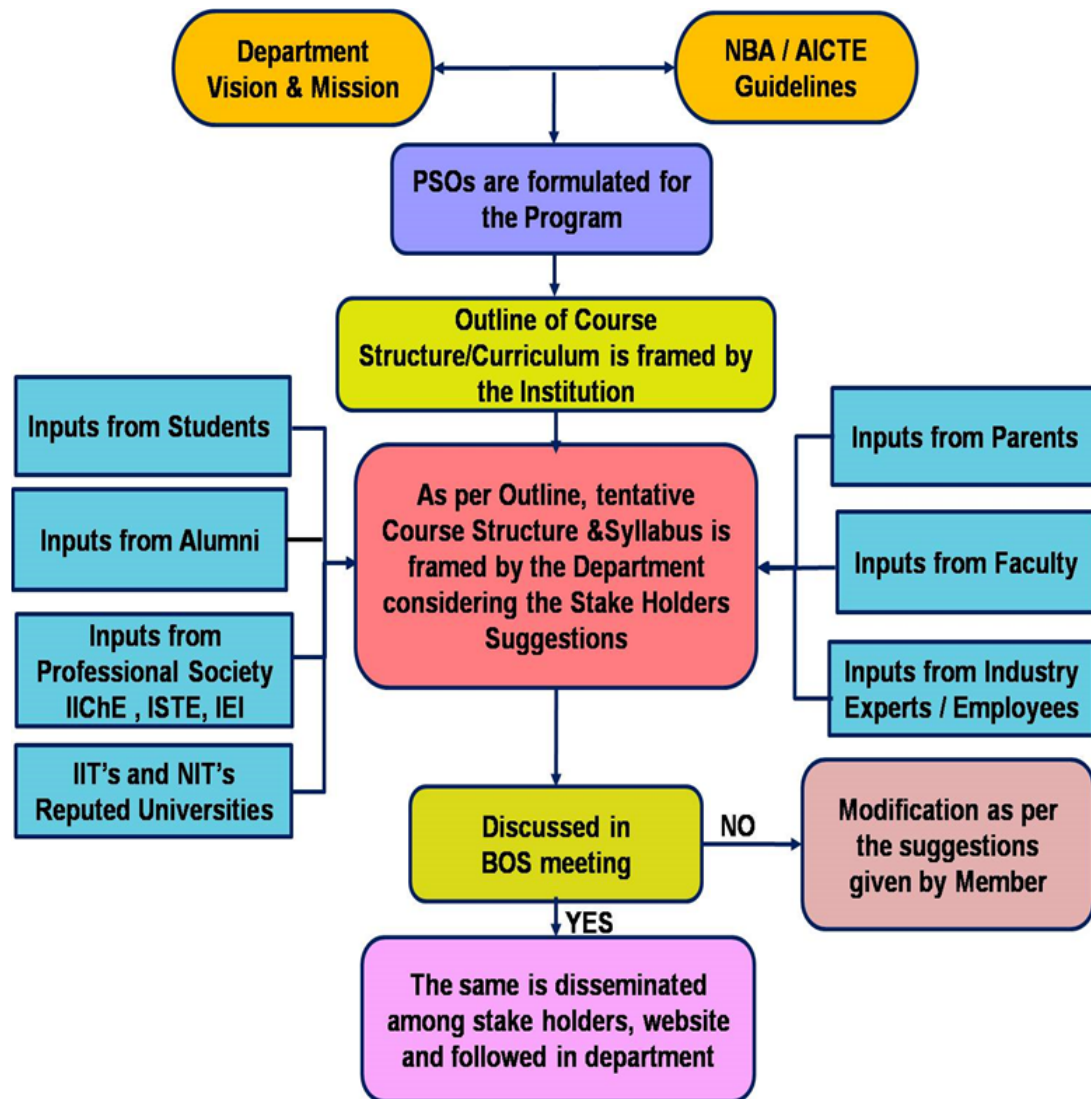


Fig1 Flow chart for Program Curriculum Design

Step 1: Based on Department mission and vision, and the NBA/AICTE guidelines the department formulates its PSOs.

Step 2: The HOD along with all faculty members frames the outline of the curriculum based on norms of AICTE, UGC and referring to the curriculum of premier institutions like IITs, NITs, etc.

Step 3: The course outcomes of all the courses of the curriculum are planned according to the POs and PSOs. Then, the tentative structures of various courses are framed.

Step 4: The feedback of the curriculum and syllabi is obtained from various stakeholders such as Industrial experts/Employees, Alumni and Parents.

Step 5: The feedback from the various stakeholders is accounted and incorporated where ever required by Head of the Department.

Step 6: The curriculum and syllabi are submitted to the Board of Studies (BOS) meeting. The modifications suggested by BOS members are incorporated in curriculum and forwarded to academic council.

Step 7: The approved curriculum and syllabi is disseminated among Stake holders, updated on college portal (Web site) and followed in the Department.

2.1.2 Structure of the Curriculum (5)

Institute Marks : 5.00

ID	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours			
							Theory Credits	Practical Credits	Total Credits
1	17A15501	English	3	0	0	3	3	0	3
2	17A15101	Mathematics -I	2	1	0	3	3	0	3
3	17A15302	Physical Chemistry	2	1	0	3	3	0	3
4	17A10101	Environmental Studies	3	0	0	3	3	0	3
5	17A10103	Engineering Mechanics& Strength of Materials	2	1	0	3	3	0	3
6	17A10501	Problem Solving & Computer Programming	3	0	0	3	3	0	3
7	17A15304	Physical Chemistry Lab	0	0	4	4	0	2	2
8	17A13501	Engineering Workshop & IT Workshop	0	0	4	4	0	2	2
9	17A15502	English Language Communication Skills Lab	0	0	4	4	0	2	2
10	17A25501	Technical Communication and Presentation Skills	3	0	0	3	3	0	3
11	17A25101	Mathematics -II	2	1	0	3	3	0	3
12	17A25201	Engineering Physics	2	1	0	3	3	0	3
13	17A20303	Engineering Drawing	1	0	4	5	0	3	3
14	17A22401	Elements of Electrical and Electronics Engineering	3	0	0	3	3	0	3
15	17A20801	Introduction to Chemical Engineering	3	0	0	3	3	0	3
16	17A25202	Engineering Physics Lab	0	0	4	4	0	2	2
17	17A20504	Computer Programming Lab	0	0	4	4	0	2	2
18	17A22402	Electrical and Electronics Engineering Lab	0	0	4	4	0	2	2
19	17A35102	Mathematical Methods	2	1	0	3	3	0	3
20	17A35301	Organic Chemistry	2	1	0	3	3	0	3
21	17A30801	Chemical Process Calculations	2	1	0	3	3	0	3
22	17A30802	Momentum Transfer	2	1	0	3	3	0	3

23	17A30803	Material science for Chemical Engineers	2	1	0	3	3	0	3
24	17A30804	Process instrumentation	2	1	0	3	3	0	3
25	17A30104	Organic Chemistry Lab	0	0	2	2	0	1	1
26	17A30805	Momentum Transfer Lab	0	0	2	2	0	1	1
27	17A35104	Exploratory Data Analysis	0	0	2	2	0	1	1
28	17A45402	Management Science	3	0	0	3	3	0	3
29	17A45102	Probability and Statistics	2	1	0	3	3	0	3
30	17A40801	Analytical Chemistry	2	0	0	2	2	0	2
31	17A40802	Process Heat Transfer	2	1	0	3	3	0	3
32	17A40803	Mechanical Operations	2	1	0	3	3	0	3
33	17A40804	Chemical Engineering Thermodynamics	2	1	0	3	3	0	3
34	17A40805	Mechanical Operations Lab	0	0	2	2	0	1	1
35	17A40806	Process Heat Transfer Lab	0	0	2	2	0	1	1
36	17A50801	Process Dynamics & Control	2	1	0	3	3	0	3
37	17A50802	Phase and Chemical Equilibria	2	1	0	3	3	0	3
38	17A50803	Chemical Reaction Engineering-I	2	1	0	3	3	0	3
39	17A50804	Mass Transfer Operations-I	2	1	0	3	3	0	3
40	17A50805	Chemical Technology	2	1	0	3	3	0	3
41	17A59901	Process Modeling & Simulation	2	1	0	3	3	0	3
42	17A50807	Process Dynamics & Control Lab	0	0	4	4	0	2	2
43	17A50808	Energy & Environmental Engineering Lab	0	0	2	2	0	1	1
44	17A60801	Mass Transfer Operations-II	2	1	0	3	3	0	3
45	17A60802	Chemical Reaction Engineering-II	2	1	0	3	3	0	3
46	17A60803	Chemical Plant Design and Economics	2	1	0	3	3	0	3

47	17A60804	Chemical Process Equipment Design	2	1	0	3	3	0	3
48	17A60805	Industrial Pollution Control Engineering	3	0	0	3	3	0	3
49	17A60806	Solid Waste management	3	0	0	3	3	0	3
50	17A65501	Advanced Communication Skills Lab	0	1	3	4	0	4	4
51	17A60807	Mass Transfer Operation Lab	0	0	2	2	0	1	1
52	17A60808	Chemical Reaction Engineering Lab	0	0	2	2	0	1	1
53	17A70801	Transport Phenomena	3	1	0	4	4	0	4
54	17A70802	Optimization of Chemical Processes	3	1	0	4	4	0	4
55	17A70803	Separation Processes	3	1	0	4	4	0	4
56	17A70804	Industrial Safety & Hazard Management	3	0	0	3	3	0	3
57	17A70805	Design & Analysis of Experiments	2	1	0	3	3	0	3
58	17A70806	Energy Engineering	3	0	0	3	3	0	3
59	17A70807	Process Equipment Design & Drawing Lab	0	0	4	4	0	2	2
60	17A70808	Process Simulation Lab	0	0	4	4	0	2	2
61	17A80801	Bio-Chemical Engineering	3	0	0	3	3	0	3
62	17A80802	Fluidization Engineering	3	0	0	3	3	0	3
63	17A80803	Corrosion Engineering	3	0	0	3	3	0	3
64	17A80804	Petroleum Refining & Petrochemicals	3	0	0	3	3	0	3
65	17A80805	Seminar	0	0	2	2	0	1	1
66	17A80806	Project Work	0	0	16	16	0	8	8
		Total	109	30	77	216	137	42	179

2.1.3 State the components of the curriculum (5)

Institute Marks : 5.00

Course Components	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
Basic Sciences	15.6	34.00	29
Engineering Sciences	10.27	22.00	19
Humanities and Social S	7.03	15.00	13
Program Core	41.62	90.00	77
Program Electives	6.49	14.00	12
Open Electives	3.24	7.00	6
Project(s)	4.32	9.00	8
Internships/Seminars	0.54	2.00	1
Any other (Please speci	10.89	23.00	14
Total number of Credits			179

2.1.4 State the process used to identify extent of compliance of the curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I (10)

Institute Marks : 10.00

The Department of Chemical Engineering has formed the Departmental Committee for guiding academic activities. The committee headed by Head of the Department consists of senior faculty members, industrial persons, alumni and current students. The board discusses curriculum, concept of outcome based education, programme outcomes (PO's), course delivery, evaluation process, mapping etc. For achieving excellence in teaching learning process were elaborately discussed. This process has helped to comply the broad curriculum for attaining the programme outcomes. Accordingly feedback, views, expectations were collected from various stakeholders. The process of establishing POs involve a brain storming session firstly in the department meetings of the faculty based on feedbacks sought from the various stake holders' thorough interactions / questionnaire / interviews / meetings. The department arrives at specific conclusions after a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis based on these interactions and consideration of requirements for developing an ideal student. The program outcomes and Program Specific Outcomes thus evolved, are put forth in the departmental meeting which reviews the POs. If the PO, PSO are attained as the evaluation is done then the PO and PSO are implemented for desired performance of the student. If the attainment is not accomplished then the POs, PSOs are reviewed and necessary measures are taken for curriculum modification as shown in Fig 2.

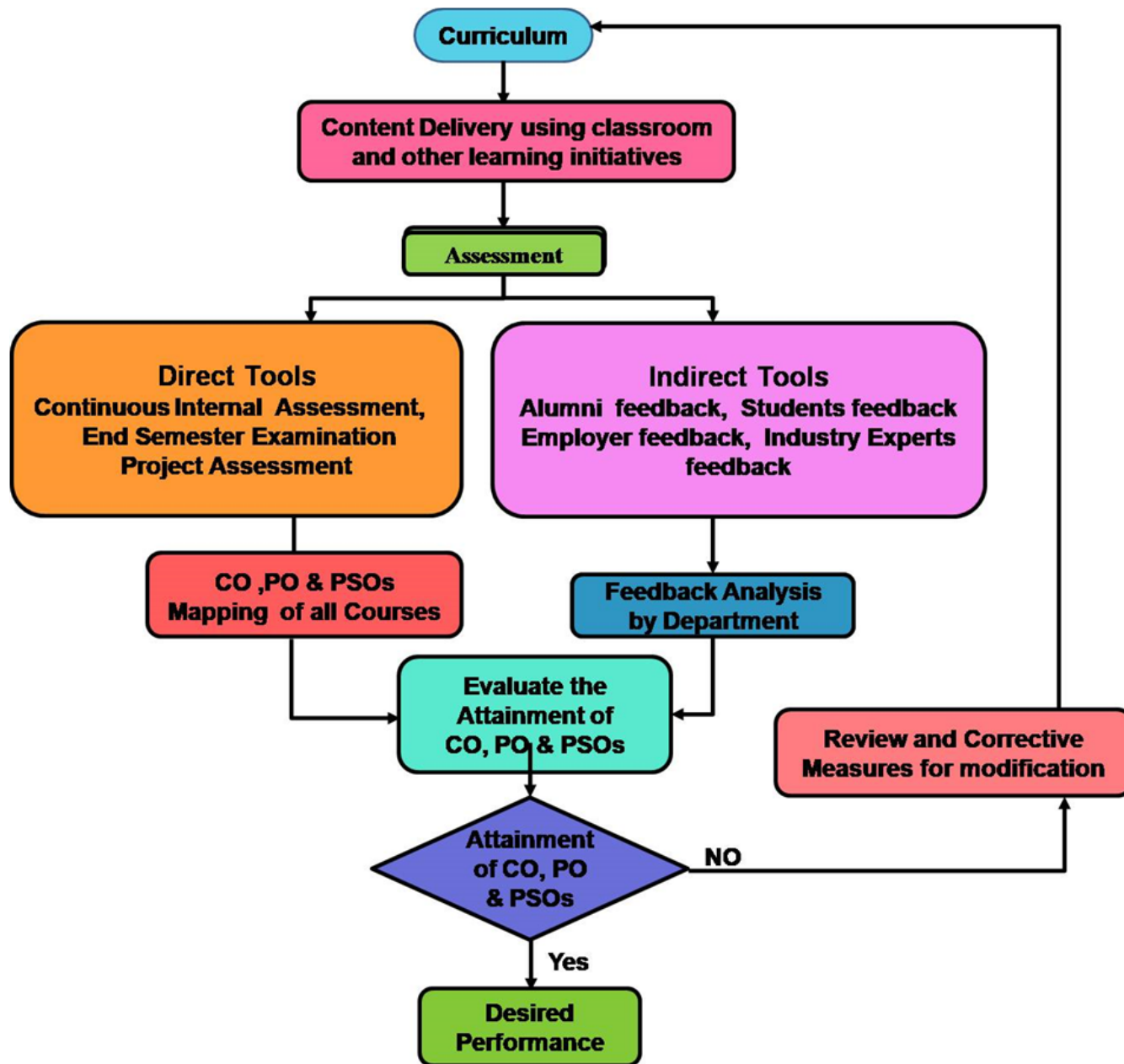


Fig2. Process to identify compliance of curriculum

Process to identify the extent of compliance of departmental curriculum for attainment of POs

- i. POs are stated clearly
- ii. Departmental curriculum is stated subject wise and the percentage of total credits for each subject is evaluated

- iii. The total number of contact hours for each subject in a semester is calculated
- iv. Course outcomes for each subject are defined.
- v. The POs are mapped with each course outcome.
- vi. The compliance is found out by checking whether each domain map with the relevant PO.

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.

Program Specific Outcomes (PSO)

PSO 1: Ability to model, simulate and optimize Chemical Engineering problems

PSO 2: Capability to design or develop effective and efficient chemical processes in incorporating economic, environmental, social, health, safety and sustainability aspects

PSO 3: Competence to practice or apply Chemical Engineering principles, communication and other skills in a wide range of industrial academic and professional employment areas.

- The feedback from the students play most significant role in the program and their feedback are considered for improving curriculum.
- The feedback from Industry play a vital role in framing the program curriculum and experts from industries are included as members of the Board of studies. The inputs from the experts are considered for designing the program curriculum and establishment of PEOs/POs.
- The feedback from alumni is a measure of long term success of the program. Their feedback helps in curriculum design to meet the current needs in Engineering and Technology and with respect to students' career.
- Parents are another important stakeholder for the academic Program and their feedback contributes to the improvement in attaining the POs and PSOs.
- The feedback from employers will help to enhance the program curriculum such that the POs are attained and it enables the students to face the challenges in recent trends.

a. Alumni Survey

- Measures the degree to which past students believe they achieved program level learning outcomes.

- Overall satisfaction with the program.
- Overall satisfaction with the program delivery.
- Information on current professional or academic status, typically collected every two to three years

b. Industry/Employers Survey

- Provides general information on current industry trends.
- Desirable graduate attributes.
- Overall perceptions of program quality, strengths and expectations of the graduates.

c. In Program (inhouse) Students Survey

- Measures the degree to which current students believe they are achieving Program-level learning outcomes.
- Overall satisfaction with the program till their current academic year

d. Exiting (outgoing) Students Survey

- Measures quality of the program and satisfaction with curriculum.
- An overall program delivery

The information obtained from all the surveys is analyzed to identify the gap in curriculum and measures are proposed to bridge the gap and the modified curriculum is implemented as shown in Fig 3.

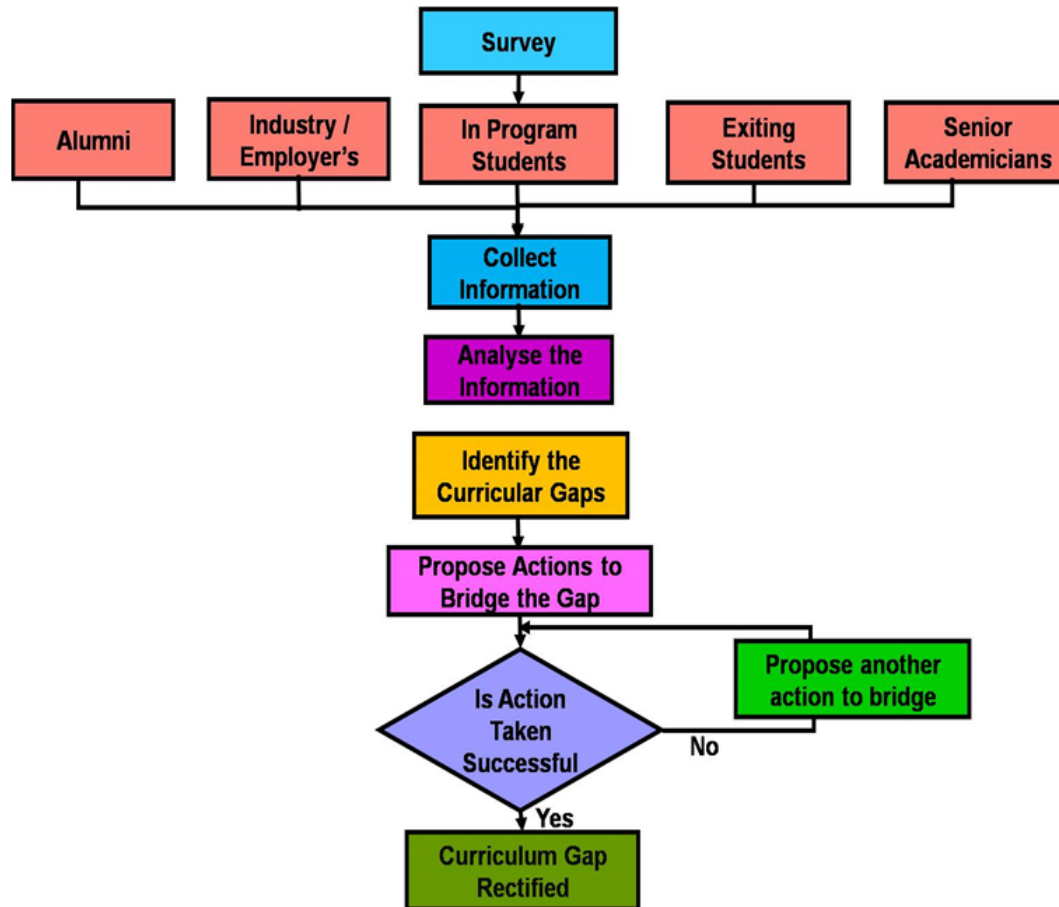


Fig 3.Process of Curriculum gap identification

A sample CO-PO attainment for R17 regulation of academic year 2020-2021 of the subject Corrosion Engineering is given below where 3 represents strong association, 2 represents medium association and 1 represents less association of COs with respective POs and PSOs. Further the mapping of Course Versus POs and PSO's is elaborately discussed in Table 3 of criterion 3.

Course Outcomes

CO1:Understand the electrochemical behavior of corroding systems

CO2:Classify various corrosion forms and the mechanisms involved

CO3:Apply the electrochemical aspects of combating eight forms of corrosion

CO4:Design of suitable materials & methods of combat corrosion

CO5:Evaluate the polarization behavior of corroding systems

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1	3	3	3	2	1	3	3	1	1	1	2	2	1	3	3
CO-2	2	3	3	2	1	3	3	1	1	1	1	2	0	3	3
CO-3	3	2	2	1	1	2	3	1	1	0	2	1	1	3	3
CO-4	3	3	2	2	1	3	2	1	0	1	1	1	0	3	3
CO-5	3	3	3	2	1	3	2	1	0	1	2	2	1	3	3

2.2 Teaching-Learning Processes (70)

Total Marks 70.00

2.2.1 Describe Processes followed to improve quality of Teaching & Learning (15)

Institute Marks : 15.00

There is a strong culture of excellence in the department and the department lays a strong emphasis on having a sound and constantly-improving teaching learning process. The department's greatest strength is the qualified and committed faculty. The commitment of the faculty towards the students, the department and the university is beyond mere professional duties. Many are strongly committed to serving society in their professional and personal capacities, in keeping with the Institute as well as department vision and mission. The 100% faculty retention (Table B.5.4) is reflective of this commitment. It is the competence and drive of the faculty members that ensures the constant improvement in the quality of the teaching learning process.

The department has maintained a suitable student faculty ratio of 22.32 (Table B.5.1) to enable faculty members to maintain high teaching standards. It enables the faculty members to implement various pedagogical initiatives, know students personally, and address their diverse needs. Teaching load is assigned to faculty members in compliance with AICTE norms, based on their interest and competence. Suitable concessions in the workload are made for faculty members who are pursuing their doctoral degrees, involved in research, and so on. Usually, the same courses are assigned to a faculty member for several semesters to enable faculty members to gain mastery on the course and progressively improve their delivery in each semester. Maintaining at least a 75% attendance is mandatory for all students to ensure that they actively participate in the learning process.

A. Adherence to Academic Calendar

- The Department follows the academic calendar provided by the academic section of Institute. It consists of duration of semester, commencement and end of the class work for the semester which includes internal test dates, laboratory and end examination schedules etc.
- Academic calendar is framed by the academic section headed by controller of examinations well before the commencement of the academic year. After the discussions, the College Academic Committee will approve the academic calendar. Then it is circulated to departments and uploaded in the college website.
- Subject allotment is done well in advance for the faculty members to prepare lesson plans, course plan and the lecture notes.

A sample copy of Academic Calendar of R19 regulation for II B.Tech for Academic Year 2019-20 is given below:

COLLEGE OF ENGINEERING (Autonomous) :: ANANTHAPURAMU

Academic Calendar for II B.Tech.

For the Academic Year 2019 - 20

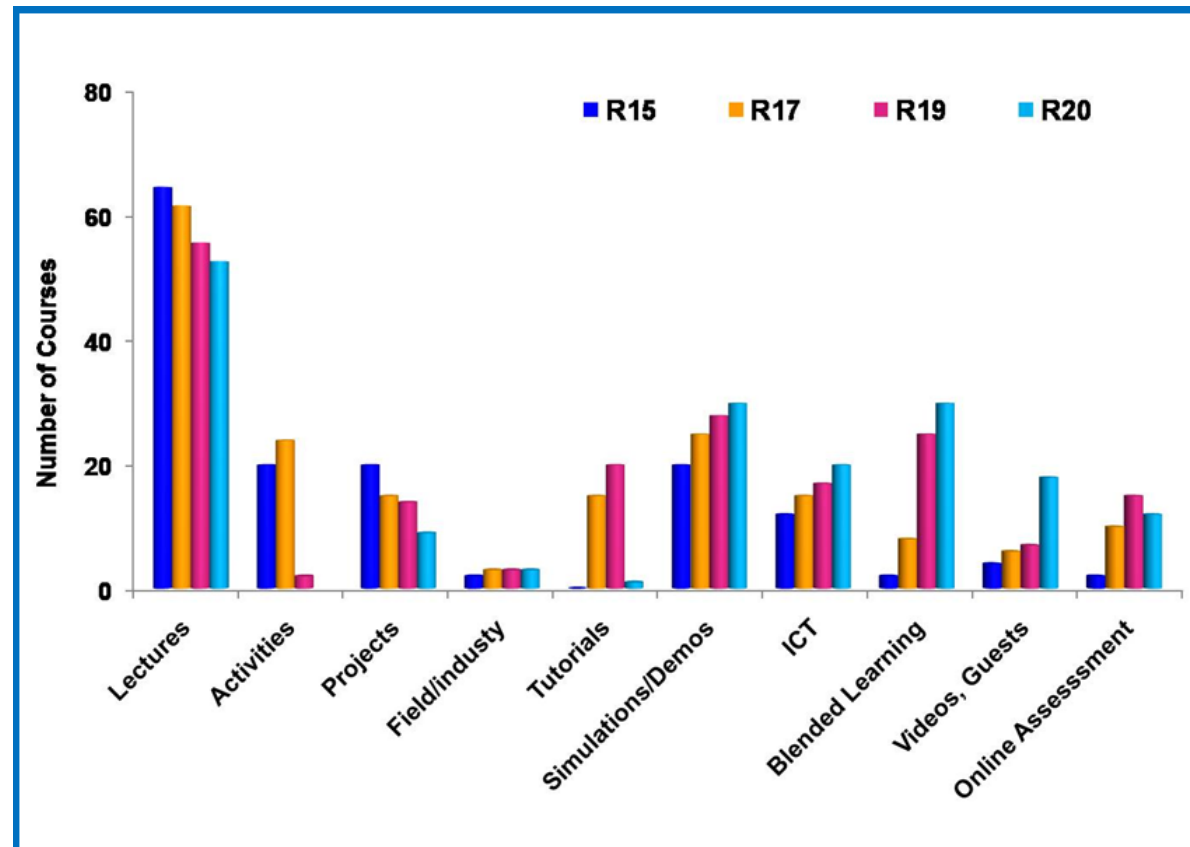
I Semester		No. of Weeks
Commencement of Class Work	29-07-2019	
1 st Spell of Instructions	29-07-2019 to 20-09-2019	08
1 st Mid Examinations	21-09-2019 to 24-09-2019	
2 nd Spell of Instructions	25-09-2019 to 05-10-2019	01
Dasara Recess	07-10-2019 to 12-10-2019	
2 nd Spell of Instructions (Continued)	14-10-2019 to 30-11-2019	07
2 nd Mid Examinations	02-12-2019 to 05-12-2019	
Preparation	06-12-2019 to 08-12-2019	
End Examinations	09-12-2019 to 21-12-2019	
Practical examinations	23-12-2019 to 31-12-2019	
Commencement of II Semester Class Work	01-01-2020	
II Semester		
Commencement of Class Work	01-01-2020	
1 st Spell of Instructions	01-01-2020 to 10-01-2020	01
Pongal Recess	11-01-2020 to 16-01-2020	
1 st Spell of Instructions (Continued)	17-01-2020 to 07-03-2020	07
1 st Mid Examinations	09-03-2020 to 12-03-2020	
2 nd Spell of Instructions	13-03-2020 to 09-05-2020	08
2 nd Mid Examinations	11-05-2020 to 14-05-2020	
preparation	15-05-2020 to 18-05-2020	
End Examinations	19-05-2020 to 30-05-2020	
Practical examinations	01-06-2020 to 09-06-2020	
Summer Vacation	10-06-2020 to 30-06-2020	
Commencement of Class Work for III B.Tech for the Academic year 2020 - 21	01-07-2020	

[Signature]
 PRINCIPAL 14/7/2019
 H

Copy to Vice -Principal
 Copy to all HOD's
 Copy to Notice Board (Academic Section)
 Copy to Placement Officer
 Copy to D.R (College & Hostel Office)
 Copy to file

B. Pedagogical initiatives

Good teaching may be defined as instruction that leads to effective learning, which in turn means thorough and lasting acquisition of the knowledge, skills, and values, the instructor or the institution, has set out to impart. In the sections that follow, we describe several strategies, known to be particularly effective and as implemented in the departmental teaching methodologies.



- E-learning facility using NPTEL based Lectures, MOOCS, ICT learning's, and symposiums are included in curriculum for skill development of the students.
- Invited talks and seminars on the current trends are done regularly from the faculty, industry persons and external experts.
- Industrial visits are conducted to improve the Industry and Institute Interaction.
- Workshops are organized to help the students and faculty to understand concepts beyond curriculum.

Table3 Conferences, FDPs, Workshops/Seminars/ STTPs

S. No	Academic year	Conferences	FDPs	Workshops/ Seminars/ STTPs
1	2021-22	17	16	26
2	2020-21	27	76	163
3	2019-20	15	18	53
4	2018-19	10	7	17

C. Methodologies to support weak students and encourage bright students

The students are categorized into two broad groups as weak and bright based on the internal and external assessment as shown in the below table.4 and figure 4

Table 4 Process to Identify Slow and Advanced Learners

S. No.	Assessment Criteria	Weightage
Internal Assessment:		
1	Mid Term Test/Class Tests	15%
2	Assignments/Class participation and responsiveness/General awareness / Attentiveness etc.	10%
3	Class Attendance/Participation in other Activities	5%
External Assessment:		
1	University Exams	70%

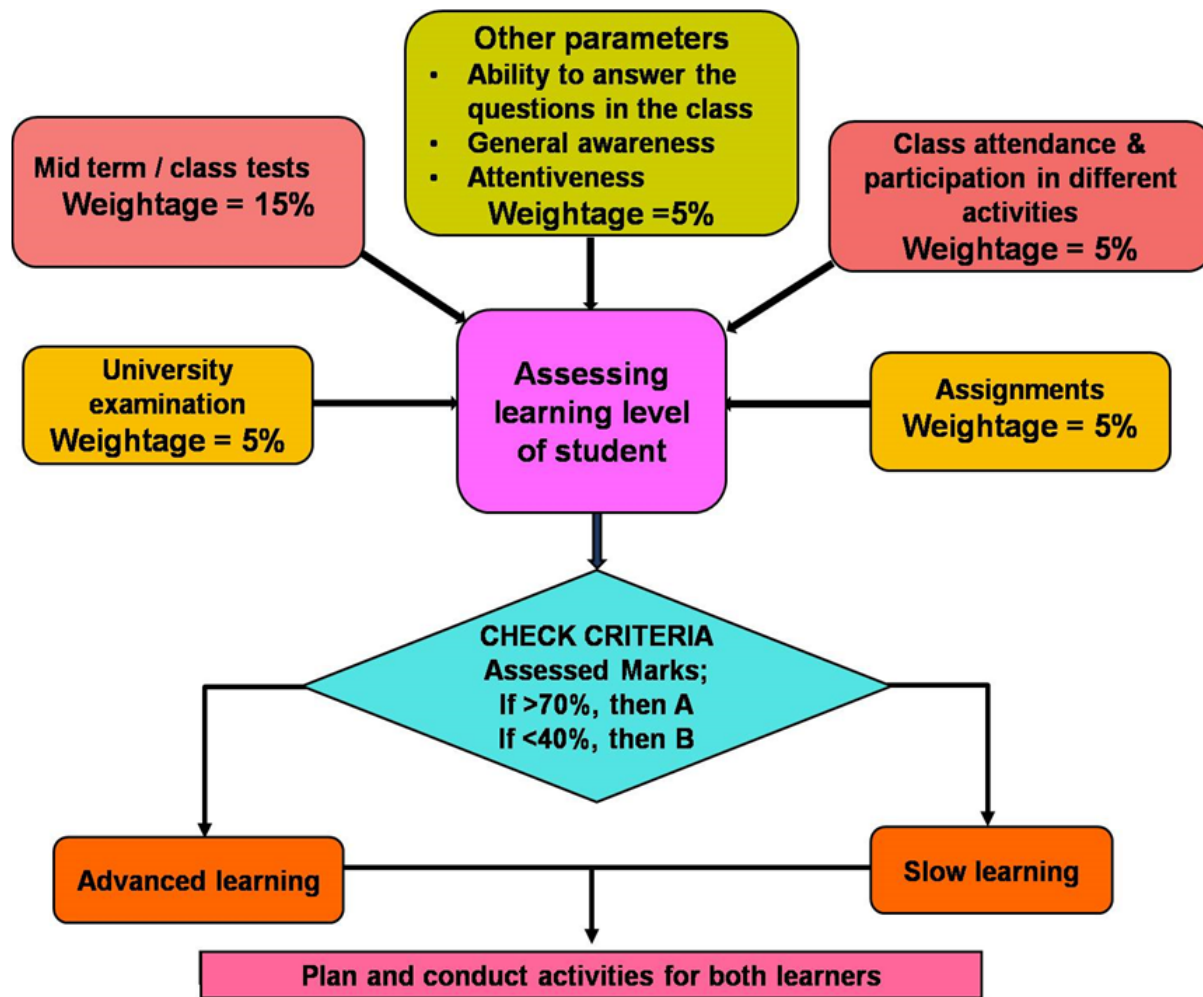


Fig4 Process to Identify Slow and Advanced Learners

The following methodologies were adopted to strengthen their abilities in upgrading the skills.

I. Methodologies used to support Weak students:

- Ø Tutorial/Remedial classes are conducted to support the weak students based on their performance in internal/external exams.
- Ø Assignments are given to students for their better performance.
- Ø The students are insisted to solve previous years university question papers.
- Ø The students are provided with audio and visual material

Ø Academic counseling is done by concerned subject teacher to each individual student.

Mentoring sessions are conducted to provide guidance to students towards achieving professional fulfillment and assessment of his/her academic progress as well as personal growth.

The above methodology is shown pictorially in fig 5.

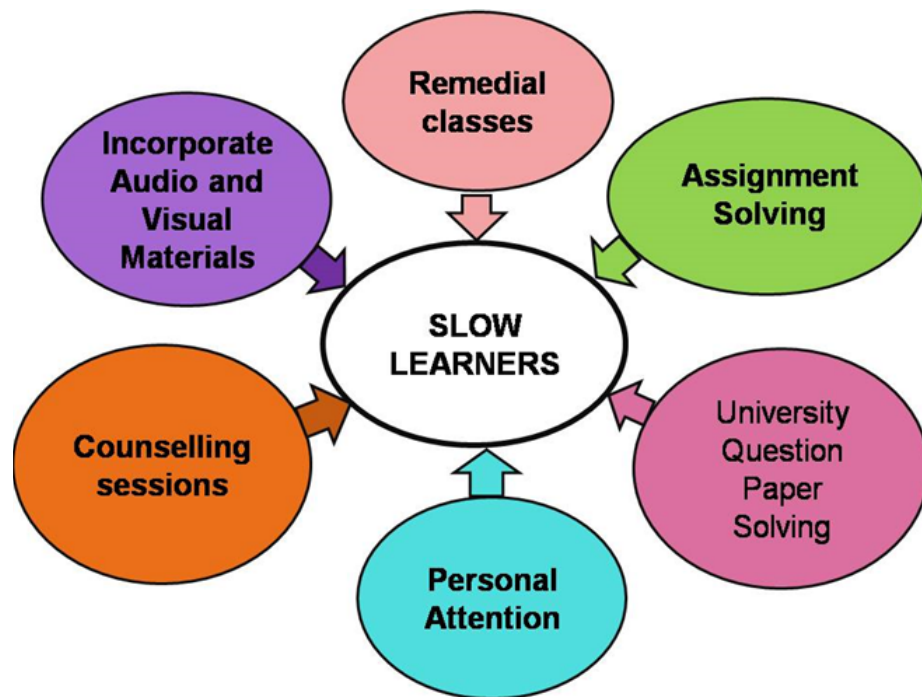


Fig5 Activities for slow learners

Methodologies used to support Bright students:

- Ø After completion of every academic year bright students are identified based on their academic scores and are encouraged to present technical papers in symposiums, paper/poster presentation, Conferences, inter institution competition etc.
- Ø They are also encouraged to become university rank holders and are also guided to write competitive exams like GATE, CAT, GRE, GMAT, TOEFL, IELTS, etc, for pursuing higher studies.
- Ø To inculcate the self-learning process, students are motivated to become members of professional societies like IChE, IEI, ISTE etc. Even the weak students can uplift his morale towards learning by participating in the different events conducted by the professional bodies.
- Ø Students are encouraged to register in NPTEL/ SWAYAM/ Coursera courses to learn the e-content available.
- Ø The bright students are motivated to undergo Industry sponsored internships/ research projects. Further the innovative ideas of students are incubated for startups.

The above methodology is shown pictorially in fig 6.

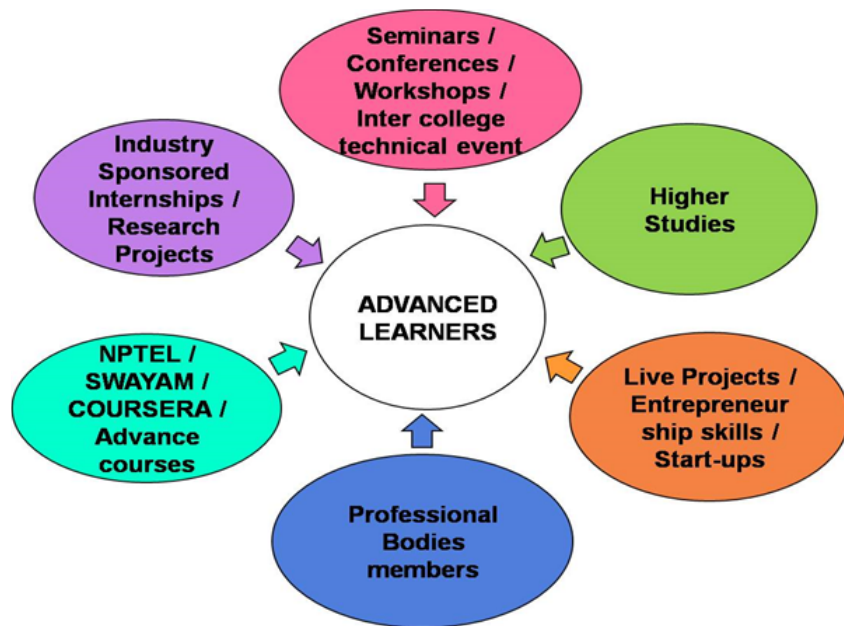


Fig 6 Activities for advanced learners

D. Quality of classroom teaching (Observation in a Class)

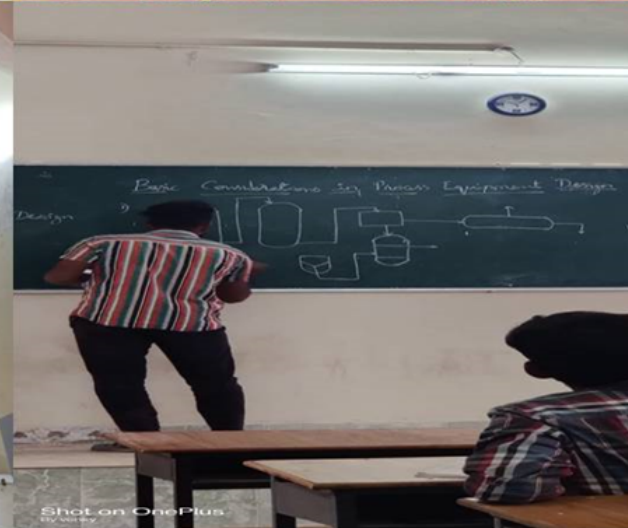
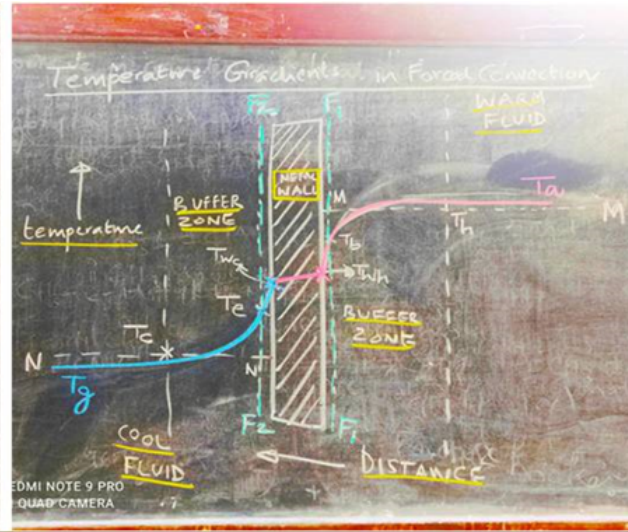
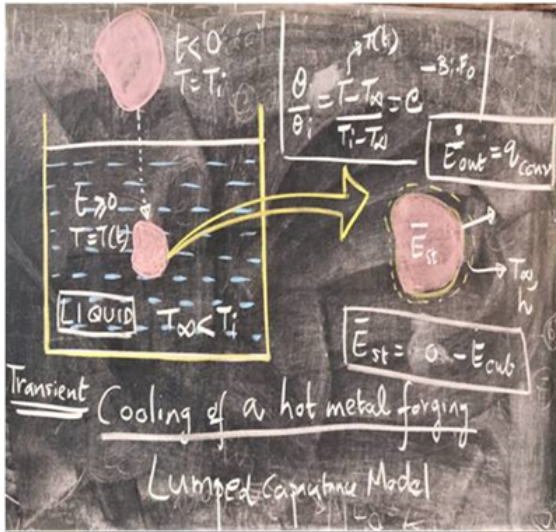
Various content delivery methods adopted to deliver the courses are as follows

1. Tutorial Classes
2. Assignments
3. Laboratory Sessions
4. Project Work
5. Industrial visits/internships & industry Interaction
6. Technical Events
7. Asynchronous learning
8. Seminars by students: Presentations/Report writing
9. Extension Activities
10. Guest Lectures
11. Workshop Sessions

Table 5 Content delivery methods to the Program Outcomes

Content Delivery Methods	Program Outcomes												Program Specific Outcomes		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Blackboard Teaching/ Power Point Presentations	✓	✓	✓	✓		✓	✓					✓	✓	✓	✓
Tutorial Classes	✓	✓	✓	✓		✓	✓					✓	✓	✓	✓
Assignments	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓	✓
Laboratory Classes	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓
Project Work	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industrial Visits/Internships & Industry Interaction	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Technical Events	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asynchronous Learning	✓	✓	✓				✓		✓	✓		✓	✓	✓	✓
Seminars by Students: Power Point Presentations/ Report writing	✓	✓	✓				✓		✓	✓		✓	✓	✓	✓
Extension Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guest Lectures	✓	✓	✓									✓	✓	✓	✓
Workshop Sessions	✓	✓	✓									✓	✓	✓	✓

- Apart from the traditional way of teaching (black board teaching / Power point presentations) the faculty adopt various innovative Teaching methodologies like explaining with the help of models, animations, charts, real time analogies and brain storming are made which make the class room teaching more interactive and interesting.
- NPTEL materials motivate the faculty in exploring new teaching methodologies. It helps in understanding the course fundamentals, design and implementation issues, etc.
- The students of different learning abilities are grouped together. The groups are instructed to choose the topics from the syllabus, which may be different or same. The groups are made to present a seminar for 10 – 15mins each, showing how an issue can be looked in different perspectives.



E. Conduct of experiments (Observation in Lab)

- Ø Experiments in the laboratories are conducted as per the syllabus of the subject. All lab manuals are prepared well before the commencement of the semester as per the curriculum.
- Ø Each class is divided into two/three groups and allotted separate laboratories; they are further divided into small groups, not more than four students. Each group will do the experiments separately in order to make them understand and conduct the laboratory experiment and to get individual attention from the faculty.
- Ø The students record the experimental values in their observation after completing their relevant calculations; these observations and records will be considered for evaluation.
- Ø The total number of experiments in the laboratory course is divided into two cycles (Cycle 1 and Cycle 2). This process of dividing the experiments into two cycles is to make teaching and learning process more effective.

A sample copy of the list of experiments in cycles for Chemical Reaction Engineering Lab for academic year 2020-21 is shown below:

Class : III B.Tech
Semester : II Sem
Branch : Chemical Engg

ATTENDANCE

Acadimic Year : 2021
Starting :
Ending :
Teacher : S.D.K., G.M., Ch.M.

Sl. No.	Admn.No.	Name	No	1	2	3	4	5	6	7	8	9
			Date	9/5	10/5	11/5	12/5	13/5	14/5	15/5	16/5	17/5
1	19001A0801	Y. Aneesa Taj		3	6	9	12	15	18	21	24	27
2	802	K. Shamuna Afirin										
3	803	N. Madhav		3	6	9	12	15	18	21	24	27
4	804	S. Sreedhar Babu		3	6	9	12	15	18	21	24	27
5	805	K.U. Shabarath		3	6	9	12	15	18	21	24	27
6	806	R. Lakshmi Devi		A	A	A	A	A	A	A	3	6
7	807	K. Bharadwaj		A	3	6	9	12	15	18	21	24
8	808	A. Srikanth Kaushtik		A	A	A	3	6	9	12	15	18
9	809	K. Ateekhya		3	6	9	12	15	18	21	24	27
10	810	D. Archana		3	6	9	12	15	18	21	24	27
11	812	P. Hansika		3	6	9	12	15	18	21	24	27
12	813	A. Lavanya		3	6	9	12	15	18	21	24	27
13	814	S. Sindhu		3	6	9	12	15	18	21	24	27
14	815	G. Gopika		3	6	9	12	15	18	21	24	27
15	816	M. Harshitha		3	6	9	12	15	18	21	24	27
16	817	B. Raji		3	6	9	12	15	18	21	24	27
17	818	G. Hema Kumar		3	6	9	12	15	18	21	24	27
18	819	D. Akhishuk		A	3	6	9	12	15	18	21	24
19	820	M. prem Sai		A	3	6	9	12	15	18	21	24
20	821	T. Keshma Royal		A	A	3	6	9	12	15	18	21
21	822	N. Adharshini		3	6	9	12	15	18	21	24	27
22	823	K. Krishna priya		A	A	3	6	9	12	15	18	21
23	824	T. Yashwanthi		3	6	9	12	15	18	21	24	27
24	825	P. Vanitha		3	6	9	12	15	18	21	24	27
25	826	N. Naga Vallitha		3	6	9	12	15	18	21	24	27
26	827	M. Vday Kiran		A	3	6	9	12	15	18	21	24
27	828	B. Tagore shiva Venkat		3	6	9	12	15	18	21	24	27
28	829	V. Archana		3	6	9	12	15	18	21	24	27
29	830	M. Sandhya		A	3	6	9	12	15	18	21	24
30	831	T. Pradeep Kumar		3	6	9	12	15	18	21	24	27
31	832	R. Chalan Kumar Reddy		3	6	9	12	15	18	21	24	27
32	833	V. Jayabree		3	6	9	12	15	18	21	24	27
33	834	R. Sahitha		3	6	9	12	15	18	21	24	27
34	835	S. Md. Wazied		3	6	9	12	15	18	21	24	27

REGISTER

10	11	12	13	14	15	16	17	18	19
19/5	20/5	21/5	22/5	23/5	24/5	25/5			
30	33	36	39	42	45				
27	A	A	30	33	36				
30	33	A	36	39	42				
27	30	A	33	36	39				
9	12	15	18	21	24				
24	27	30	33	36	39				
21	24	27	30	33	36				
27	A	30	33	36	39				
27	30	33	36	39	42				
27	30	33	36	39	42				
24	27	30	33	36	39				
27	30	A	A	33	36				
30	33	36	39	42	45				
27	30	33	A	36	39				
24	27	30	33	36	39				
30	33	36	39	42	45				
21	24	27	30	33	36				
21	24	A	27	30	33				
24	27	30	33	36	39				
24	27	A	30	33	36				
18	A	A	A	21	24				
30	33	36	39	42	A				
27	30	33	A	36	39				
A	A	24	27	30	33				
24	27	30	33	36	39				
30	33	36	39	42	45				
30	33	36	39	42	45				
27	A	30	33	36	39				
18	21	24	A	27	30				
30	33	36	39	42	45				
24	27	30	33	36	39				
27	30	33	36	39	42				

Class : II B.Tech
Semester : I Sem
Branch : Chemical Engg

Acadimaic Year : 2021-22
Starting :
Ending :
Teacher :

ATTENDANCE

Sl. No.	Admn.No.	Name	No	Date								
				1	2	3	4	5	6	7	8	9
39	19001A0840	J. Rocus Ratan		A	A	3	6	9	A	12	15	18
40	841	A. Sankar Reddy		3	6	9	A	A	A	12	15	18
41	842	E. Satish Reddy		A	A	A	3	A	6	9	12	15
42	843	P. Mamatha		A	A	3	6	9	12	15	A	18
43	844	U. Bhargav		A	A	A	3	6	9	12	15	A
44	846	D. Sarayu		3	6	9	12	15	A	A	18	21
45	847	S. Sai Kumar		A	3	A	A	6	A	9	12	15
46	848	E. Sabesha Banu		A	A	3	6	9	12	15	18	21
47	849	K. Lakshitha		A	3	6	9	12	15	18	21	24
48	850	M. R. Vinod Kumar		A	3	6	A	12	15	18	21	24
49	851	C. Nagaveni		3	6	9	12	15	18	21	24	27
50	852	B. Keerthi		A	A	3	A	6	9	12	15	18
51	853	B. Md. Sameer		3	6	A	9	12	15	18	21	24
52	854	B. Lakshitha Kumar		3	6	A	9	12	15	18	21	24
53	855	K. Naveen Kumar		A	A	3	6	9	12	15	18	21
54	856	D. Vishnu Vardhan		A	A	A	A	3	6	9	12	15
55	857	G. Chaitanya		A	3	6	9	12	15	18	21	24
56	858	P. Musali Krishna		A	A	3	6	9	12	15	18	21
57	859	A. Rahul Babha		3	A	A	6	9	12	A	A	15
58	860	C. Harish		3	6	9	A	12	15	18	21	24
59	861	S. Sumanth		A	A	3	6	9	12	15	18	21
60	862	S. Madhuri		3	6	9	12	15	18	21	24	27
61	863	N. Mohith Reddy		A	A	A	A	3	6	9	12	15
62	864	P.V.S. Dinesh yadav		A	A	A	A	3	6	9	A	12
63	20005A0801	P. Preethi kalpana		3	6	9	12	15	18	21	A	24
64	802	G. Rajesh		A	3	6	A	9	A	A	12	15
65	804	A. Musali		3	6	9	A	12	15	18	21	24
66	805	Y. Sai phani		A	A	3	A	6	9	12	15	18
67	807	M. Swarna		A	A	3	6	9	12	15	18	21
68	808	G. Mohan		3	6	9	12	15	18	21	24	27
69	18001A0801	M.V. Sunil kumar		A	3	6	A	9	12	15	18	21
70	810	M. Krishna Kankalitha		3	6	9	12	15	18	21	24	27
71	813	B. Venkatesh		3	6	9	A	A	A	A	12	15
72	813	Shaik laksh		A	3	6	A	A	9	12	15	A

REGISTER

Date		10	11	12	13	14	15	16	17	18	19	20
7/4	19/4	A	A	A	A	A	A	A	A	A	A	A
21	24	27	30	33	36							
21	A	24	27	30	33							
18	A	24	27	A	A							
21	24	27	30	33	36							
18	21	A	24	27	30							
24	27	30	33	A	A							
18	A	A	21	24	27							
24	27	30	33	36	39							
A	27	30	33	36	39							
27	30	33	36	39	42							
30	33	36	39	42	45							
21	24	27	30	33	36							
27	30	33	A	36	39							
27	30	33	36	39	42							
24	A	27	30	33	36							
18	21	24	27	30	33							
27	30	33	36	39	42							
24	27	30	33	36	39							
18	21	24	27	30	A							
15	18	21	24	27	30							
27	A	A	30	33	36							
27	A	A	30	33	36							
21	24	27	30	33	36							
24	27	30	33	36	39							
30	A	A	A	A	A							
24	27	30	A	33	36							
30	33	36	39	42	45							
18	21	24	27	A	30							
18	A	21	24	27	30							

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING (Autonomous), ANANTHAPURAMU**

Process Heat Transfer Laboratory

List of Experiments

CO1: Perform Steady state & Unsteady state Conduction Heat transfer to estimate thermal conductivity of a Metal Rod and generate temperature distribution along the length of the Rod.

CO2: Determine Heat transfer co-efficient in convection Heat transfer without & with phase change by performing suitable experiments.

CO3: Calculate radiation Heat Transfer between two surfaces and evaluate Stefan Boltzmann Constant.

CO4: Calculate Heat duty and analyze Heat Exchanger performance using methods of LMTD & Heat exchanger effectiveness.

CO5: Evaluate individual & Overall heat Transfer co-effectiveness of various exchangers apply empirical equations.

CO6: Generate plot showing Temperature variation in the composite wall and determine individual thermal resistances & Total resistances of the composite wall.

CO7: Perform Single effect Evaporation and determine economy and capacity.

Cycle I:

1. Thermal Conductivity of Metal Rod.
2. Heat Transfer in Natural Convection.
3. Heat Transfer in Forced Convection.
4. Stefan Boltzmann Apparatus.

Cycle II:

1. Shell & Tube Heat Exchanger
2. Parallel / counter flow Heat Exchanger.
3. Helical Coil Heat Exchanger.
4. Heat Transfer through Composite wall.

F. Continuous Assessment in the laboratory

- The assessment is done continuously in the laboratory based on the observation, conduct of experiment, submission of Records and viva-voce.
- After completion of every experiment, student's knowledge in the experiments is tested through model viva voce and grades are given to individual student for that experiment.
- A model lab exam is conducted after completion of Cycle 1 and weaker students are identified and special session related that cycle is conducted.
- An internal exam will be conducted for that respective lab with duration of 3 hours to assess the ability of student's performance which is then followed by end semester practical examination conducted for duration of 3 hours.

A sample copy of grading for every student for R19 regulation in Instrumentation and Process Control Lab of academic year 2021-22 is attached below:

JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS) ANANTAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
III B. TECH I SEM (R19) IPC Laboratory AY:2021-22
FINALISTION OF INTERNAL MARKS

S.No.	Admission No.	Record (20 M)	Attendance (10M)	Internal exam (10M)	Total (40M)
1	19001A0801	18	9	8	35
2	19001A0802	0	4	0	4
3	19001A0803	16	10	7	33
4	19001A0804	14	8	7	29
5	19001A0805	16	8	7	31
6	19001A0806	8	7	6	21
7	19001A0807	16	9	8	33
8	19001A0808	16	6	8	30
9	19001A0809	14	9	7	30
10	19001A0811	14	10	7	31
11	19001A0812	18	8	7	33
12	19001A0813	18	10	8	36
13	19001A0814	18	8	9	35
14	19001A0815	18	9	7	34
15	19001A0816	16	8	5	29
16	19001A0817	16	8	7	31
17	19001A0818	16	9	8	33
18	19001A0819	16	8	8	32
19	19001A0820	12	7	7	26
20	19001A0821	18	7	8	33
21	19001A0822	16	9	9	34
22	19001A0823	14	9	7	30
23	19001A0824	14	5	7	26
24	19001A0825	16	8	9	33
25	19001A0826	16	8	8	32
26	19001A0827	16	8	7	31
27	19001A0828	16	7	7	30
28	19001A0829	16	10	7	33
29	19001A0830	16	9	7	32
30	19001A0831	18	10	9	37
31	19001A0832	14	8	6	28
32	19001A0833	16	10	8	34
33	19001A0834	18	9	7	34
34	19001A0835	14	10	8	32
35	19001A0836	16	7	6	29
36	19001A0837	18	8	10	36
37	19001A0838	16	8	7	31

1. (Mr. K. Subba Rao).
2. G. Nisha Mallesha
M. Kalyan Kumar
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Mobile : 9848527069

JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS) ANANTAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
III B. TECH I SEM (R19) IPC Laboratory AY:2021-22
FINALISTION OF INTERNAL MARKS

S.No.	Admission No.	Record (20 M)	Attendance (10M)	Internal exam (10M)	Total (40M)
38	19001A0839	16	6	7	29
39	19001A0840	14	7	8	29
40	19001A0841	14	6	7	27
41	19001A0842	14	6	5	25
42	19001A0843	16	9	7	32
43	19001A0844	18	10	5	33
44	19001A0846	16	9	9	34
45	19001A0847	18	8	6	32
46	19001A0848	14	7	7	28
47	19001A0849	14	7	8	29
48	19001A0850	16	9	7	32
49	19001A0851	18	9	8	35
50	19001A0852	14	8	8	30
51	19001A0853	18	6	6	30
52	19001A0854	14	7	5	26
53	19001A0855	16	7	5	28
54	19001A0856	16	9	7	32
55	19001A0857	16	10	10	36
56	19001A0858	14	9	8	31
57	19001A0859	14	9	6	29
58	19001A0860	18	6	4	28
59	19001A0861	20	10	7	37
60	19001A0862	18	9	9	36
61	19001A0863	18	7	7	32
62	19001A0864	16	6	9	31
63	20005A0801	16	9	7	32
64	20005A0802	18	10	8	36
65	20005A0804	16	8	4	28
66	20005A0805	16	8	8	32
67	20005A0807	18	9	6	33
68	20005A0808	16	10	6	32
69	18001A0801	14	8	6	28
70	18001A0810	16	7	5	28
71	18001A0813	14	7	7	28
72	18001A0833	14	7	6	27
73	18001A0852	14	8	6	28
74	18001A0856	14	10	7	31

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G. Student feedback of teaching learning process and actions taken

Feedback Collection Process

The teaching-learning system followed by any educational institution needs continuous refinement. To capacitate this process of continuous refinement, the department has adopted a feedback system. This eventually helps to fine-tune the teaching-learning process and the curriculum. The feedback system works as an eye opener for the faculty. The department follows a well-defined and formal feedback system. The feedback from students regarding the quality of teaching is collected during each semester.

Feedback analysis process

- The assessment of the faculty is based on parameters such as punctuality, audibility, command on subject, doubt solving capability, syllabus completion, offering counseling to the needy students, etc.
- The feedback forms will be filled by the students for each course collected through offline/online mode at the end of every semester.
- Once the feedback process is complete, the reports are generated automatically based on the formula.
- The consolidated report containing grade for each course is disseminated to the faculty by Head of the department.
- The feedback collected from students are first analyzed and reviewed by the head and senior professors of the Department. The contents of the feedback will be shared with each faculty member individually.
- The faculty who earned excellent feedback is appreciated. The Head and senior faculty of the Department will provide some suggestions, counseling for improvement to that faculty whose feedback is not satisfactory. The faculty is asked to improve their performance in the subsequent semesters by incorporating team teaching and attending pedagogical training and other faculty development programs.

A template of course feedback form for III B.Tech I Semester is shown below:

JNTU Anantapur College of Engineering (Autonomous), Ananthapuramu
Course Feed Back Form (2018-19)

Class: III B Tech

Semester: I

Branch: CHEMICAL

Note: Rate the teacher on the scale of 10 (Excellent: 10 Very Good: 8 Good: 6 Fair: 4 Poor: 0)

S. No.	Parameters	Performance (Write rating in appropriate box)									
		PDC	PCE	CRE-I	MTO-I	CT	PMS	FL	PDCLAB	EE LAB	
	Faculty Name	Mr M Murali Naik	Dr S Sharada	Dr B Dilip Kumar	Dr S V. Satya Narayana	Mr K Subba Rao	Ms G. Neha Mallika	Mr K Tabreez Khan	Ms G Neha Mallika	Ms. H. Rehana Anjum	Mr M. Kalyan Kumar & Ms. Ch. Maneesha
1	Punctuality to Class										
2	Voice (Clear and Audible)										
3	Lesson Plan (Clear Objective)										
4	Command on Subject										
5	Writing (legible)										
6	Questions and discussions (Promote interaction and effective thinking)										
7	Encouragement, Complaints and Praising the Originality and Creativity displayed by Students										
8	Is courteous and impartial in dealing the students										
9	Syllabus completion in time										
10	Towards evaluation of sessional exam, lab records (fair and impartial)										
11	Prompt in valuing and returning the answerscripts and providing feedback on performance										
12	Offers assistance and counselling to the needy students										
13	Imparts the practical knowledge concerned to the subject										
14	Overall rating of the Teacher										
General Comments (if any)											

A sample copy of feedback analysis for the subject Instrumentation and Process Control (III B.Tech I Sem) is as given below where the first figure represents the parameters on which a faculty is assessed and second figure shows the analysis of respective faculty.

X-axis :

A: Punctuality to Class

B: Voice(Clear & Audible)

C: Lesson plan(clear objective)

D:Command on the subject

E: Writing(Legible)

F: Questions & Discussions(Promote interaction and effective thinking)

G: Encouragement,Compliments & Praising the originality and creativity displayed by the students

H: Is courteous and impartial in dealing with the students

I: Syllabus completion in time.

J: Towards evaluation of sessional exam, lab records(fair and impartial)

K: Prompt in valuing and returning the answer scripts and providing feedback on performance.

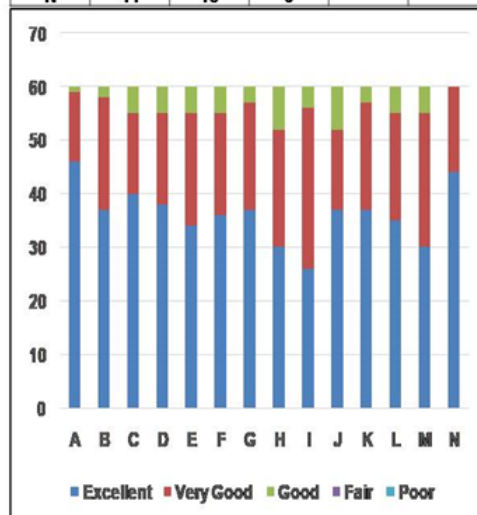
L: Offers assistance and counselling to the needy students

M:Imparts the practical knowledge concerned to the subject

N: Overall rating of the teacher

Y- axis : Total Number of students

	Excellent	Very Good	Good	Fair	Poor
A	46	13	1		
B	37	21	2		
C	40	15	5		
D	38	17	5		
E	34	21	5		
F	36	19	5		
G	37	20	3		
H	30	22	8		
I	26	30	4		
J	37	15	8		
K	37	20	3		
L	35	20	5		
M	30	25	5		
N	44	16	0		



A. Process for internal semester question paper setting and evaluation and effective process implementation

- The Department conducts two internal assessment tests as per academic calendar.
- Internal semester question papers are prepared considering the standards of GATE and other entrance examinations.
- Faculty members are instructed to use blooms taxonomy to prepare the question papers covering the prescribed syllabus and ensure to cover all course outcomes.
- The faculty after every internal assessment, explain the solution to the questions in the class which will enable the students to perform well in the final examination.
- After every assessment test, each course handling faculty member evaluates the answer scripts within 3 days after completion of the examination. They prepare reports to analyze the learning level of the students to attain the COs and POs.

A sample question paper of R17 regulations of the Corrosion Engineering (IV B.Tech - II Sem) is shown below:

Academic Year: 2021-22

Date of Examination:30-05-2022

Name of the teacher:

Admission Number

--	--	--	--	--	--	--	--	--	--

JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
B.Tech IV Year II Semester Second Internal Examinations (Descriptive Type)
Corrosion Engineering (Elective Course)

Max. Marks: 30

Duration: 90 min

Answer any Three Questions Choosing one from each Unit

All questions carry equal marks.

Course Outcomes (CO):

- CO-1 : Understand the electrochemical behavior of corroding systems
 CO-2 : Classify various corrosion forms and the mechanisms involved
 CO-3 : Apply the electrochemical aspects of combating eight forms of Corrosion
 CO-4 : Design of suitable materials & methods to combat corrosion
 CO-5 : Evaluate the polarization behavior of corroding system.

Unit – III

1. a) Define Exchange Current density? Write equation for Over-voltage in both cases and for combined polarization? Explain the significance CO-5
 b) Why Zinc corrodes slower than Fe in galvanic coupling (Galvanizing)? Explain the importance of exchange current density in supporting above argument CO-5

(or)

2. a) What is polarization? Discuss Activation and Concentration polarization concepts with a neat sketch CO-4
 b) What is Mixed potential theory? Draw the Evans diagram for Fe, Zn separately CO-4

Unit – IV

3. a) What is Cathodic protection? Explain the concept with a neat diagram CO-3
 b) Which materials are preferred in Anodic protection of corrosion prevention? Explain CO-3

(or)

4. a) Discuss briefly material selection, design and metallic coatings in combating corrosion CO-2
 b) Write the eight important engineering design rules for prevention of corrosion CO-2

Unit – V

5. a) Write brief note on "Materials for Chemical Engineering Industry to resist the given chemical Environment" CO-5
 b) What are Monel alloys? Explain briefly with examples CO-5

(or)

6. a) Write the classification of steel and cast iron. Discuss briefly about mild steel CO-4
 b) Explain briefly Brass, Bronze and Other Nickel Alloys CO-4

Academic Year: 2021-22

Date of Examination:30-05-2022

Name of the teacher:

Admission Number

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JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
B.Tech IV Year II Semester Second Internal Examinations (Objective Type)
Corrosion Engineering (Elective Course)

Max. Marks: 20

Duration: 20 min

Answer all questions. Each question carries one mark.

Course Outcomes (CO):

CO-1 : Understand the electrochemical behavior of corroding systems

CO-2 : Classify various corrosion forms and the mechanisms involved

CO-3 : Apply the electrochemical aspects of combating eight forms of Corrosion

CO-4 : Design of suitable materials & methods to combat corrosion

CO-5 : Evaluate the polarization behavior of corroding system.

1.	_____ is the percentage purity of a metal, _____ is the rate of corrosion. [CO-1] a) Faster, lesser b) moderate, lesser c) Lesser, faster d) lesser, moderate	[]
2	The _____ the grain size of the metal or alloy, the _____ will be its corrosion [CO-2] a) smaller, moderate b) greater, moderate c) greater, smaller d) smaller, greater	[]
3.	When the metal is higher up in the galvanic series, _____ is its tendency to become _____ and hence greater is the rate of corrosion [CO-1] a) smaller, cathodic b) greater, anodic c) smaller, anodic d) greater, cathodic	[]
4	With _____ of temperature of environment, the reaction as well as diffusion rate _____, thereby corrosion rate is generally enhanced. [CO-3] a) increase, decrease b) increase, increase c) decrease, decrease d) decrease, increase	[]
5	In the electrochemical corrosion, if the corrosion product is _____ in corroding medium, then corrosion proceeds at a _____ rate [CO-1] a) soluble, moderate b) soluble, slower c) soluble, faster d) insoluble, faster	[]
6	When cathodic area is smaller, the demand for electrons will be _____ and this result in the _____ rate of dissolution of metal at anodic regions. [CO-3] a) constant, decreased b) constant, increased c) less, decreased d) more, decreased	[]
7	The _____ is humidity, the _____ is the rate and extent of corrosion [CO-1] a) greater, greater b) greater, lesser c) greater, constant d) lesser, constant	[]
8	In Tin can (food) containers, steel is coated with Sn, wherein, _____ is sacrificed to protect _____ [CO-1]	[]

Academic Year: 2021-22

Date of Examination:30-05-2022

Name of the teacher:

Admission Number

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	a) Steel, Sn b) Sn, Steel c) Steel, food d) Sn, food	
9	_____ converts to silver, under boiled water in presence of baked soda during cleaning of silver ornaments [CO-1] a) Silver sulphate b) Silver sulphide c) Silver chloride d) Silver oxide	[]
10	High carbon steel is called _____ [CO-4] a) Mild steel b) Stainless steel c) chromium steel d) tool steel	[]
11	Which of the following is absent in SS (stainless steel) 400 series [CO-4] a) Manganese b) Iron c) Chromium d) Nickel	[]
12	Stainless Steel is badly attacked in hours by _____ Acid [CO-1] a) Perchloric b) Polythionic c) Sulfuric d) Hydrochloric	[]
13	Under which corrosion category, the "underfilm corrosion" falls [CO-1] a) Stress b) Crevice c) Pitting d) Erosion	[]
14	Metals loose strength when Hydrogen is absorbed through surface, especially along _____ in hydrogen embrittlement [CO-5] a) planes b) dislocations c) grain boundaries d) grain boundaries and dislocations	[]
15	Brass is an alloy of _____ % Cu and _____ % Zn approximately [CO-4] a) 40, 60 b) 30, 70 c) 70, 30 d) 60, 40	[]
16	For extremely powerful oxidizing conditions, _____ & its alloy are commonly used to combat corrosion [CO-4] a) Zn b) Cr c) Ti d) Ni	[]
17	Which of the following is an Oxygen Scavenger [CO-5] a) Sodium Sulphate b) Sodium Phosphate c) Sodium Sulphite d) Sodium Chloride	[]
18	The compounds containing _____ groups act as adsorption inhibitors. [CO-5] a) -CN b) -NH ₂ c) -OH d) -CH ₂	[]
19	Tafel equation is the relationship between _____ and _____ for activation []	[]

	<p>polarization</p> <p>a) Overvoltage, concentration b) Concentration, current density</p> <p>c) overvoltage, temperature d) reaction rate, overvoltage</p>		
20	<p>The limiting diffusion current density (i_L) is a function of _____</p> <p>a) Diffusion coefficient b) Film Thickness</p> <p>c) Bulk concentration d) All the above</p>	[CO-5]	[]

B. Process to ensure questions from outcomes/learning levels perspective

- The Head of the Department/Senior Faculty members will assess the quality and relevance of the question papers based on its syllabus coverage.
- The distribution of mark allocation for the questions and the course outcomes are substantiated by the Head of the Department/Senior faculty members.

C. Evidence of COs coverage in class test / mid-term tests

- All class test and mid-term test papers cover all topics relevant to COs.
- A record of all class tests / mid-term tests / end semester test is maintained and submitted to the HOD for his/her perusal to ensure that all the topics are covered in these exams.
- HOD/faculty members ensure that the questions asked previously (midterm) are not repeated so that major portions of COs are covered.
- All the faculty members maintain a question paper file (soft and hard copy) where all the question papers are collected so that question paper for end term is set without repetition of any question from midterm. This scheme helps to prevent repetition of questions and coverage of maximum COs.
- HOD will presume the printing of COs in all mid semester question papers before printing.

A sample question paper of R17 regulations of the Corrosion Engineering (IV B.Tech - II Sem) is shown below:

Academic Year: 2021-22

Date of Examination: 30-05-2022

Name of the teacher:

Admission Number

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JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
B.Tech IV Year II Semester Second Internal Examinations (Descriptive Type)
Corrosion Engineering (Elective Course)

Max. Marks: 30

Duration: 90 min

Answer any Three Questions Choosing one from each Unit

All questions carry equal marks.

Course Outcomes (CO):

CO-1 : Understand the electrochemical behavior of corroding systems

CO- 2: Classify various corrosion forms and the mechanisms involved

CO-3 : Apply the electrochemical aspects of combating eight forms of Corrosion

CO-4 : Design of suitable materials & methods to combat corrosion

CO-5 : Evaluate the polarization behavior of corroding system.

Unit – III

1. a) Define Exchange Current density? Write equation for Over-voltage in both cases and for combined polarization? Explain the significance CO-5
 b) Why Zinc corrodes slower than Fe in galvanic coupling (Galvanizing)? Explain the importance of exchange current density in supporting above argument CO-5

(or)

2. a) What is polarization? Discuss Activation and Concentration polarization concepts with a neat sketch CO-4
 b) What is Mixed potential theory? Draw the Evans diagram for Fe, Zn separately CO-4

Unit – IV

3. a) What is Cathodic protection? Explain the concept with a neat diagram CO-3
 b) Which materials are preferred in Anodic protection of corrosion prevention? Explain CO-3

(or)

4. a) Discuss briefly material selection, design and metallic coatings in combating corrosion CO-2
 b) Write the eight important engineering design rules for prevention of corrosion CO-2

Unit –V

5. a) Write brief note on “Materials for Chemical Engineering Industry to resist the given chemical Environment” CO-5
b) What are Monel alloys? Explain briefly with examples CO-5
- (or)
6. a) Write the classification of steel and cast iron. Discuss briefly about mild steel CO-4
b) Explain briefly Brass, Bronze and Other Nickel Alloys CO-4

D. Quality of Assignment and its relevance to COs

The purpose of writing assignments is to help each student develop research and communication skills. Further this will help in improving the technical communication skills needed to successfully complete the Engineering Curriculum.

- Writing assignments is a flexible means of demonstrating learning as well as a method of exploring ones thinking to stimulate learning.
- The assignment given could be theoretical or a practical implementation.
- The assignments are designed to assess the application-oriented knowledge gained by the students in the relevant course.
- Assignment issue and submission dates are announced by the respective faculty members. The assignment questions are given in relation with COs.
- The assignment submitted by the students is evaluated by giving importance to the extent with which the students have used multiple sources for collecting information.

This mode of evaluation is implemented for both the assignment as well as the presentation of the concept. Along with evaluation, the concerned staff will give the feedback for further improvement if necessary.

A sample assignment paper for R15 regulations of the subject Corrosion Engineering(IV B.Tech - II Sem) is attached below:

Name of the Faculty: Dr. B. Dilip Kumar

Adm. No.

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JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
B.Tech IV Year II Semester (R15)
<Sub: Corrosion Engineering>

Submit before:

AY: 2015-19

ASSIGNMENT- I

Answer ALL Questions. All Questions carry equal marks.

Course outcomes:

CO1	Able to understand the electrochemical and metallurgical behaviour of corroding systems
CO2	Able to apply the electrochemical and metallurgical aspects of combating eight forms of corrosion
CO3	Able to select or choose the testing procedures for corroding systems
CO4	Able to evaluate the polarization behaviour of corroding systems
CO5	Able to design of suitable materials, methods to combat corrosion

S. No.	Question	Marks	Course Outcome
1	(a) Describe a corrosion problem encountered in your immediate surroundings and discuss its relative importance. (b) What are the differences between EMF and Galvanic series?	5	CO1
2	(a) Explain about the galvanic (or) two metal corrosion? Write the preventions of erosion corrosion? (b) What is crevice corrosion? Discuss about mechanism of crevice corrosion and write the preventions of it.	5	CO2
3	(a) Why are there always a minimum of two electrochemical reactions to explain even the simplest corrosion reaction? (b) Write briefly on i) Exchange current density ii) Mixed potential theory	5	CO3

Name of the Faculty: Dr. B. Dilip Kumar

Adm. No.

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JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAMU

DEPARTMENT OF CHEMICAL ENGINEERING

B.Tech IV Year II Semester (R15)

<Sub: Corrosion Engineering>

Submit before:

AY: 2015-19

ASSIGNMENT- II

Answer ALL Questions. All Questions carry equal marks.

Course outcomes:

CO1	Able to understand the electrochemical and metallurgical behaviour of corroding systems
CO2	Able to apply the electrochemical and metallurgical aspects of combating eight forms of corrosion
CO3	Able to select or choose the testing procedures for corroding systems
CO4	Able to evaluate the polarization behaviour of corroding systems
CO5	Able to design of suitable materials, methods to combat corrosion

S. No.	Question	Marks	Course Outcome
1	Detail about polarization techniques to measure corrosion	5	CO4

	rates?		
2	Write the examples for demonstrating the area effect in selection and design of materials?	5	CO5

2.2.3 Quality of student projects (20)

Institute Marks : 20.00

A. Identification of projects and allocation methodology to Faculty Members

The identification of projects and their allocation is as shown in fig 7

Students are divided into groups comprises of 4-5 students.

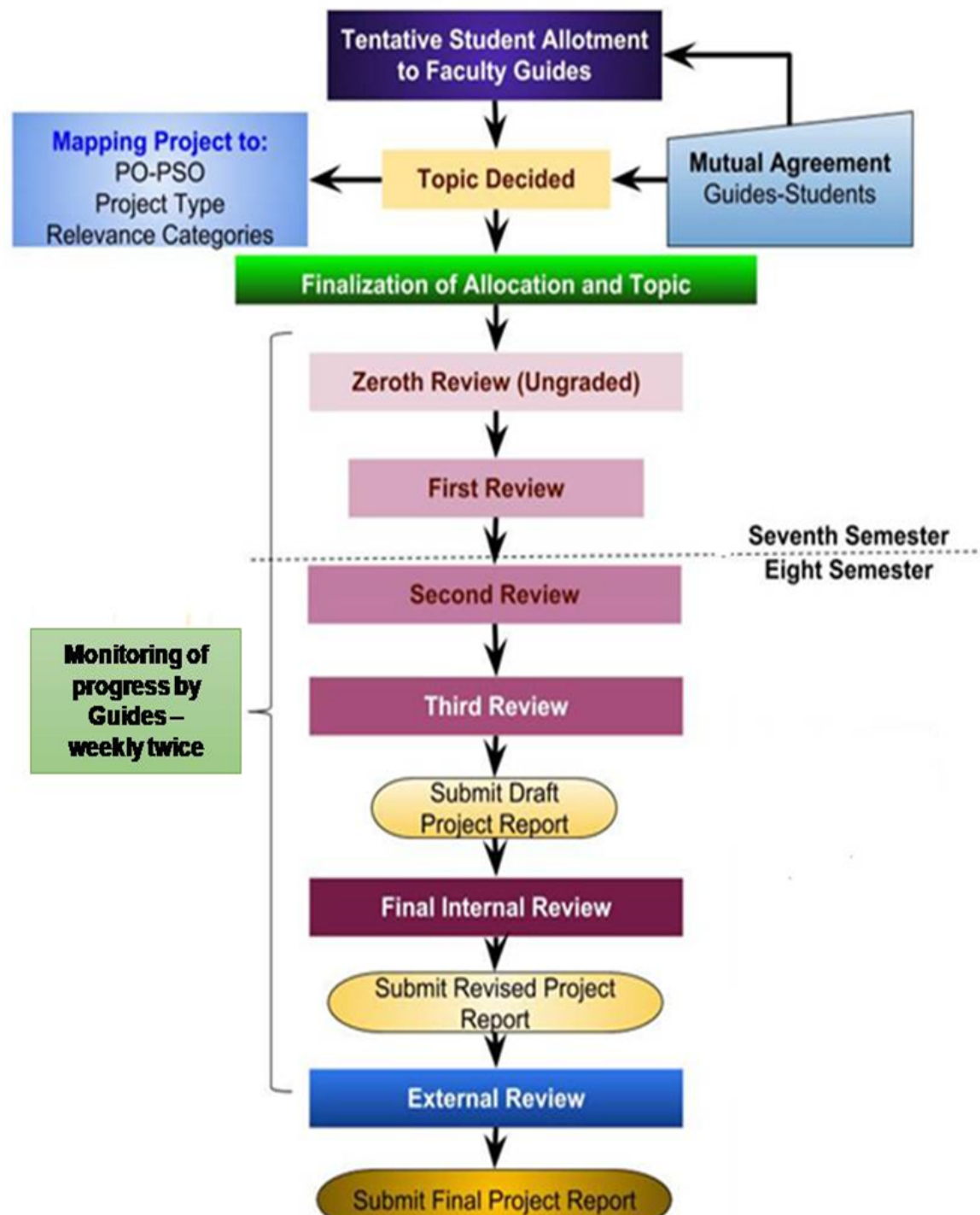




Fig 6 Project process flow

- Students are directed to submit the abstract of project to the project coordinator as per the template circulated to them by the Head of the department as shown below.

Title (Times new roman, font size 14)

Presenting Author¹, Co-Authors^{2,*} (Times new roman, font size 12)

Department, Organisation, Address, City, Country (Italic, Times new roman, font size 11)

*Corresponding Author E-mail: (Times new roman, font size 10) (only one)

ABSTRACT (Times new roman, font size 11) (Max. 300 words)

Rough Abstract: On the depletion of fossil fuels, the process of production of biofuels has come to take a part in it. Biodiesel is a kind of renewable energy which is used for transportation instead of Diesel. The production of biodiesel can be done using many feed stocks. Some attractive feed stocks like organic waste, Dairy waste, meat waste etc. can be chosen to convert the waste into source of energy. Organic waste contains FFA's which has a considerable scope of producing biodiesel. One third of the food is getting wasted in the process of food supply chain. The present write-up discusses about the process of production of biodiesel with organic waste by the process of transesterification using NaOH, KOH, calcinated egg shell waste and Water Hyacinth as catalyst. The main novelty of present work depends on pointing out the best catalysts. To reduce the economy of the project some waste catalyst has been chosen for biodiesel production. Some important characteristics like Density, Kinematic viscosity, Flash point, Fire point, Specific Gravity and Heating value will proof the produced biodiesel.]

Keywords: Keyword1; Keyword2; Keyword3; Keyword4; Keyword5; (atleast 3 up to maximum 5).

- The project coordinator evaluates it and if the topic is Chemical Engineering relevant, forwards it to the head of the department.
- During the last two semesters the allotment of guide, identification and completion of project is done. The students are encouraged to identify the project based on their field of interest and are also encouraged to do inter disciplinary projects. Further, the students are encouraged to choose industrial problems based on the previous in plant training of the concerned industries.
- During the first phase (Identification of Project) i.e VII semester, students collect the literature survey, consolidate the work plan and budget by continuous evaluation by the guide through the reviews. Similarly, the industrial projects are also planned and scheduled.
- In the second phase i.e., during VIII semester, students complete their project work and submit the project report as per the first phase plan, it could be evaluated by the reviews as per academic calendar. The students should give a power point presentation during the review.
- A project team will submit the project report in the prescribed format given by the department.

- The guide lines for preparing the power point slides and report preparation as shown below are issued to the students well in advance.
- An end semester project viva voce is conducted with the panel of internal and external examiners. The external examiner from other institution / university is appointed by the principal of the institution.
- The good quality projects are selected by a committee containing HOD and senior faculty members of department and are appreciated and encouraged to publish in conference/ journals which will further encourage other students.

Guide lines for project presentation

Title of your Work



Student Name:

Branch:

Admission No:

**Department of Chemical Engineering
JNTUA CE Anantapuramu**

Supervisor Name:

Designation:

**Department of Chemical Engineering
JNTUA CE Anantapuramu**

Motivation

- Keep content which motivates to do your work

Finding Research Gaps

- Keep literature content
- What is reported and what is not reported
- Identify the gaps

Objective and Scope

- Keep clearly all Objectives and Scope of your Work

Hypothesis

Explain clearly the hypothesis of the work

Methodology

- Keep methodology (experiments/simulation) of your work in a schematic way

Results and Discussion

The major outcomes of the work

The interpretation of the results in detail

The impact of the results of the work on the society

Conclusions/Summary

- **Conclusions drawn from the work**

Journal and Conference Publications

List the number of conference publications

List the number of journal publications

Template of the first page of the Guide lines for project report writing

Guidelines for Project report,
Department of Chemical Engg., JNTUACEA

GUIDELINES FOR B. TECH/M. TECH PROJECT REPORT PREPARATION



DEPARTMENT OF CHEMICAL ENGINEERING
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY
ANANTAPUR COLLEGE OF ENGINEERING ANANTAPURAMU –
515002

Prepared by:

Ms. G. Neha Mallika M.Tech, (Ph.D.)
Asst. Professor (Adhoc)
Dept. of Chemical Engg.
JNTUACE Anantapur

Approved by:

Dr. B. Dilip Kumar Ph.D. (IITK)
Associate Prof. & HOD
Dept. of Chemical Engg.
JNTUACE Anantapur

The students and faculty members of Chemical Engineering Department, JNTUA CEA have full access rights to read and print this document without any prior notice to the CRC Chairman and Final Year Projects' Coordinator.

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A. Types and relevance of the projects and their contribution towards attainment of POs and PSOs

- The student's projects are selected in line with department Mission, Vision, Program Outcomes & Program Specific Outcomes.
- Students are provided with brief idea of various fields for selecting the project ideas.
- Every project team will decide the projects based on the suggestions and expertise of the respective guide in their domain area.

The PO attainment of project worksbatch wise is given below

Academic Year: 2018-2019

Batch: 2014-18

Best Project

<u>S.No.</u>	<u>Name</u>	<u>Roll Number</u>	<u>Project Title</u>	<u>Guide Name</u>	<u>Co-Guide Name</u>	<u>Subject / Area of Research</u>	<u>Relevance with stated PO's & PSO's</u>
1	<u>G. Sudeepthi</u>	14001A0845	Removal of lead from water using <u>moringaoleifera</u> seed powder	<u>Dr. D. SubbaRao</u>	-	Mass Transfer Operations / Adsorption	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
2	<u>V. Aparna</u>	14001A0842					
3	<u>B. Akkulu Nail</u>	14001A0840					
4	<u>P. C. Ashok</u>	14001A0805					

Other Projects

S.No.	Name	Roll Number	Project Title	Guide Name	Co-Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
5	<u>M. Veeraniyevulu</u>	14001A0815	Removal of copper (II) from synthetic waste water using natural adsorbents	<u>Mr. M. MuraliNaik</u>	Dr. S. Sharada	Mass Transfer Operations / Adsorption	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
6	<u>R. Shanthi</u>	14001A0819					
7	<u>K. UdaySaiTarun</u>	14001A0827					
8	<u>Y. Ramana Reddy</u>	14001A0859					
9	<u>K. Kavitha</u>	14001A0803	Adsorptive separation of mixed dye effluent using <u>psidiumgujaya</u> and <u>azadirachtaindica</u> leaves	Dr. P. Dimesh Sankar Reddy	-	Mass Transfer Operations / Adsorption	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
10	<u>P. SaiPrashanthChowdary</u>	14001A0855					
11	<u>Y. V. Sireesha</u>	14001A0838					
12	<u>K. S. Kishore Kumar</u>	15005A0807					
13	<u>M. G. BhavyaTeja</u>	14001A0830	Removal of Cadmium from Aqueous solution using sawdust	Lt. S. Sharada	-	Mass Transfer Operations /	PO1, PO2, PO3, PO4, PO6, PO7,
14	<u>G. Kartheek</u>	14001A0849					

16	G. GiriBabu	15005A0806					PO10, PO11, PO12, PSO1, PSO2, PSO3
17	K. Vittal	14001A0823	Experiments modelling and simulation of Alcohol water separation system via pervaporation	Dr. B. Dilip Kumar	-	Process Modelling and Simulation, Separation Processes / Pervaporation	PO1, PO2, PO3, PO4, PO6, PO5, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
18	S. K. Masood Ali	14001A0848					
19	U. MahimaGavathri	14001A0841					
20	V. Nagarjuna	14001A0802					
21	A. Pavani Sri	14001A0856	Production of Activated Carbon from Tamarind seeds for Methylene Blue dye degradation studies	Dr. B. Dilip Kumar	-	Mass Transfer Operations / Adsorption	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
22	K. Sri Charan	14001A0858					
23	Y. Dhana Lakshmi	15005A0801					
24	K. Manoj	15005A0803					
25	M. Venkateswara Prasad	14001A0833	Development of Mathematical Model to understand water-film resistance in Alcohol-waste separation by Pervaporation	Dr. B. Dilip Kumar	-	Process Modelling and Simulation, Separation Processes / Pervaporation	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
26	B. Priyanka	14001A0801					
27	R. DivyaBhargavi	14001A0809					
28	L. Raja Sekhar	14001A0822					
29	A. Anusha	14001A0828	Estimation of Kinetic parameters for Enzymatic Conversion of Glucose to Gluconic acid	Mr. M. Kalyan Kumar	-	Biochemical Engineering, Chemical Reaction Engineering /	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
30	M. Ithiha	14001A0843					
31	P. Vasantha Lakshmi	14001A0847					
32	K. Yerriswamy	15005A0802					
33	G. Sateesh	15005A0804					
34	D. Nikitha	14001A0813	Absorption of carbon dioxide using packed column	Mr. K. Subba Rao	M. Kalyan Kumar	Mass Transfer Operations, Chemical Reaction Engineering / Absorption	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
35	K. Jayavishnu	14001A0825					
36	V. VenkataMukesh	14001A0846					
37	M. Deepthi	14001A0850					
38	P. Saijamma	14001A0857					

Academic Year: 2019-2020

Batch: 2015-19

Best Project

S.No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
1	E. Pallavi	15001A0817	Production of Starch based Bio-plastics	Mrs. A. Meenakshi	Biochemical Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
2	S. Kishore	15001A0841				
3	E. Revathi	15001A0802				
4	P. ManthruNaik	15001A0812				

Other Projects

S.No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
5	G. Vishnu	15001A0801	Production of Di methyl ether by dehydration of methanol process	Dr. D. Subba Rao	Biochemical Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
6	B. Rohith Kumar	15001A0833				
7	A. Medha	15001A0853				
8	M. Nayab Rasool	15005A0801				
9	Kanishka Jayawardene	15001A0861	Study of use of free enzymes for conversion of glucose in Cane molasses to Gluconic acid	Mr. M. Kalyan Kumar	Biochemical Engineering, Chemical Reaction Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
10	K. Sarvadevan	15001A0827				
11	Hegde Pavan	15001A0819				
12	Y. Naresh	15001A0809				
13	K. Pallavi	15001A0806	Study of optimization of reaction parameters of biodiesel yield applying central composite design	Dr. S. Sarada	Optimization of Chemical Processes, Chemical Reaction	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9,
14	K. Ganesh	15001A0818				
15	B. Venugopal	15001A0835				

16	K. AnindhaKulakrmi	15001A0842			Engineering	PO10, PO11, PO12, PSO1, PSO2, PSO3
17	K. Reshma	15001A0811	A comparative study of grey water treatment by using sand, charcoal and pine bark filters	Mrs. A. Meenakshi	Mass Transfer Operations, / Absorption	PO1, PO2, PO3, PO4, PO6, PO5, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
18	M. Harshitha	15001A0856				
19	A. Hemalartha	16005A0804				
20	N. Balaji	15001A0854				
21	P. M. Bindusree	15001A0810	Corrosion inhibition studies of tagetes erecta (Marigold) and black pepper on carbon steel in acidic medium	Dr. B. Dilip Kumar	Corrosion Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
22	K. Tejeswara Reddy	15001A0836				
23	S. Sireesha	15001A0829				
24	V. Suneel Babu	16005A0803				
25	S. Rehana	15001A0824	Corrosion Inhibition Studies of MurrayaKoenigia Leaves and Musa Sapientum Peels on Carbon Steel in Acid medium	Dr. B. Dilip Kumar	Corrosion Engineering	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
26	M. Tharaka Ram	15001A0852				
27	N. Abhyudai Dathu	14001A0853				
28	P. Bharu Prakash	16005A0805				
29	R. Hari Naik	15001A0807	Transesterification of waste cooking oil for production of Bio-Diesel	Dr. S. V. Satyanarayana	Biochemical Engineering, Mass Transfer Operations	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
30	K. Anand	15001A0813				
31	B. Anjali	15001A0822				
32	K. Kartheek Reddy	15001A0845				
34	G. Haritha	15001A0858	Production of propionic acid	Dr. T. BalaNarsiah	Chemical Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
35	B. Yoga Sai Praneeth Raju	15001A0832				
36	S. Shabina Taj	15001A0843				
37	U. Pavan Kumar Reddy	15001A0815				
39	B. Chandaneswar Kumar	15001A0839	Manufacture of Methanol from Synthesis gas	Dr. T. BalaNarsiah	Chemical Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2,
40	A. Rahul Yadav	15001A0834				
41	C. Chakradhar Reddy	15001A0825				
42	P. JazadeeswarReddy	15001A0860				

						PSO3
43	U. Shraddha	15001A0855	Study of use of immobilized enzymes for conversion of glucose in Cane molasses to Gluconic acid	Mr. M. Kalyan Kumar	Biochemical Engineering, Chemical Reaction Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
44	Ayasha Samreen	15001A0848				
45	J. Himabindu	15001A0808				
46	H. Nazamani	15001A0804				
47	U. Sai Kishore	15001A0803	Manufacture of Methyl Tertiary Butyl Ether (MTBE)	Dr. T. BalaNarsaiiah	Chemical Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
48	Shaik. NazeerAhamed	15001A0823				
49	E. Lalitha	15001A0857				
50	N. Ravi	16005A0802				
51	S. Haritha	15001A0846	Manufacture of formaldehyde using metal oxide as catalyst (Formox process)	Dr. D. Subba Rao	Chemical Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
52	V. Lokesh Kumar	15001A0840				
53	D. Babavali	15001A0830				

Academic Year: 2019-2020

Batch: 2016-20

Best Project

S.No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
1	M. Meghana	16001A0855	Conversion and comparison of cellulose present in Rice Straw and Groundnut Shell	Dr. S. Sharada	Biochemical Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
2	G. Pooja	16001A0815				
3	M. SreeLakshmi Vidya	16001A0819				
4	M. Arif	16001A0821				

Other Projects

S.No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
5	K. Priyanka	16001A0811	Purification of waste water using <u>Moringaoleifera</u> seeds as a natural adsorbent	Dr. S. Sharada	Mass Transfer Operations / Absorption	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
6	A. Swathi	16001A0803				
7	K. Ashasree	16001A0802				
8	N. Mounika	17005A0810				
9	Y. Tejaswi	16001A0857	Study of Anantapur milk dairy	Mr. M. Kalyan Kumar	Biochemical Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
10	A. Ramya	16001A0850				
11	B. Y. V. Saikumari	17005A0809				
12	Y. Prashanthi	16001A0813				
13	R. Sunil Kumar Reddy	16001A0856	Adsorptive Separation of Methylene Blue dye using Banana Peel	Dr. B. Dilip Kumar	Mass Transfer Operations, / Absorption	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
14	S. Firoz	16001A0817				
15	A. Vikranth Kumar	16001A0829				
16	R. S. Sowmya	16001A0826				
17	C. Madesh	16001A0823	Synthesis of metals and composites using green roots	Dr. B. Dilip Kumar	Basics of Nanotechnology	PO1, PO2, PO3, PO4, PO6, PO5, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
18	R. Likhitha	16001A0818				
19	S. Jayasree	16001A0825				
20	S. Mahaboob Basha	16001A0810				
21	P. Raghavendra	16001A0840	Development of process for the production of Chilli <u>OleoResin</u>	Mr. M. Kalyan Kumar	Food Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
22	S. Venugopal Reddy	17005A0804				
23	M. Ravindra Reddy	16001A0827				
24	Z. Rajkumar Naik	14001A0821				
25	T. Bavana Reddy	16001A0838	Production of Biodiesel using Dairy Waste Scum	Mr. M. Kalyan Kumar	Biochemical Engineering	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
26	R. Aruna	16001A0845				
27	R. Sunitha	16001A0822				
28	V. Diwakar Naik	16001A0836				

29	V. Anusha	16001A0852	Synthesis of Silver nanoparticles via green routes	Dr. B. Dilip Kumar	Basics of Nanotechnology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
30	S. Araesh	16001A0846				
31	K. Sravani	17005A0805				
32	S. Munaf	17001A0802				
34	K. Usha Sree	16001A0804	Reduction of Turbidity in Synthetic Water using plant based Natural Coagulants	Dr. S. V. Satyanarayana	Chemical Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
35	C. Sunil	16001A0854				
36	K. Govardhan	16001A0837				
37	CH. Aravind	17001A0803				
39	J. Yamuna	16001A0830	Synthesis of Iron nanoparticles using Moringa Olifera leaf extract	Dr. S. Sarada	Basics of Nanotechnology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
40	G. Harika	16001A0814				
41	U. Narasimha	16001A0849				
42	A. Ashok	17005A0806				
43	V. Chandra Shekar	16001A0807	Removal of inorganic salts from RO concentrate using Thermal evaporation for Zero liquid Discharge	Mr. M. Kalyan Kumar	Separation Processes, Process Heat Transfer	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
44	M. Venkata Sai Prasad	16001A0820				
45	S. Anjali	16001A0833				
46	P. Anil Kumar	16001A0828				
47	G. Sreekanth	16001A0831	Manufacturing of Jasmine Perfume by using waste flowers (Jasmine)	Dr. S. V. Satyanarayana	Mass Transfer Operations/ Distillation	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
48	G. Sunil Kumar	16001A0858				
49	Y. Mithil Kumar Reddy	17001A0801				
50	M. Niranjan	16001A0847				
51	CG. Hemasree	16001A0805	Synthesis of Performic acid using Micro reactor	Dr. T. BalaNarsaiah	Chemical Technology/ Micro reactor	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
52	G. Adithya Chandrasahas	16001A0832				
53	K. Subramanyam	16001A0808				
54	G. Jyothsna Deepika	16001A0848				
55	M. Dhanyatha	16001A0834	Plant design for production of Styrene	Dr. S. V. Satyanarayana	Chemical Process Equipment Design, Chemical Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
56	C. Sharath Krishna	16001A0839				
57	P. Narendra Babu	16001A0853				
58	M. Rakesh	17005A0807				
59	A. Harini Tejasvini	16001A0801	Removal of Malachite Green dye from waste water by using Banana Coir Pith as an adsorbent	Dr. T. BalaNarsaiah	Basics of Nanotechnology, Mass Transfer Operations /Adsorption	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
60	Y. Jayashankar Varma	16001A0812				
61	G. Nazia Tarannam	16001A0841				
62	G. Renuka	16001A0843				
63	G. Sai Raj Gupta	16001A0835	Design of Fluidized Bed Combustor for A 50 MW power plant	Dr. T. BalaNarsaiah	Chemical Process Equipment Design	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
64	S. Ishrath Jahan	16001A0809				
65	V. Krishnaveni	16001A0816				
66	C. Pavani	16001A0844				

Batch: 2017-21

AY: 2020-21

Best Project

S. No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
1	B. VeeraVamsi Kumar	17001A0836	Concentration of Orange juice design of a Double effect falling film evaporator	Dr. S. V. Satyanarayana	Mass Transfer Operations, Chemical Process Equipment Design, Process Heat Transfer	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
2	Ch. V. V. Satyanarayana	18005A0812				
3	C. Remuka	17001A0850				
4	R. Kumar Naik	17001A0817				

Other Projects

S.No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
5	M. Lavanya	17001A0843	An overview of lead acid batteries and study of end-of-life management	Mr. M. Kalyan Kumar	Corrosion Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
6	A. MahaboobShabaz	17001A0804				
7	R. Sreelatha	17001A0812				
8	R. Mabu Shareef	18005A0802				
9	C. Vinay Kiran Reddy	17001A0834	Synthesis of per butyric acid by using continuous micro reactor	Mr. K. Peddintaiiah	Chemical Technology/ Micro reactor	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
10	Shaik peer Shameem Banu	17001A0809				
11	S. Hemanth Kumar	17001A0847				
12	J. Surendra Babu	17001A0849				
13	B. Badri Venkata Prasanna	17001A0845	Design of Fluidized Bed Combustor for A 100 MW power plant	Dr. S. V. Satyanarayana	Chemical Process Equipment Design/ Design	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
14	Y. Abhishek	17001A0808				
15	C. Sasikiran Reddy	17001A0818				
16	S. Musthafa	18005A0803				

17	A.D. GunaSekhar	17001A0848	Steady state simulation of an Isothermal per by using Dwsim.	Dr. B. Dilip Kumar	Process Modeling and Simulation	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
18	V. Jaya Lakshmi	17001A0810				
19	K. Lakshmi Harsha Vardhan	17001A0806				
20	B. Nikhila	17001A0840				
21	D. Udaykiran	17001A0832	Design of primary settling tank for domestic waste water treatment	Ms. P. Uma Maheshwari	Chemical Process Equipment Design, Mechanical Operations/	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
22	K. Sai Chandana	17001A0826				
23	SK. Suhale	17001A0829				
24	A. Gowthami	17001A0838				
25	G. Likhitha	17001A0805	An overview of lithium-Ion batteries and study of end-of-life management	Mr. M. Kalyan Kumar	Corrosion Engineering	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
26	K. Tahseen Raisa Basri	17001A0813				
27	D. Sai Raj Kousik	17001A0803				
28	G. Sukhram	18005A0808				
29	B. Sai Mukesh Reddy	17001A0820	Design and Simulation of shell and tube heat exchanger	Dr. S. Sharada	Process Modeling and Simulation, Process Heat Transfer	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
30	S. Kamalini	17001A0830				
31	E. Hemanth	17001A0811				
32	G. Mahendra Reddy	18005A0809				
34	M. S. V. Ramanan	17001A0844	Modelling and Simulation of Ethane Cracking process	Dr. B. Dilip Kumar	Process Modeling and Simulation, Petroleum refining and Petrochemicals	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
35	K. Nithish Reddy	17001A0852				
36	B. Abhinav	17001A0839				
37	V. Sai Diwakar	18005A0804				
39	K. Harshitha	17001A0824	Estimation of economic feasibility on the production of Rose	Mr. V. Ramanjaneyulu	Chemical Technology, Mass Transfer Operations, Chemical Process Design and Economics	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
40	R. Akhil	17001A0807				
41	E. Lakshmi Lalasa	17001A0819				
42	P. Vamsi Krishna	16001A0859				
43	P. Supriya	17001A0827	Assessment of coal quality by Proximate Analysis of Coal	Mr. M. Murali Naik	Energy Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
44	C. Srinivas	17001A0851				
45	B. meenakshi	17001A0821				
46	P. Padmini	18005A0813				

Batch: 2018-2022

AY: 2021-22

Best Project

S. No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
1	M. Naga Srayani	18001A0827	Green Route Synthesized Nickel Nanoparticles using Nerium Oleander Leaf extract and study of its Anti-Bacterial and Anti-Fungal Activity	Mr. A. Rajasekhar Babu	Basics of Nanotechnology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
2	A. Neelima	18001A0805				
3	P. Yamuna	18001A0811				
4	A. Pradeep	19005A0801				

Other Projects

S. No.	Name	Roll Number	Project Title	Guide Name	Subject / Area of Research	Relevance with stated PO's & PSO's
5	K. Meghana	18001A0834	Recovery of Silver from Waste X - Ray photographic films	Ms. H. Rehana Anjum	Solid Waste Management	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
6	K. Shabaz Ahmed	18001A0823				
7	S. M. Shameer Hussain	18001A0807				
8	E. Sandhya	18001A0817				
9	M. Vidyadhar Reddy	19005A0802	Extraction of D-Limonene from sweet orange peels using Simple Distillation	Mr. M. Murali Naik	Mass Transfer Operations/ Distillation	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
10	P. Achish	18001A0819				
11	G. Sai Vara Prasad	18001A0851				
12	EshankaDeerathWeerasinghe	18001A0861				

13	D. Ramya	19005A0803	Extraction of Oil from Poisonous plant (Oleander)	Mr. V. Ramanjaneyulu	Mass Transfer Operations/ Distillation	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
14	P. Ruchitha	18001A0854				
15	K. Naveen	19005A0806				
16	B. Surya	18001A0816				
17	G. Swetha	18001A0812	Corrosion Inhibition study of mild steel using Okra in Acidic medium	Dr. P. Uma Maheshwari	Corrosion Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
18	M. Thirisha	18001A0841				
19	T. Prudhvi Teja	18001A0849				
20	M. Manjunath	18001A0846				
21	A. Devi	18001A0840	Corrosion inhibition studies of Senna Auriculata Leaves Extract on Mild Steel in H ₂ SO ₄ and HNO ₃ solutions.	Dr. Dilip Kumar Behara	Corrosion Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
22	M. Naga Ganesh	18001A0809				
23	B. Vijay Kumar	18001A0822				
24	N. Naveen Kumar	19005A0807				
25	N. Ramya	18001A0842	Production of Biodiesel using Dairy Waste Scum	Lt. Dr. S. Sharada	Chemical Technology/	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
26	N. Raaga Varshitha Reddy	18001A0855				
	M. Srujana	18001A0839				
27	C. Karunakar	18001A0838				
28	K. Venu Gopal	19005A0804				
30	V. S. Meghana	18001A0803	Synthesis of Hydrophobic surfaces using ZnO Nanoparticles	Ms. G. Neha Mallika	Basics of Nanotechnology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
31	K. Kavya	18001A0815				
32	I. Abhilash	18001A0836				
34	B. Sandeep	18001A0853				
35	C. Likhitha	18001A0850	Synthesis of Performic Acid using Batch Reactor	Mr. K. Peddintaiah	Chemical Technology	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
36	G. Karthik	18001A0832				
37	K. Yomakeswara	18001A0848				
39	C. Madhu Kiran	18001A0828				

40	G. Sai Jyothi Jevthisha	18001A0845	Preparation of Biodegradable Plastic using Cassava Starch	Mr. K. Subba Rao	Biochemical Engineering, Environmental Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
41	B. Susmitha Reddy	18001A0857				
42	G. Naga Charan Sai Yadav	18001A0806				
43	K. Ravindra	19005A0809				
44	N. Raghava Praveen	18001A0837	Extraction of Silica from Rice Husk Ash	Ms. Ch. Maneesha	Mass Transfer Operations	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
45	D. Dheeraj	18001A0829				
46	T. Sowmya	18001A0804				
47	M. Arun Kumar	19005A0805				
48	P. Tejaswini	18001A0830	Improving the Synthesis of Vitamin D by Cultivating Shiitake Mushrooms using Pistachio Shells and Colostrum Milk Cake as Substrate Components	Dr. S. V. Satyanarayana	Biochemical Engineering	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
49	K. Rishi Kumar Raju	18001A0844				
50	R. Yuvaraj	18001A0802				
51	P. Tharun	18001A0808				
52	M. Sai Upendra Reddy	18001A0825	A Study on Nanosponges-Drug delivery and Environmental Applications	Ms. D. Sowjanya	Basics of Nanotechnology, Environmental Engineering/	PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11, PO12, PSO1, PSO2, PSO3
53	S. Eswar Naik	18001A0814				
54	G.V. Sree Varva	18001A0843				
55	D. Manoj Kumar	18001A0826				

C. Project related to Industry

- The faculty members encourage the students to carry out the industry projects and support will be provided by consulting with the industry people.

Batch: 2015-19

Name of the Student	Admission No.	Project Title	Name of the Guide
P. M. Bindusree	15001A0810		
K. Tejeswara Reddy	15001A0836	Corrosion inhibition studies of tagetes erecta (Marigold) and black pepper on carbon steel in acidic medium	Dr. B. Dilip Kumar
S. Sireesha	15001A0829		
V. Suneel Babu	16005A0803		
R. Hari Naik	15001A0807		
K. Anand	15001A0813	Transesterification of waste cooking oil for production of Bio-Diesel	Dr. S. V. Satyanarayana
B. Anjali	15001A0822		
K. Kartheek Reddy	15001A0845		

Batch: 2016-20

Name of the Student	Admission No.	Project Title	Name of the Guide
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Y. Tejaswi	16001A0857		
A. Ramya	16001A0850	Study of Anantapur milk dairy	Mr. M. Kalyan Kumar
B. Y. V. Saikumari	17005A0809		
Y. Prashanthi	16001A0813		
Name of the Student	Admission No.	Project Title	Name of the Guide
T. Bavana Reddy	16001A0838		
R. Aruna	16001A0845	Production of Biodiesel using Dairy Waste Scum	
R. Sunitha	16001A0822		
V. Diwakar Naik	16001A0836		
G. Sai Raj Gupta	16001A0835		
S. IshrathJahan	16001A0809	Design of Fluidized Bed Combustor for A 50 MW power plant	Dr. T. Bala Narasaiah
V. Krishnaveni	16001A0816		
C. Pavani	16001A0844		

Batch:2017-21

Name of the Student	Admission No.	Project Title	Name of the Guide
B. Veera Vamsi Kumar	17001A0836		
Ch. V. V. Satyanarayana	18005A0812	Concentration of Orange juice design of a Double effect falling film evaporator	Dr. S. V. Satyanarayana
C. Renuka	17001A0850		
R. Kumar Naik	17001A0817		
B. Badri Venkata Prasanna	17001A0845		
Y. Abhishek	17001A0808	Design of Fluidized Bed Combustor for A 100 MW power plant	Dr. S. V. Satyanarayana
C. Sasikiran Reddy	17001A0818		
S. Musthafa	18005A0803		
B. Sai Mukesh Reddy	17001A0820		
S. Kamalini	17001A0830	Design and Simulation of shell and tube heat exchanger	Dr. S. Sarada
E. Hemanth	17001A0811		
G. Mahendra Reddy	18005A0809		
M. S. V. Ramanan	17001A0844		
K. Nithish Reddy	17001A0852	Modeling and Simulation of Ethane Cracking process	Dr. B. Dilip Kumar
B. Abhinay	17001A0839		
V. Sai Diwakar	18005A0804		

D. Process for monitoring and evaluation

- The Internal evaluation shall be made by the departmental committee on the basis of presentations given by each project group. Initially Abstract review will be conducted and further reviews will be conducted.

- The students should give a power point presentation during the review.
- The Internal Evaluation shall be made by the department committee consisting of Head of the Department, project supervisor and one senior faculty member.
- The team will submit the project report in the prescribed format given by the College.
- The viva-voce shall be conducted by a committee consisting of Head of the Department, Project Supervisor and an External Examiner nominated by the principal.

E. Process to assess individual and team performance

- The students have to report on their project status to the concerned supervisor periodically.
- The Performance assessment of the individuals is done regularly by the supervisor and the project review committee (PRC) at the time of reviews.

The Rubrics for the project work is given below:

J N T U A COLLEGE OF ENGINEERING, ANANTAPUR
DEPARTMENT OF CHEMICAL ENGINEERING
SOCIALLY RELEVANT PROJECT-EVALUATION SHEET

S. No.	Admission number	Clear Hypothesis/objectives (10)	Demonstration of the methodology (10)	Interpretation of the results (10)	Societal benefits (10)	Outcomes & future scope (10M)	Total Marks (50)
1.	18001A0825						
2.	18001A0814						
3.	18001A0826						
4.	18001A0843						
5.	18001A0827						
6.	18001A0811						
7.	19005A0801						
8.	18001A0805						
9.	18001A0812						
10.	18001A0846						
11.	18001A0849						
12.	18001A0841						
13.	18001A0842						
14.	18001A0839						
15.	18001A0855						
16.	18001A0838						
17.	19005A0804						
18.	18001A0821						
19.	18001A0824						
20.	18001A0820						
21.	18001A0835						
22.	18001A0845						
23.	18001A0806						
24.	18001A0857						
25.	19005A0809						
26.	19005A0802						
27.	18001A0861						
28.	18001A0851						
29.	18001A0819						
30.	18001A0834						
31.	18001A0817						
32.	18001A0823						
33.	18001A0807						
34.	19005A0803						
35.	18001A0854						
36.	18001A0816						
37.	19005A0806						
38.	18001A0803						
39.	18001A0853						
40.	18001A0836						
41.	18001A0815						
42.	18001A0830						
43.	18001A0844						
44.	18001A0802						
45.	18001A0808						

49.	18001A0829						
50.	18001A0850						
51.	18001A0848						
52.	18001A0832						
53.	18001A0828						
54.	18001A0840						
55.	18001A0822						
56.	19005A0807						
57.	18001A0809						

* Maximum (10 M) and Minimum (5 M)

Signature of Evaluator's

(1)

(2)

(3)

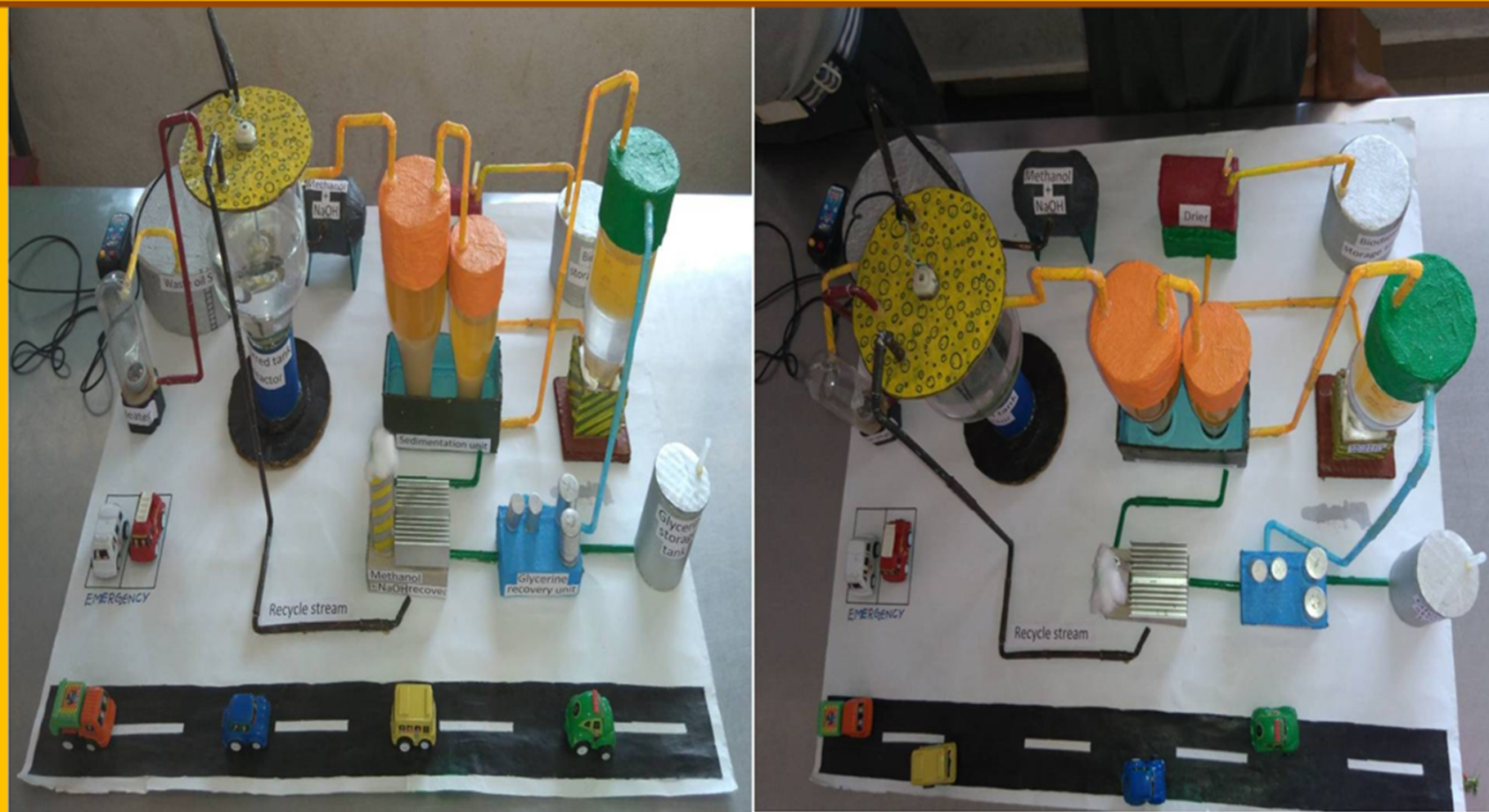
F. Quality of completed projects/working prototypes

- The selection of the best projects shall be conducted by a committee consisting of Head of the Department and two senior faculty members.
- The selection of the project is based on the area of the project, its significance and applications to the present scenario.

Crude Oil Refining



Unit Operations



G. Evidence of papers published / Awards received by projects etc.

Awards received by projects:

Padmasri Dr. B. V. Raju Memorial Best Merit Student Awards were received for the Academic years 2019-20, 2020-2021, 2021-22 the certificates of the same are shown in table 6 and the certificates of award are shown below.

Table 6 Padmasri B V Raju Memorial Award for the Best Merit Student

S. No.	Name of the Student	Admission Number	Awarded Year
1.	Makam Naga Sravani	18001A0827	2021-22
2.	Bathala Veera Vamsi Kumar	17001A0836	2020-21
3.	Mekala Meghana	16001A0855	2019-20



2.2.4 Initiatives related to industry interaction (10)

Institute Marks : 10.00

A. Industry supported laboratories

Few of the experiments in some of the labs supported by industry are listed in Table 6

Table 6 Industry supported laboratories

S. No	Laboratory Name	Industry Name
1	Mechanical Operations Lab	Sathagiri Camphor, Gooty Road, B. Kothapalli, Nh-7, Anantapur, Andhra Pradesh - 515731
2	Mass Transfer Operations	Sathagiri Camphor, Gooty Road, B. Kothapalli, Nh-7, Anantapur, Andhra Pradesh - 515731
3	Energy Environment	Siflon Drugs, SY.NO.-25/4, Rachanapalli Village, Andhra Pradesh 515004.
4	Process Heat Transfer	Sree Rayalaseema Alkalies and Allied Chemicals LTD Gondiparla Village, Gondiparla, Andhra Pradesh 518004
5	Chemical technology	Sree Rayalaseema Alkalies and Allied Chemicals LTD Gondiparla Village, Gondiparla, Andhra Pradesh 518004

B. Industry involvement in the program design and Curriculum

In light of vision and mission of the department industry involvement in the program design and curriculum are based Alumni survey and Graduate exit survey as discussed in sections 2.1.1 & 2.1.4. Further Industry experts are nominated as Board of Studies (BOS) members by the principal for design of program curriculum. The needs of industry as per INDUSTRY 4.0 have been incorporated in the program curriculum with the involvement of industry experts. The inputs from industry experts helped in introducing skill oriented courses in the curriculum from R-20 Regulations thereby improving the skills of the graduates as per the industry requirement.

C. Industry involvement in partial delivery of any regular courses for students

To promote good Institute-Industry Interaction the department has undertaken the following schemes.

- Providing industrial training and other inputs to teaching-learning processes so as to develop awareness about the job functions in the industry among students.
- Arranging visits for students to various industries.
- Engineers from industry to deliver lectures.
- Organizing workshops by Industry/Institute Experts summarized in Table 7

Table 7 Courses delivered by Industry Persons

S. No.	Domain Area	Topic in the regular course/ Name of the Lecture	Details of the Spokes Person
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1	Process Modeling and Simulation	Importance of Process Simulators for Chemical Engineers	Sri. Kommineni Mallikarjuna Shell India, Bangalore
2	Chemical Engineering Plant Design and Economics	Auditing of Chemical Engineering Process Plants	Mr. G. Venkata Srinu Deputy Manager Engineers India Limited New India Purna Chandra Naik
3	Petroleum Refining Engineering	Overview of LNG and CNG	Senior Manager, Gas Authority Indian Limited Ratnagiri Mr. T. Purna Chandra Rao
4.	Material Science, Mechanical Operations	Role of Chemical Engineer in Mining	Head of Department Indian Bureau of Mines Nagpur
5	Research Methodology	Intellectual Property Rights (IPR)	Mr. Ravindranadh Kacharam, Senior Manager, Sci-Tech Patent Art Services Pvt Ltd, Hyderabad. Dr. D K Panda
6	Unit Operations	Indian Cement Industry Scenario in Virtual mode	Joint Director, National Council for Cement and Building Materials(NCB)
7	Unit Operations	Introduction to Chemical Engineering	Tedla Shravan Kumar Freelancer United States of America
8	Industrial Safety & Hazard Management	Safety Aspects of Chemical Engineering	Sri D. M. Butala President IChE Kolkata

INVITED LECTURES AND INTERACTION WITH INDUSTRY EXPERTS



INVITED LECTURES AND INTERACTION WITH INDUSTRY



D. Impact analysis of industry institute interaction and actions taken thereof

- v. The effectiveness of this practice can be gauged by the great response of the participants for the workshops
- v. The feedback is obtained from the students at the end of 8th semester to assess the achievement of the objectives of the industrial training/ summer training/internship/ industrial tour.
- v. Growth of technical skill among students in latest technologies is conducted in department which has an edge in the job market.
- v. The type of trainings in turn reduces the time taken in training in industry after joining the company and gives an easy transition into a job

2.2.5 Initiatives related to industry internship/summer training (10)

Institute Marks : 10.00

A. Industrial training/tours for the students

Industrial Visit: The department organizes industrial visits for students once in a year/semester to relevant organizations/companies along with faculty to enable the students to experience the practical implementation of theoretical knowledge in real world. This gives them an insight of exposure to the industrial environment and the work culture ethics in Industries. The visits also help the students to learn about people management, which is essential in any organization.

INDUSTRIAL VISITS





Table8. Industrial Visits by IChE student members

S. No	Name of the Industry/R&D Organization	Date of visit	No of Participants	Year of Students
1	Sree Rayalaseema Alkalies and Allied Chemicals LTD, Kurnool,	19 th Mar 2022	52	IV BTech
2	JSW Steels, Bellary, Karnataka	9 th Feb 2018	56	III BTech
3	Amar Raja Batteries, Tirupati	2 nd Feb 2018	60	II BTech
4	Berger Paints, Hindupur	18 th Feb 2018	46	IV BTech
5	Chocolate Factory, Munnar	21 st Feb 2018	46	IV BTech
6	L & T Cement, Kochi	22 nd Feb 2018	46	IV BTech

The department supports the internship/summer training requirements of the students in the following ways.

1. Through providing contacts to the industries, R&D institutions.
2. Through providing bonafide letters.
3. Through providing faculty technical guidance for any projects or research being undertaken at the host institution
4. Through orientation of the students on the importance and significance of the internship/summer training
5. Through providing letters of recommendation/reference for the students

Implementation

The following is a list of industrial organizations, R&D institutions, and academic institutions at which our students have pursued their internship/summer training in various industries like JSW Steels, Sree Rayalaseema Alkalies and Allied Chemicals LTD, Berger Paints, Amar Raja Batteries, L & T Cement, Siflon Drugs, Sapthagiri Camphor.

Industrial /internship /summer training of more than two weeks and post training Assessment

The main objective of interaction between industry and department is to improve the quality of technical education adequately to meet the needs of the industry and economy. Internships offer students a practical experience in the industry relating to the field of study. This experience is valuable to students as a means of allowing them to experience how their studies are applied to real world. The bridge between industry and academic institute prepares engineering students for jobs in multinational companies by exposing them to new technology and engineering methodologies.

The training opportunities available and availed are diverse, spreading across numerous chemical industries (petroleum, fertilizers, bulk chemicals, surface coatings, plastics, metallurgy, food, paper, medical, process engineering, consultancy, etc. Additionally, in alignment with the program outcomes, the training has spanned across the various core chemical engineering subjects (with industrial applications): fluid-heat-mass transport, thermodynamics, chemical technology, chemical reaction engineering, mechanical operations, materials science, process instrumentation and control, strength of materials, process safety, etc. The students have gained experience with respect to mass and energy balances, process optimization and troubleshooting, process modeling & simulation, safety engineering & hazard analysis, economic assessment, process design, equipment design, etc. Thus, there has been a clear and significant contribution to the program outcomes.

Internship: Internship is encouraged among students through the implementation of choice based credit system and making following changes in the curriculum. Students are allowed to undergo 4-6 weeks of internship at Research Organizations / Government training institutes / Public sector units / Reputed academic institutions / Reputed industries/ Industry oriented courses / Online courses as thoroughly discussed in criterion 4. The industry/organization is to be selected with the approval of the department. The internship has to be taken on a continuous basis for the periods as stipulated in the academic regulations. This will help the students to choose the open elective in the academic curriculum of their own interest and motivates them to do project work effectively by taking up internships in industry.

- Students are encouraged to go for industry visit, implant training and to take up certification courses to update their knowledge in latest technologies.
- The faculty members interact with alumni those who are working in the industries and request them to provide necessary guidelines and supports for the internship of their juniors.
- Further the students are given guidelines, suggestions, contact details of an internship, and other necessary supports.

Summer training or In plant training: At the end of every semester the students are allowed to carry out internship in reputed industries/companies to get practical exposure to the technologies implemented in industries. It helps the students to bridge the gap between the subject's studies and industrial need.

The students who attended the implant training/summer training are listed in table below

Table 9 Details of Industrial Training attended by Students:

S. No.	Name of the Student	Admission No.	Name of the industry	Duration
1	R. Sreelatha	17001A0812	Lucid Laboratories PVT LTD, Hyderabad	Oct 2019
2	S. Kamalini	17001A0830	Lucid Laboratories PVT LTD, Hyderabad	5 th to 25 th Oct 2019
3	V. Chandra Shekar	16001A0807	JSW Steel Plant, Bellary, Karnataka	11 th June to 6 th July 2018
4	K. Subrahmanyam	16001A0808	JSW Steel Plant, Bellary, Karnataka	11 th June to 6 th July 2018
5	V. Krishna Veni	16001A0816	JSW Steel Plant, Bellary, Karnataka	11 th June to 6 th July 2018
6	V. Lokesh Kumar	15001A0840	Nagarjuna Fertilizers, & Chemicals Limited, Kakinada	12 th to 20 th Jan 2018
7	V. Lokesh Kumar	15001A0840	Nava Bharat Ventures Ltd	24 th September to 3 rd October 2017
8	B. Anjali	15001A0823	Mangal Industries Ltd, Amara Raja Group Company, Tirupathi	14 th to 24 th Dec 2017

9	E. Pallavi	15001A0817	Mangal Industries Ltd, Amara Raja Group Company, Tirupathi	14 th to 24 th Dec 2017
10	P. Veera Prakash Reddy	15001A0814	Mangal Industries Ltd, Amara Raja Group Company, Tirupathi	14 th to 24 th Dec 2017
11	G. Vishnu	15001A0801	Mangal Industries Ltd, Amara Raja Group Company, Tirupathi	14 th to 24 th Dec 2017
12	K. Satya Devan	15001A0827	Nagarjuna Fertilizers, & Chemicals Limited, Kakinada	15 th May to 14 th June 2017

C. Impact Analysis of Industrial Training

The students are provided with the feedback forms to rate their industrial training/internship. It is done to identify the level of achievement. The feedback is obtained from the students at the end of 8th semester to assess the achievement of the objectives of the industrial training/ summer training/internship/ industrial tour. A Sample copy of the feedback form to assess is shown below

Feedback Form to Assess the Industrial Training						
Name of the student: <i>K. Satyadaman</i>						
Admission No: <i>15001A0827</i>						
S. No.	Parameters	Level of Achievement				
		E	G	A	F	P
1	Rank the departmental initiatives about the seriousness regarding industrial training etc.	✓				
2	Did the faculty help you in choosing the right industry	✓				
3	Rank the exposure to the practical working environment	✓				
4	Did you become aware about the practical aspects in the industry	✓				
5	Did you notice some interesting facts and new technologies adopted in the industry	✓				
6	Would you suggest your juniors to undergo training there	✓				
7	Do you want to join this industry as permanent employee	✓				

Impact analysis:

- The student's technical skills are improved.
- Student's placement in core companies is improved.
- The student's placement percentage improves. The scores secured in competitive exams like GATE, CAT, GMAT, GRE improved.
- Students gain valuable work experience.
- Students have an edge in the job market.
- Students participate in more technical events.

D. Student feedback on initiatives

It is mandatory for all the students who do their industrial training to give feedback on this initiative.

Table 10 Students feedback on initiatives

S.No.	Participating Student	Admission No	Initiative Satisfactory	Initiative Unsatisfactory	Comments
1.	S. Kamalini	17001A0830	Yes	No	
2.	V. Chandra Shekar	16001A0807	Yes	No	
3.	K. Subrahmanyam	16001A0808	Yes	No	
4.	V. Krishna Veni	16001A0816	Yes	No	
5.	V. Lokesh Kumar	15001A0840	Yes	No	
6.	V. Lokesh Kumar	15001A0840	Yes	No	
7.	B. Anjali	15001A0823	Yes	No	
8.	E. Pallavi	15001A0817	Yes	No	
9.	P. Veera Prakash Reddy	15001A0814	Yes	No	
10.	G. Vishnu	15001A0801	Yes	No	
11.	K. Satya Devan	15001A0827	Yes	No	
12.	S. Kamalini	17001A0830	Yes	No	

3 COURSE OUTCOMES AND PROGRAM OUTCOMES (175)

Total Marks 175.00

Define the Program specific outcomes

PSO1	Ability to model, simulate and optimize chemical engineering problems
PSO2	Capability to design or develop effective and efficient chemical processes incorporating economic, environmental, social, health, safety and sustainability aspects
PSO3	Competence to practice or apply chemical engineering principles, communication and otherskills in a wide range of industrial, academic and professional employment areas

3.1 Establish the correlation between the courses and the Program Outcomes (POs) & Program Specific Outcomes (25)

Total Marks 25.00

No. of Core Courses : 6	C2 : 2	C3 : 2	C4 : 2
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Note : Number of Outcomes for a Course is expected to be around 6.

Course Name :	C2 21	Course Year :	2018-2019
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Course Name	Statements
C2 21.1	Identify the various elements and characteristics of an instrument required for measuring process variables
C2 21.2	Understand the working principles of different instruments required for measuring temperature, pressure, composition, level, flow rate, density and viscosity.
C2 21.3	Illustrate the construction and working limitation of an instrument for measuring a process variable and implement a safety instrumentation system.
C2 21.4	Compare and choose the appropriate instrument for measuring a given process variable based on its working principle and measuring range.
C2 21.5	Develop the necessary method of monitoring the variable controlling and efficient running of the process.

Course Name :	C2 22	Course Year :	2018-2019
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Course Name	Statements
C2 22.1	Able to identify the nature of heat flow between hot and cold surfaces.
C2 22.2	Able to calculate driving force heat transfer, and heat rate
C2 22.3	Calculate heat transfer rates in boiling liquids and condensing vapours.
C2 22.4	Calculate heat transfer rates by radiation phenomenon, and by combined conduction, convection, and radiation.
C2 22.5	Understand the general design of most commonly used heat exchange equipment in chemical process industries.

Course Name :	C3 31	Course Year :	2019-2020
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Course Name	Statements
C3 31.1	Able to understand transfer functions for different dynamic systems.
C3 31.2	Able to analyze system response for different inputs like step, impulse & sinusoidal
C3 31.3	Able to distinguish different types of controllers (P,PI,PD,PID)
C3 31.4	Able to analyze and develop block diagrams for closed loop systems
C3 31.5	Able to apply stability and analyze process stability using Routh test, Root locus & frequency response techniques
C3 31.6	Able to design advanced control strategies like feed forward control, cascade control, ratio control and Smith predictors

Course Name :	C3 32	Course Year :	2019-2020
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Course Name	Statements
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C3 32.1	Ability to Understand the importance of RTD and the compartmental models for modelling of Non – Ideal flow reacting vessels
C3 32.2	Evaluate the conversions based on segregated flow model, dispersion model and tanks – in – series models.
C3 32.3	Able to Analyze the rate law and the rate controlling step in catalytic reactions, internal and external diffusion effects
C3 32.4	Understand the factors influencing catalyst decay, the role of pore diffusion on catalyst activity rate
C3 32.5	Able to design of the fluid – solid reactors and analyze the changing and unchanging size

Course Name :	C4 41	Course Year :	2020-2021
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Course Name	Statements
C4 41.5	Ability to design steady and time dependent solutions along with their limitations
C4 41.1	Ability to understand the chemical and physical transport processes and their mechanisms.
C4 41.2	Able to Analyze different fluid flow characteristics and different mathematical models applied to actual situations
C4 41.3	Able to Evaluate heat, mass and momentum transfer problems
C4 41.4	Ability to analyze industrial problems along with appropriate approximations and boundary conditions

Course Name :	C4 42	Course Year :	2020-2021
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Course Name	Statements
C4 42.1	Understand the electrochemical behaviour of corroding systems
C4 42.2	Classify Various corrosion forms and the mechanisms involved
C4 42.3	Apply the electrochemical aspects of combating eight forms of corrosion
C4 42.4	Design of suitable materials & methods of combat corrosion
C4 42.5	Evaluate the polarization behaviour of corroding systems

Course Articulation Matrix

:

1 . course name : C221

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C221.1	Identify the	3	3	1	-	1	-	-	1	-	1	-	-
C221.2	Understand	3	3	-	1	-	2	3	-	1	-	-	2
C221.3	Illustrate the	3	1	2	-	2	-	2	1	2	3	-	3
C221.4	Compare and	2	3	3	2	1	1	1	1	3	2	-	2
C221.5	Develop the	3	3	3	2	1	2	2	2	2	2	-	1
Average		2.80	2.60	1.80	1.00	1.00	1.00	1.60	1.00	1.60	1.60	0.00	1.60

2 . course name : C222

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C222.1	Able to ider	3	3	3	3	3	3	3	2	2	2	2	3
C222.2	Able to calc	3	3	3	3	3	3	3	2	2	2	2	3
C222.3	Calculate h	3	3	3	3	3	3	3	2	2	2	2	3
C222.4	Calculate h	3	3	3	3	3	3	3	2	2	2	2	3
C222.5	Understand	3	3	3	3	3	3	3	2	2	2	2	3
Average		3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	3.00

3 . course name : C331

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C331.1	Able to und	3	3	-	-	-	-	-	-	-	-	-	3
C331.2	Able to ana	3	3	-	-	-	-	-	-	3	3	-	3
C331.3	Able to dist	3	3	-	3	-	-	-	-	-	3	-	3
C331.4	Able to ana	3	3	-	3	-	-	-	-	-	3	-	2
C331.5	Able to app	3	3	3	3	3	-	-	3	3	3	1	3
C331.6	Able to des	3	3	3	3	3	-	-	3	3	3	1	3
Average		3.00	3.00	1.00	2.00	1.00	0.00	0.00	1.00	1.50	2.50	0.33	2.80

4 . course name : C332

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C332.1	Ability to Ur	3	2	2	2	-	1	2	1	2	1	-	2
C332.2	Evaluate th	3	3	3	2	-	1	1	1	1	1	-	2
C332.3	Able to Ana	2	3	3	2	-	1	2	1	1	1	-	1
C332.4	Understand	3	2	3	1	-	1	1	1	2	1	-	3
C332.5	Able to des	2	3	1	1	-	1	2	1	2	1	-	2
Average		2.60	2.60	2.40	1.60	0.00	1.00	1.60	1.00	1.60	1.00	0.00	2.00

5 . course name : C441

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C441.5	Ability to de	2	3	3	1	-	1	2	2	3	1	-	2
C441.1	Ability to un	3	2	3	1	-	1	2	2	2	1	-	3
C441.2	Able to Ana	3	3	2	1	-	1	2	1	2	1	-	2
C441.3	Able to Eva	2	3	3	3	-	1	1	1	2	1	-	1
C441.4	Ability to an	3	2	1	2	-	1	1	1	3	1	-	2
Average		2.60	2.60	2.40	1.60	0.00	1.00	1.60	1.40	2.40	1.00	0.00	2.00

6 . course name : C442

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C442.1	Understand	3	3	3	2	1	3	3	1	1	1	2	2
C442.2	Classify Vai	2	3	3	2	1	3	3	1	1	1	1	2
C442.3	Apply the e	3	2	2	1	1	2	3	1	1	-	2	1
C442.4	Design of s	3	3	2	2	1	3	2	1	-	1	1	1
C442.5	Evaluate th	3	3	3	2	1	3	2	1	-	1	2	2
Average		2.80	2.80	2.60	1.80	1.00	2.80	2.60	1.00	0.60	0.80	1.60	1.60

1 . Course Name : C221

Course	PSO1	PSO2	PSO3
C221.1	- ↓	- ↓	2 ↓
C221.2	2 ↓	2 ↓	1 ↓
C221.3	3 ↓	1 ↓	2 ↓
C221.4	2 ↓	1 ↓	- ↓
C221.5	1 ↓	1 ↓	- ↓
Average	1.60	1.00	1.00

2 . Course Name : C222

Course	PSO1	PSO2	PSO3
C222.1	3 ↓	3 ↓	3 ↓
C222.2	3 ↓	3 ↓	3 ↓
C222.3	3 ↓	3 ↓	3 ↓
C222.4	3 ↓	3 ↓	3 ↓
C222.5	3 ↓	3 ↓	3 ↓
Average	3.00	3.00	3.00

3 . Course Name : C331

Course	PSO1	PSO2	PSO3
C331.1	3 ↓	2 ↓	1 ↓
C331.2	3 ↓	2 ↓	1 ↓
C331.3	3 ↓	2 ↓	1 ↓
C331.4	3 ↓	2 ↓	1 ↓
C331.5	3 ↓	2 ↓	1 ↓
C331.6	3 ↓	2 ↓	1 ↓
Average	3.00	2.00	1.00

4 . Course Name : C332

Course	PSO1	PSO2	PSO3
C332.1	2 ∨	1 ∨	2 ∨
C332.2	2 ∨	2 ∨	1 ∨
C332.3	2 ∨	1 ∨	2 ∨
C332.4	1 ∨	2 ∨	2 ∨
C332.5	2 ∨	2 ∨	1 ∨
Average	1.80	1.60	1.60

5 . Course Name : C441

Course	PSO1	PSO2	PSO3
C441.5	2 ∨	2 ∨	2 ∨
C441.1	2 ∨	1 ∨	2 ∨
C441.2	1 ∨	2 ∨	2 ∨
C441.3	2 ∨	1 ∨	1 ∨
C441.4	1 ∨	2 ∨	2 ∨
Average	1.60	1.60	1.80

6 . Course Name : C442

Course	PSO1	PSO2	PSO3
C442.1	1 ∨	3 ∨	3 ∨
C442.2	- ∨	3 ∨	3 ∨
C442.3	1 ∨	3 ∨	3 ∨
C442.4	- ∨	3 ∨	3 ∨
C442.5	1 ∨	3 ∨	3 ∨
Average	0.60	3.00	3.00

Program Articulation Matrix

:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
17A15501	0	0	0	0	0	0	0	3	3	3	0	3
17A15101	3	3	3	3	3	0	0	0	0	0	0	1
17A15302	3	2	0	0	0	1	2	0	0	0	0	2
17A10101	2	1	1	0	0	2	3	3	0	0	0	2
17A10103	2	2	1	0	0	0	0	0	0	0	0	0
17A10501	3	2	2	2	1	0	0	0	0	0	0	0
17A15304	3	2	0	0	0	1	2	0	0	0	0	2
17A13501	2	3	3	3	2	2	1	0	2	0	2	3
17A15502	0	0	0	0	0	0	0	0	3	3	0	3
17A25501	0	0	0	0	0	0	0	0	3	3	0	0
17A25101	3	3	3	3	3	0	0	0	0	0	0	1
17A25201	3	2	2	2	1	0	0	0	0	0	0	2
17A20303	0	0	2	0	2	0	0	0	0	0	0	0
17A22401	3	3	0	0	0	0	0	0	0	0	0	0
17A20801	3	3	2	3	1	3	2	3	1	2	1	2
17A25202	3	0	2	3	2	0	0	0	0	0	0	2
17A20504	2	2	2	3	1	2	0	0	0	0	0	0
17A22402	3	3	0	0	0	0	0	0	0	0	0	0
17A35102	2	2	3	3	3	0	0	0	0	0	0	0
17A35301	3	0	0	0	0	3	0	0	0	0	0	0
17A30801	3	3	3	0	2	2	2	0	1	2	0	3
17A30802	3	3	2	2	2	2	2	2	3	1	2	3
17A30803	3	3	3	1	1	2	2	3	2	2	0	2
17A30804	3	3	2	1	1	1	2	1	2	2	0	2
17A30104	3	0	0	0	0	3	0	0	0	0	0	0
17A30805	3	3	2	2	2	2	2	2	3	1	2	3
17A35104	2	2	3	3	3	0	0	0	0	0	0	0
17A45402	0	0	0	0	0	3	0	3	3	0	3	3
17A45102	2	2	3	3	3	0	0	0	0	0	0	0
17A40801	3	0	0	0	0	0	3	0	0	0	0	0

17A40802	3	3	3	2	2	2	2	1	2	1	1	2
17A40803	3	3	3	2	2	2	2	1	1	1	1	1
17A40804	3	2	2	2	2	1	2	0	1	1	0	2
17A40805	3	3	3	2	2	2	2	1	1	1	1	1
17A40806	3	3	3	2	2	2	2	1	2	1	1	2
17A50801	3	3	2	1	1	1	2	1	2	2	0	2
17A50802	3	2	2	2	2	1	2	0	1	1	0	2
17A50803	3	3	3	2	2	2	2	1	1	2	1	2
17A50804	3	3	3	2	2	1	1	1	1	1	1	2
17A50805	3	2	2	1	1	2	2	1	1	2	2	2
17A50806	3	3	2	2	2	1	1	0	1	1	0	2
17A59901	2	2	0	2	1	0	0	1	2	0	0	0
17A50807	3	3	2	1	1	1	2	1	2	2	0	2
17A50808	3	3	2	2	2	3	3	1	2	2	0	2
17A60801	3	3	3	2	2	1	1	1	1	1	1	2
17A60802	3	3	3	2	2	2	2	1	1	2	1	2
17A60803	3	2	3	2	2	1	2	0	1	2	0	2
17A60804	3	3	3	2	1	1	1	0	1	2	0	2
17A60805	3	3	3	2	1	3	3	3	3	1	1	3
17A60806	3	3	3	2	1	3	3	3	3	1	2	3
17A65501	0	0	0	3	0	0	0	0	3	3	0	3
17A60807	3	3	3	2	2	1	1	1	1	1	1	2
17A60808	3	3	3	2	2	2	2	1	1	2	1	2
17A70801	3	3	3	3	1	1	1	1	1	2	2	2
17A70802	3	3	2	2	2	1	1	0	1	1	0	2
17A70803	3	3	3	2	2	1	1	1	1	1	1	2
17A70804	3	2	2	2	2	1	1	0	1	1	0	2
17A70805	3	2	3	2	2	1	1	0	1	1	0	1
17A70806	3	3	3	3	3	3	3	3	3	1	1	2
17A70807	3	3	3	2	1	1	1	0	1	2	0	2
17A70808	3	3	3	2	2	1	1	0	1	1	0	2

17A80801	3	3	2	2	1	1	3	1	1	1	2	2
17A80802	3	3	3	2	1	3	3	1	1	1	2	2
17A80803	3	3	3	2	1	3	3	1	1	1	2	2
17A80804	3	2	2	3	1	3	2	3	3	2	1	2
17A80805	2	2	2	1	1	0	2	0	2	3	1	1
17A80806	2	2	2	2	0	0	2	0	0	0	2	2

Course	PSO1	PSO2	PSO3
17A10101	0	2	0
17A10103	0	0	0
17A10501	1	2	0
17A13501	1	0	0
17A15101	3	0	0
17A15302	1	2	0
17A15304	0	2	0
17A15501	0	0	0
17A15502	0	0	0
17A20303	0	0	0
17A20504	1	1	2
17A20801	3	3	3
17A22401	0	0	0
17A22402	0	0	0
17A25101	3	0	0
17A25201	2	0	0
17A25202	2	0	0
17A25501	0	0	0
17A30104	3	3	3
17A30801	3	3	3
17A30802	3	3	3
17A30803	2	2	1
17A30804	2	1	1

17A30805	3	3	3
17A35102	0	0	0
17A35104	2	0	0
17A35301	0	1	0
17A40801	0	1	0
17A40802	3	3	3
17A40803	3	3	3
17A40804	3	3	3
17A40805	3	3	3
17A40806	3	3	3
17A45102	2	0	0
17A45402	0	0	0
17A50801	2	1	1
17A50802	3	3	3
17A50803	3	3	2
17A50804	3	3	3
17A50805	3	3	3
17A50806	3	3	3
17A50807	2	1	1
17A50808	1	3	3
17A59901	0	0	0
17A60801	3	3	3
17A60802	3	3	2
17A60803	3	3	2
17A60804	3	3	2
17A60805	2	3	2
17A60806	3	3	3
17A60807	3	3	3
17A60808	3	3	2
17A65501	0	0	0
17A70801	3	3	3

17A70802	3	3	3
17A70803	3	3	3
17A70804	1	3	3
17A70805	3	3	2
17A70806	3	3	3
17A70807	3	3	2
17A70808	3	3	3
17A80801	1	3	2
17A80802	1	3	3
17A80803	1	3	3
17A80804	3	3	3
17A80805	3	3	3
17A80806	3	3	3

3.2 Attainment of Course Outcomes (75)

Total Marks 75.00

3.2.1. Describe the Assessment process used to gather the data upon which evaluation of Course Outcome is based

In Outcome Based Education (OBE), Course Outcome attainment is evaluated by direct assessment tools and In-direct assessment tools.

CO Assessment Process:

- The direct method of assessment includes, CIE, Assignment, Quiz, Project and Seminar.
- The indirect method of assessment includes the feedback obtained from students after completion of each course.

Type of Assessment	Course Assessment and Evaluation Method	Process
Direct Assessment Tools	Common Internal Examination (CIE)	Besides the semester end examinations two Internal Examinations are planned and conducted at regular intervals. Questions in the question paper are mapped to CO's.
	Assignments	Assignment Questions are prepared based on the course objectives. Assignment works submitted by students are assessed towards attainment of CO's.
	Laboratory Course	Performance of evaluation of students for laboratory course is based on lab internal and lab external examination same as the theory course evaluation according to CO's mapped for that laboratory course.
	Seminar/ Technical Presentation	The idea behind seminar is to familiarize students more extensively with their course and also to allow them to interact with examples of the practical problems that occur in recent scenario. It also improves student's communication skills.
	Project	It Provides an opportunity to students to demonstrate independence and originality, to plan and organize a project over a given period, and to put into practice, the techniques that have been taught.
Indirect Assessment Tools	Semester End Examination	At the end of each semester, Semester End Examination is conducted for all courses. The questions for this examination covers entire syllabus.
	Course End Survey	On Completion of every semester, a feedback is obtained from the students for the courses which they have learnt.

The following diagram shows the weightage distribution among CO's for assessment of Course Outcome calculation:

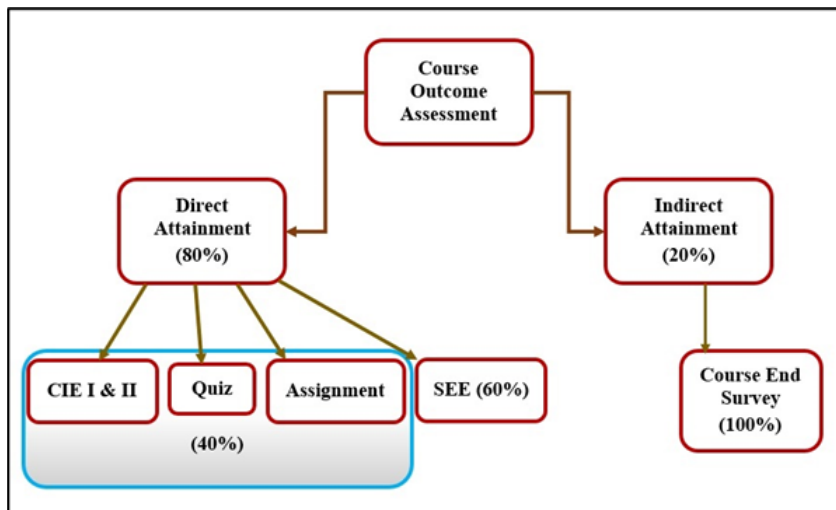


Fig: 3.3.1.a. Flowchart for CO attainment procedure

***Note:** CIE-Common Internal Examination

SEE-Semester End Examination

Process of Calculation for Direct Assessment:

Every question is mapped to a CO the students who got more than 40% of marks are considered for fixing attainment levels.

Attainment level 3: No of students scoring above 70% of Max marks

Attainment level 2: No of students scoring between 60% to 69 % Max marks

Attainment level 1: No of students scoring between than 40% to 59% of Max marks

Attainment level 0: No of students scoring below 40% of Max marks

Process of Calculation for Indirect Assessment:

Course End Survey Calculation:

Assessment through survey is calculated from course end survey reports collected at the end of every semester. After collection of individual survey forms, Here survey is made w.r.t three levels '3' - strongly agree / excellent, '2' - Agree / good; '1' - weekly Agree/ satisfactory

The marks for each Course end survey attainment through survey are calculated based on the following formula:

Course end survey Attainment

$$= \frac{(\text{No. of Students 'Excellent' * 3}) + (\text{No. of Students 'Good' * 2}) + (\text{No. of Students 'Satisfactory' * 1})}{\text{Total No. of Students}}$$

Final CO attainment for each course is calculated based on the contribution of Direct and SEE/ Course end survey assessments as per the weightage given below:

1. Direct Assessment (80%)
2. Course End Survey Assessment (20%)

$$\text{Final CO attainment level} = [(80\% \text{ of Direct assessment (CIE+SEE)} + 20\% \text{ of Indirect Assessment (Course End Survey Assessment)}) / 100]$$

The following snapshot is an example for CO calculation for the course Chemical Reaction Engineering-II course and Chemical Reaction Lab for the batch 2017-21 under regulation R17.

Course Attainment for Mid – I:

Screenshot of MID-I:

Screenshot of Assignment and SEE:

Assignment							Marks of	End Semester Exam				
CO1	CO2	CO3	CO4	CO5			[60M]\COs	CO1	CO2	CO3	CO4	CO5
					Average	Total Marks in Internal Examination	110	22	22	22	22	22
10	10	10	10	10	10	40	60	12	12	12	12	12
10	10	10	10	10	10	23	38	7.6	7.6	7.6	7.6	7.6
10	10	10	10	10	10	29	46	9.2	9.2	9.2	9.2	9.2
10	10	10	10	10	10	27	41	8.2	8.2	8.2	8.2	8.2
10	10	10	10	10	10	26	31	6.2	6.2	6.2	6.2	6.2
10	10	10	10	10	10	31	49	9.8	9.8	9.8	9.8	9.8
10	10	10	10	10	10	26	21	4.2	4.2	4.2	4.2	4.2
10	10	10	10	10	10	20	21	4.2	4.2	4.2	4.2	4.2
10	10	10	10	10	10	29	47	9.4	9.4	9.4	9.4	9.4
10	10	10	10	10	10	20	34	6.8	6.8	6.8	6.8	6.8
10	10	10	10	10	10	31	37	7.4	7.4	7.4	7.4	7.4
10	10	10	10	10	10	28	36	7.2	7.2	7.2	7.2	7.2
10	10	10	10	10	10	35	46	9.2	9.2	9.2	9.2	9.2
10	10	10	10	10	10	29	37	7.4	7.4	7.4	7.4	7.4
10	10	10	10	10	10	31	38	7.6	7.6	7.6	7.6	7.6
10	10	10	10	10	10	20	34	6.8	6.8	6.8	6.8	6.8
10	10	10	10	10	10	16	23	4.6	4.6	4.6	4.6	4.6
10	10	10	10	10	10	23	32	6.4	6.4	6.4	6.4	6.4
10	10	10	10	10	10	30	52	10.4	10.4	10.4	10.4	10.4
10	10	10	10	10	10	31	43	8.6	8.6	8.6	8.6	8.6
10	10	10	10	10	10	30	45	9	9	9	9	9
10	10	10	10	10	10	27	31	6.2	6.2	6.2	6.2	6.2
10	10	10	10	10	10	32	39	7.8	7.8	7.8	7.8	7.8
10	10	10	10	10	10	28	43	8.6	8.6	8.6	8.6	8.6
10	10	10	10	10	10	28	41	8.2	8.2	8.2	8.2	8.2
10	10	10	10	10	10	32	39	7.8	7.8	7.8	7.8	7.8
10	10	10	10	10	10	30	42	8.4	8.4	8.4	8.4	8.4
10	10	10	10	10	10	21	46	9.2	9.2	9.2	9.2	9.2
10	10	10	10	10	10	29	37	7.4	7.4	7.4	7.4	7.4
10	10	10	10	10	10	31	47	9.4	9.4	9.4	9.4	9.4
10	10	10	10	10	10	31	45	9	9	9	9	9
10	10	10	10	10	10	35	43	8.6	8.6	8.6	8.6	8.6
10	10	10	10	10	10	29	41	8.2	8.2	8.2	8.2	8.2
10	10	10	10	10	10	36	52	10.4	10.4	10.4	10.4	10.4
10	10	10	10	10	10	35	44	8.8	8.8	8.8	8.8	8.8
10	10	10	10	10	10	31	34	6.8	6.8	6.8	6.8	6.8
10	10	10	10	10	10	26	38	7.6	7.6	7.6	7.6	7.6
10	10	10	10	10	10	17	32	6.4	6.4	6.4	6.4	6.4
10	10	10	10	10	10	32	49	9.8	9.8	9.8	9.8	9.8
10	10	10	10	10	10	29	35	7	7	7	7	7
10	10	10	10	10	10	31	41	8.2	8.2	8.2	8.2	8.2
10	10	10	10	10	10	34	43	8.6	8.6	8.6	8.6	8.6
10	10	10	10	10	10	33	39	7.8	7.8	7.8	7.8	7.8
10	10	10	10	10	10	27	44	8.8	8.8	8.8	8.8	8.8
10	10	10	10	10	10	19	48	9.6	9.6	9.6	9.6	9.6
10	10	10	10	10	10	24	44	8.8	8.8	8.8	8.8	8.8

10	10	10	10	10	10	21	41	8.2	8.2	8.2	8.2	8.2
10	10	10	10	10	10	24	49	9.8	9.8	9.8	9.8	9.8
10	10	10	10	10	10	26	39	7.8	7.8	7.8	7.8	7.8
10	10	10	10	10	10	28	41	8.2	8.2	8.2	8.2	8.2
10	10	10	10	10	10	23	38	7.6	7.6	7.6	7.6	7.6
10	10	10	10	10	10	21	28	5.6	5.6	5.6	5.6	5.6
10	10	10	10	10	10	21	22	4.4	4.4	4.4	4.4	4.4
10	10	10	10	10	10	21	35	7	7	7	7	7
10	10	10	10	10	10	20	30	6	6	6	6	6
10	10	10	10	10	10	18	27	5.4	5.4	5.4	5.4	5.4
10	10	10	10	10	10	23	26	5.2	5.2	5.2	5.2	5.2
10	10	10	10	10	10	23	32	6.4	6.4	6.4	6.4	6.4
10	10	10	10	10	10	33	49	9.8	9.8	9.8	9.8	9.8
10	10	10	10	10	10	16	29	5.8	5.8	5.8	5.8	5.8
10	10	10	10	10	10	29	34	6.8	6.8	6.8	6.8	6.8

Screenshot of CO-PO Attainment:

Direct CO Attainment											Indirect CO Attainment		Total Co attainment	
	Mid-1	Quiz-1	Mid-2	Quiz-2	Assignment	Internal Total	40% of	External Total	60% of External	Final Direct Attainment Value	80% of Final Direct attainment value	Course end Survey (100%)	20% of Course	80% of Final Direct attainment value + 20%
C01	0.48	2.08			3	1.85	0.74	1.97	1.18	1.92	1.54	2.48	0.50	2.03
C02	1.28	1.41		1.65	3	2.45	0.98	1.97	1.18	2.16	1.73	2.48	0.50	2.22
C03		1.28	0.74	1.69	3	2.24	0.90	1.97	1.18	2.08	1.66	2.56	0.51	2.17
C04			0.69	1.69	3	1.79	0.72	1.97	1.18	1.90	1.52	2.51	0.50	2.02
C05			0.35	1.93	3	1.76	0.70	1.97	1.18	1.89	1.51	2.48	0.50	2.00

10.46

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03
C01	3	2	2	2			1	2	1	2	1	2	2	2	1
C02	3	3	3	2			1	1	1	1		2	2	2	1
C03	2	3	3	2			1	2	1	1	1	1	2	1	2
C04	3	2	3	1			1	1	1	2	1	3	1	2	2
C05	2	3	1	1			1	2	1	2	1	2	2	2	1
	13	13	12	8	0	0	5	8	5	8	5	0	10	9	8
	2.6	2.6	2.4	1.6	0	0	1	1.6	1	1.6	1	0	2	1.8	1.6

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03
C01	2.03	1.36	1.36	1.36	0.00	0.68	1.36	0.68	1.36	0.68	0.00	1.36	1.36	0.68	1.36
C02	2.22	2.22	2.22	1.48	0.00	0.74	0.74	0.74	0.74	0.74	0.00	1.48	1.48	1.48	0.74
C03	1.45	2.17	2.17	1.45	0.00	0.72	1.45	0.72	0.72	0.72	0.00	0.72	1.45	0.72	1.45
C04	2.02	1.35	2.02	0.67	0.00	0.67	0.67	0.67	1.35	0.67	0.00	2.02	0.67	1.35	1.35
C05	1.34	2.00	0.67	0.67	0.00	0.67	1.34	0.67	1.34	0.67	0.00	1.34	1.34	1.34	0.67
	1.81	1.82	1.69	1.13	0.00	0.70	1.11	0.70	1.10	0.70	0.00	1.38	1.26	1.11	1.11

PO & PSO Attainment Level

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03
	1.81	1.82	1.69	1.13	0.00	0.70	1.11	0.70	1.10	0.70	0.00	1.38	1.26	1.11	1.11

Course Attainment for Chemical Reaction Engineering Lab:

Course Name :	Chemical Reaction Engineering Laboratory
Course Code :	
Semester :	III Year II Semester
Batch :	2017 - 2021
Academic Year:	2019 - 2020
Faculty Name	Dr. T Balu Narasiah, Ms. G Neha Mallik

Course Outcomes:		Internal lab					End Marks of each [60M]/CO	End lab Exam					
S.No.	Roll No./ Question no./Max. Marks	CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5	
		40	8	8	8	8	8	12	12	12	12	12	
1	16001A0859	28	5.6	5.6	5.6	5.6	5.6	43	8.6	8.6	8.6	8.6	8.6
2	17001A0801	37	7.4	7.4	7.4	7.4	7.4	47	9.4	9.4	9.4	9.4	9.4
3	17001A0803	33	6.6	6.6	6.6	6.6	6.6	44	8.8	8.8	8.8	8.8	8.8
4	17001A0804	27	5.4	5.4	5.4	5.4	5.4	42	8.4	8.4	8.4	8.4	8.4
5	17001A0805	37	7.4	7.4	7.4	7.4	7.4	52	10.4	10.4	10.4	10.4	10.4
6	17001A0806	37	7.4	7.4	7.4	7.4	7.4	48	9.6	9.6	9.6	9.6	9.6
7	17001A0807	31	6.2	6.2	6.2	6.2	6.2	43	8.6	8.6	8.6	8.6	8.6
8	17001A0808	34	6.8	6.8	6.8	6.8	6.8	46	9.2	9.2	9.2	9.2	9.2
9	17001A0809	32	6.4	6.4	6.4	6.4	6.4	46	9.2	9.2	9.2	9.2	9.2
10	17001A0810	29	5.8	5.8	5.8	5.8	5.8	47	9.4	9.4	9.4	9.4	9.4
11	17001A0811	30	6	6	6	6	6	52	10.4	10.4	10.4	10.4	10.4
12	17001A0812	35	7	7	7	7	7	45	9	9	9	9	9
13	17001A0813	34	6.8	6.8	6.8	6.8	6.8	49	9.8	9.8	9.8	9.8	9.8
14	17001A0814	32	6.4	6.4	6.4	6.4	6.4	51	10.2	10.2	10.2	10.2	10.2
15	17001A0816	28	5.6	5.6	5.6	5.6	5.6	45	9	9	9	9	9
16	17001A0817	31	6.2	6.2	6.2	6.2	6.2	45	9	9	9	9	9
17	17001A0818	25	5	5	5	5	5	44	8.8	8.8	8.8	8.8	8.8
18	17001A0819	34	6.8	6.8	6.8	6.8	6.8	51	10.2	10.2	10.2	10.2	10.2
19	17001A0820	37	7.4	7.4	7.4	7.4	7.4	52	10.4	10.4	10.4	10.4	10.4
20	17001A0821	32	6.4	6.4	6.4	6.4	6.4	48	9.6	9.6	9.6	9.6	9.6
21	17001A0823	31	6.2	6.2	6.2	6.2	6.2	48	9.6	9.6	9.6	9.6	9.6
22	17001A0824	35	7	7	7	7	7	50	10	10	10	10	10
23	17001A0825	28	5.6	5.6	5.6	5.6	5.6	50	10	10	10	10	10
24	17001A0826	32	6.4	6.4	6.4	6.4	6.4	44	8.8	8.8	8.8	8.8	8.8
25	17001A0827	29	5.8	5.8	5.8	5.8	5.8	47	9.4	9.4	9.4	9.4	9.4
26	17001A0829	30	6	6	6	6	6	44	8.8	8.8	8.8	8.8	8.8
27	17001A0830	30	6	6	6	6	6	45	9	9	9	9	9
28	17001A0831	36	7.2	7.2	7.2	7.2	7.2	52	10.4	10.4	10.4	10.4	10.4
29	17001A0832	36	7.2	7.2	7.2	7.2	7.2	50	10	10	10	10	10
30	17001A0833	25	5	5	5	5	5	45	9	9	9	9	9
31	17001A0834	36	7.2	7.2	7.2	7.2	7.2	48	9.6	9.6	9.6	9.6	9.6
32	17001A0835	37	7.4	7.4	7.4	7.4	7.4	46	9.2	9.2	9.2	9.2	9.2
33	17001A0836	35	7	7	7	7	7	50	10	10	10	10	10
34	17001A0837	36	7.2	7.2	7.2	7.2	7.2	49	9.8	9.8	9.8	9.8	9.8
35	17001A0838	36	7.2	7.2	7.2	7.2	7.2	49	9.8	9.8	9.8	9.8	9.8
36	17001A0839	24	4.8	4.8	4.8	4.8	4.8	42	8.4	8.4	8.4	8.4	8.4
37	17001A0840	29	5.8	5.8	5.8	5.8	5.8	41	8.2	8.2	8.2	8.2	8.2
38	17001A0841	35	7	7	7	7	7	49	9.8	9.8	9.8	9.8	9.8
39	17001A0842	36	7.2	7.2	7.2	7.2	7.2	46	9.2	9.2	9.2	9.2	9.2
40	17001A0843	33	6.6	6.6	6.6	6.6	6.6	51	10.2	10.2	10.2	10.2	10.2
41	17001A0844	37	7.4	7.4	7.4	7.4	7.4	47	9.4	9.4	9.4	9.4	9.4
42	17001A0845	38	7.6	7.6	7.6	7.6	7.6	47	9.4	9.4	9.4	9.4	9.4

43	17001A0846	37	7.4	7.4	7.4	7.4	7.4	48	9.6	9.6	9.6	9.6	9.6
44	17001A0847	28	5.6	5.6	5.6	5.6	5.6	45	9	9	9	9	9
45	17001A0848	36	7.2	7.2	7.2	7.2	7.2	49	9.8	9.8	9.8	9.8	9.8
46	17001A0849	26	5.2	5.2	5.2	5.2	5.2	43	8.6	8.6	8.6	8.6	8.6
47	17001A0850	28	5.6	5.6	5.6	5.6	5.6	46	9.2	9.2	9.2	9.2	9.2
48	17001A0851	33	6.6	6.6	6.6	6.6	6.6	48	9.6	9.6	9.6	9.6	9.6
49	17001A0852	32	6.4	6.4	6.4	6.4	6.4	45	9	9	9	9	9
50	18005A0801	31	6.2	6.2	6.2	6.2	6.2	43	8.6	8.6	8.6	8.6	8.6
51	18005A0802	27	5.4	5.4	5.4	5.4	5.4	44	8.8	8.8	8.8	8.8	8.8
52	18005A0803	30	6	6	6	6	6	39	7.8	7.8	7.8	7.8	7.8
53	18005A0804	32	6.4	6.4	6.4	6.4	6.4	41	8.2	8.2	8.2	8.2	8.2
54	18005A0807	26	5.2	5.2	5.2	5.2	5.2	38	7.6	7.6	7.6	7.6	7.6
55	18005A0808	22	4.4	4.4	4.4	4.4	4.4	40	8	8	8	8	8
56	18005A0809	29	5.8	5.8	5.8	5.8	5.8	41	8.2	8.2	8.2	8.2	8.2
57	18005A0810	30	6	6	6	6	6	41	8.2	8.2	8.2	8.2	8.2
58	18005A0812	35	7	7	7	7	7	43	8.6	8.6	8.6	8.6	8.6
59	18005A0813	26	5.2	5.2	5.2	5.2	5.2	43	8.6	8.6	8.6	8.6	8.6
60	18005A0815	31	6.2	6.2	6.2	6.2	6.2	41	8.2	8.2	8.2	8.2	8.2

Chemical Reaction Engineering Lab- PO Attainment Snapshot

Direct CO Attainment					Indirect CO Attainment				Total CO attainment
	Inter nal Total	40% of Inter nal	Extor nal Total	60% of Extor nal	Final Direct Attainment Value	80% of Final Direct attainment value	Course and Survey (100%)	20% of Course End survey	80% of Final Direct attainment value + 20% of Course End survey
C01	2.83	1.13	2.87	1.72	2.85	2.28	2.48	0.50	2.78
C02	2.83	1.13	2.87	1.72	2.85	2.28	2.48	0.50	2.78
C03	2.83	1.13	2.87	1.72	2.85	2.28	2.56	0.51	2.89
C04	2.83	1.13	2.87	1.72	2.85	2.28	2.51	0.50	2.79
C05	2.83	1.13	2.87	1.72	2.85	2.28	2.48	0.50	2.78

CO-PO articulation matrix of the respective subject

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03
C01	3	2	2	2		1	2	1	2	1	2	2	2	1	2
C02	3	3	3	2		1	1	1	1	1		2	2	2	1
C03	2	3	3	2		1	2	1	1	1		1	2	1	2
C04	3	2	3	1		1	1	1	2	1		3	1	2	2
C05	2	3	1	1		1	2	1	2	1		2	2	2	1
	2.6	2.6	2.4	1.6		1	1.6	1	1.6	1		2	1.8	1.6	1.6
	13	13	12	8	0	5	8	5	8	5	0	10	9	8	8

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03
C01	2.78	1.85	1.85	1.85	0.00	0.93	1.85	0.93	1.85	0.93	0.00	1.85	1.85	0.93	1.85
C02	2.78	2.78	2.78	1.85	0.00	0.93	0.93	0.93	0.93	0.93	0.00	1.85	1.85	1.85	0.93
C03	1.86	2.80	2.80	1.86	0.00	0.93	1.86	0.93	0.93	0.93	0.00	0.93	1.86	0.93	1.86
C04	2.79	1.86	2.79	0.93	0.00	0.93	0.93	0.93	1.86	0.93	0.00	2.79	0.93	1.86	1.86
C05	1.85	2.78	0.93	0.93	0.00	0.93	1.85	0.93	1.85	0.93	0.00	1.85	1.85	1.85	0.93
	2.41	2.41	2.23	1.48	0.00	0.93	1.48	0.93	1.48	0.93	0.00	1.86	1.67	1.48	1.49

PO & PSO Attainment Level

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03
	2.41	2.41	2.23	1.48	0.00	0.93	1.48	0.93	1.48	0.93	0.00	1.86	1.67	1.48	1.49

3.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels (65)

Institute Marks : 65.00

As Attainment levels are set for every CO attainment in the process as said above in the Course outcome. The program has decided/ set the following Attainment level

Level 4 –Very High – Score from > 2.5 to 3

Level 3 – High – Score from > 2 to 2.5

Level 2 – Medium – Score from > 1.5 to 2

Level 1 – low – Score from >0 to 1.5

*The target is not to fall below level 3

CO Attainment for the Batch 2017-21:

Course Code	Course Title	Course Outcomes	Direct Tools	Indirect Tools	Total	Attainment Level	Set Attainment Level	Gap Identified	CO Attained (Y/N)
17A15501	English	CO1	2.16	0.44	2.60	4	3	+1	Y
		CO2	2.11	0.44	2.55	4	3	+1	Y
		CO3	2.14	0.46	2.59	4	3	+1	Y
		CO4	2.16	0.44	2.60	4	3	+1	Y
		CO5	2.15	0.44	2.59	4	3	+1	Y
17A15101	Mathematics -I	CO1	1.38	0.52	1.90	2	3	-1	N
		CO2	1.39	0.52	1.91	2	3	-1	N
		CO3	1.46	0.54	1.99	2	3	-1	N
		CO4	1.34	0.53	1.87	2	3	-1	N
		CO5	1.37	0.52	1.89	2	3	-1	N
17A15302	Physical Chemistry	CO1	1.47	0.60	2.07	3	3	0	Y
		CO2	1.50	0.60	2.10	3	3	0	Y
		CO3	1.46	0.60	2.06	3	3	0	Y
		CO4	1.44	0.60	2.04	3	3	0	Y
		CO5	1.41	0.60	2.01	3	3	0	Y
17A10101	Environmental Studies	CO1	1.29	0.52	1.81	2	3	-1	N
		CO2	1.31	0.52	1.83	2	3	-1	N
		CO3	1.45	0.54	2	3	3	0	Y
		CO4	1.33	0.53	1.86	2	3	-1	N
		CO5	1.39	0.52	2	3	3	0	Y

17A10103	Engineering Mechanics & Strength of Materials	CO1	2.05	0.50	2.54	4	3	+1	Y
		CO2	2.16	0.50	2.65	4	3	+1	Y
		CO3	2.12	0.51	2.64	4	3	+1	Y
		CO4	2.02	0.50	2.52	4	3	+1	Y
		CO5	1.90	0.50	2.5	4	3	+1	Y
17A10501	Problem Solving & Computer Programming	CO1	1.40	0.44	1.84	2	3	-1	N
		CO2	1.39	0.44	1.83	2	3	-1	N
		CO3	1.21	0.46	1.67	2	3	-1	N
		CO4	1.35	0.44	1.79	2	3	-1	N
		CO5	1.43	0.44	1.86	2	3	-1	N
17A15304	Physical Chemistry Lab	CO1	2.40	0.15	2.55	4	3	+1	Y
		CO2	2.40	0.16	2.56	4	3	+1	Y
		CO3	2.40	0.16	2.56	4	3	+1	Y
17A13501	Engineering Workshop & IT Workshop	CO1	2.40	0.60	3.00	4	3	+1	Y
		CO2	2.40	0.60	3.00	4	3	+1	Y
		CO3	2.40	0.60	3.00	4	3	+1	Y
		CO4	2.40	0.60	3.00	4	3	+1	Y
		CO5	2.40	0.60	3.00	4	3	+1	Y
17A15502	English Language Communication Skills Lab.	CO1	2.40	0.51	2.91	4	3	+1	Y
		CO2	2.40	0.51	2.91	4	3	+1	Y
		CO3	2.40	0.53	2.93	4	3	+1	Y
		CO4	2.40	0.52	2.92	4	3	+1	Y
		CO5	2.40	0.51	2.91	4	3	+1	Y
17A10801	Comprehensive Objective type Examination	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A25501	Technical Communication and Presentation Skills	CO1	2.16	0.44	2.60	4	3	+1	Y
		CO2	2.05	0.44	2.5	4	3	+1	Y
		CO3	2.12	0.46	2.57	4	3	+1	Y
		CO4	2.09	0.44	2.53	4	3	+1	Y
		CO5	2.13	0.44	2.57	4	3	+1	Y

17A25101	Mathematics -II	CO1	2.4	0.49	2.89	4	3	1	Y
		CO2	1.92	0.49	2.417	3	3	0	Y
		CO3	1.76	0.48	2.246	3	3	0	Y
		CO4	1.44	0.50	1.941	2	3	-1	N
		CO5	1.68	0.48	2.165	3	3	0	Y
17A25201	Engineering Physics	CO1	2.24	0.60	3	4	3	+1	Y
		CO2	2.08	0.60	2.68	4	3	+1	Y
		CO3	2.24	0.60	2.84	4	3	+1	Y
		CO4	2.00	0.60	2.60	4	3	+1	Y
		CO5	2.16	0.60	2.76	4	3	+1	Y
17A20303	Engineering Drawing	CO1	2.4	0.48	2.88	4	3	+1	Y
		CO2	1.92	0.4	2.32	3	3	0	Y
		CO3	1.92	0.4	2.32	3	3	0	Y
		CO4	1.92	0.4	2.32	3	3	0	Y
		CO5	1.92	0.5	2.42	3	3	0	Y
17A22401	Elements of Electrical and Electronics Engineering	CO1	1.74	0.52	2.26	3	3	0	Y
		CO2	1.66	0.52	2.18	3	3	0	Y
		CO3	1.86	0.54	2.40	3	3	0	Y
		CO4	1.58	0.53	2.10	3	3	0	Y
		CO5	1.72	0.52	2.24	3	3	0	Y
17A20801	Introduction to Chemical Engineering	CO1	2.03	0.50	2.53	4	3	+1	Y
		CO2	2.15	0.50	2.65	4	3	+1	Y
		CO3	2.09	0.51	2.60	4	3	+1	Y
		CO4	1.95	0.50	2.45	3	3	0	Y
		CO5	1.89	0.50	2.39	3	3	0	Y
17A25202	Engineering Physics Lab	CO1	1.15	1.77	2.92	4	3	+1	Y
		CO2	1.15	1.77	2.92	4	3	+1	Y
		CO3	1.15	1.77	2.92	4	3	+1	Y
		CO4	1.15	1.77	2.92	4	3	+1	Y
		CO5	1.15	1.77	2.92	4	3	+1	Y

17A20504	Computer Programming Lab	CO1	2.06	0.51	2.57	4	3	+1	Y
		CO2	2.06	0.51	2.57	4	3	+1	Y
		CO3	2.06	0.53	2.59	4	3	+1	Y
		CO4	2.06	0.52	2.58	4	3	+1	Y
		CO5	2.06	0.51	2.57	4	3	+1	Y
17A22402	Electrical and Electronics Engineering Lab	CO1	2.09	0.50	2.58	4	3	+1	Y
		CO2	2.09	0.50	2.58	4	3	+1	Y
		CO3	2.09	0.51	2.60	4	3	+1	Y
		CO4	2.09	0.50	2.59	4	3	+1	Y
		CO5	2.09	0.50	2.58	4	3	+1	Y
17A29901	Community Service (Audit)	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A20304	Comprehensive Objective type Examination	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A35102	Mathematical Methods	CO1	1.29	0.52	1.81	2	3	-1	N
		CO2	1.31	0.52	1.83	2	3	-1	N
		CO3	1.45	0.54	1.99	2	3	-1	N
		CO4	1.33	0.53	1.86	2	3	-1	N
		CO5	1.39	0.52	1.91	2	3	-1	N
17A35301	Organic Chemistry	CO1	2.29	0.60	3.00	4	3	+1	Y
		CO2	2.40	0.60	3.0	4	3	+1	Y
		CO3	2.24	0.60	2.84	4	3	+1	Y
		CO4	2.40	0.60	3.00	4	3	+1	Y
		CO5	2.40	0.60	3.00	4	3	+1	Y

17A30801	Chemical Process Calculations	CO1	0.96	0.52	1.5	2	3	-1	N
		CO2	0.94	0.52	1.5	2	3	-1	N
		CO3	0.86	0.54	1.39	1	3	-2	N
		CO4	1.02	0.53	1.55	2	3	-1	N
		CO5	0.85	0.52	1.37	1	3	-1	N
17A30802	Momentum Transfer	CO1	1.27	0.52	1.79	2	3	-1	N
		CO2	1.21	0.52	1.73	2	3	-1	N
		CO3	1.23	0.54	1.77	2	3	-1	N
		CO4	1.13	0.53	1.66	2	3	-1	N
		CO5	1.19	0.52	1.71	2	3	-1	N
17A30803	Material science for Chemical Engineers	CO1	0.960	0.496	1.5	2	3	-1	N
		CO2	0.906	0.496	1.40	1	3	-2	N
		CO3	0.943	0.512	1.5	2	3	-1	N
		CO4	0.911	0.502	1.41	1	3	-2	N
		CO5	0.914	0.496	1.41	1	3	-2	N
17A30804	Process instrumentation	CO1	2.03	0.50	2.53	4	3	+1	Y
		CO2	2.15	0.50	2.65	4	3	+1	Y
		CO3	2.09	0.51	2.60	4	3	+1	Y
		CO4	1.95	0.50	2.45	3	3	0	Y
		CO5	1.89	0.50	2.39	3	3	0	Y
17A39901	Human Values & Professional Ethics (Audit)	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A30104	Organic Chemistry Lab	CO1	2.4	0.15	3	4	3	+1	Y
		CO2	2.4	0.16	3	4	3	+1	Y
		CO3	2.4	0.16	3	4	3	+1	Y
17A30805	Momentum Transfer Lab	CO1	2.34	0.496	2.83	4	3	+1	Y
		CO2	2.24	0.496	2.74	4	3	+1	Y
		CO3	2.24	0.512	2.75	4	3	+1	Y
		CO4	2.24	0.502	2.74	4	3	+1	Y

17A35104	Exploratory Data Analysis	CO1	2.40	0.5	2.90	4	3	+1	Y
		CO2	2.40	0.5	2.90	4	3	+1	Y
		CO3	2.40	0.5	2.90	4	3	+1	Y
		CO4	2.40	0.5	2.90	4	3	+1	Y
17A30806	Comprehensive Objective type Examination	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A45402	Management Science	CO1	2.05	0.50	2.54	4	3	+1	Y
		CO2	2.16	0.50	2.65	4	3	+1	Y
		CO3	2.12	0.51	2.64	4	3	+1	Y
		CO4	2.02	0.50	2.52	4	3	+1	Y
		CO5	1.90	0.50	2.5	4	3	+1	Y
17A45102	Probability and Statistics	CO1	1.27	0.52	1.79	2	3	-1	N
		CO2	1.21	0.52	1.73	2	3	-1	N
		CO3	1.23	0.54	1.77	2	3	-1	N
		CO4	1.13	0.53	1.66	2	3	-1	N
		CO5	1.19	0.52	1.71	2	3	-1	N
17A40801	Analytical Chemistry	CO1	2.29	0.60	3	4	3	+1	Y
		CO2	2.24	0.60	2.84	4	3	+1	Y
		CO3	2.40	0.60	3	4	3	+1	Y
		CO4	2.08	0.60	2.68	4	3	+1	Y
		CO5	2.08	0.60	2.68	4	3	+1	Y
17A40802	Process Heat Transfer	CO1	1.74	0.52	2.26	3	3	0	Y
		CO2	1.66	0.52	2.18	3	3	0	Y
		CO3	1.86	0.54	2.40	3	3	0	Y
		CO4	1.58	0.53	2.10	3	3	0	Y
		CO5	1.72	0.52	2.24	3	3	0	Y
17A40803	Mechanical Operations	CO1	2.03	0.50	2.53	4	3	+1	Y
		CO2	2.15	0.50	2.65	4	3	+1	Y
		CO3	2.09	0.51	2.60	4	3	+1	Y
		CO4	1.95	0.50	2.45	3	3	0	Y
		CO5	1.89	0.50	2.39	3	3	0	Y

17A40804	Chemical Engineering Thermodynamics	CO1	0.96	0.52	1.5	2	3	-1	N
		CO2	0.94	0.52	1.5	2	3	-1	N
		CO3	0.86	0.54	1.39	1	3	-2	N
		CO4	1.02	0.53	1.55	2	3	-1	N
		CO5	0.85	0.52	1.37	1	3	-1	N
17A40805	Mechanical Operations Lab	CO1	2.33	0.50	2.83	4	3	+1	Y
		CO2	2.33	0.50	2.83	4	3	+1	Y
		CO3	2.33	0.51	2.83	4	3	+1	Y
		CO4	2.33	0.50	2.83	3	3	0	Y
		CO5	2.33	0.50	2.83	3	3	0	Y
17A40806	Process Heat Transfer Lab	CO1	2.31	0.50	2.81	4	3	+1	Y
		CO2	2.31	0.50	2.81	4	3	+1	Y
		CO3	2.31	0.51	2.82	4	3	+1	Y
		CO4	2.31	0.50	2.81	4	3	+1	Y
		CO5	2.31	0.50	2.81	4	3	+1	Y
17A40807	Comprehensive Objective type Examination	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A50801	Process Dynamics & Control	CO1	1.69	0.50	2.18	3	3	0	Y
		CO2	1.70	0.50	2.19	3	3	0	Y
		CO3	1.59	0.51	2.10	3	3	0	Y
		CO4	1.51	0.50	2.01	3	3	0	Y
		CO5	1.57	0.50	2.06	3	3	0	Y
		CO6	1.41	0.49	1.90	2	3	-1	N
17A50802	Phase and Chemical Equilibria	CO1	1.48	0.50	2.00	3	3	0	Y
		CO2	1.53	0.50	2.00	3	3	0	Y
		CO3	1.47	0.51	2.00	3	3	0	Y
		CO4	1.46	0.50	2.00	3	3	0	Y
		CO5	1.51	0.50	2.00	3	3	0	Y

17A50803	Chemical Reaction Engineering-I	CO1	1.27	0.52	1.79	2	3	-1	N
		CO2	1.21	0.52	1.73	2	3	-1	N
		CO3	1.23	0.54	1.77	2	3	-1	N
		CO4	1.13	0.53	1.66	2	3	-1	N
		CO5	1.19	0.52	1.71	2	3	-1	N
17A50804	Mass Transfer Operations-I	CO1	1.58	0.52	2.10	3	3	0	Y
		CO2	1.60	0.52	2.12	3	3	0	Y
		CO3	1.45	0.54	2	3	3	0	Y
		CO4	1.52	0.53	2.05	3	3	0	Y
		CO5	1.74	0.52	2.26	3	3	0	Y
17A50805	Chemical Technology	CO1	2.19	0.46	2.65	4	3	+1	Y
		CO2	2.31	0.46	2.77	4	3	+1	Y
		CO3	2.38	0.48	2.59	4	3	+1	Y
		CO4	2.34	0.47	2.53	4	3	+1	Y
		CO5	2.33	0.47	2.59	4	3	+1	Y
17A50806	Process Modelling & Simulation	CO1	1.29	0.52	1.81	2	3	-1	N
		CO2	1.31	0.52	1.83	2	3	-1	N
		CO3	1.45	0.54	2	3	3	0	Y
		CO4	1.33	0.53	1.86	2	3	-1	N
		CO5	1.39	0.52	2	3	3	0	Y
17A59901	Foreign Language (Audit)	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A50807	Process Dynamics & Control Lab	CO1	1.99	0.50	2.48	3	3	0	Y
		CO2	1.99	0.50	2.48	3	3	0	Y
		CO3	1.99	0.51	2.50	3	3	0	Y
		CO4	1.99	0.50	2.49	3	3	0	Y
		CO5	1.99	0.50	2.48	3	3	0	Y

17A50808	Energy & Environmental Engineering Lab	CO1	2.27	0.53	2.80	4	3	+1	Y
		CO2	2.27	0.52	2.79	4	3	+1	Y
		CO3	2.27	0.53	2.80	4	3	+1	Y
		CO4	2.27	0.53	2.80	4	3	+1	Y
		CO5	2.27	0.53	2.80	4	3	+1	Y
17A60801	Mass Transfer Operations-II	CO1	1.51	0.50	2.01	3	3	0	Y
		CO2	1.52	0.50	2.01	3	3	0	Y
		CO3	1.47	0.50	1.98	2	3	-1	N
		CO4	1.56	0.50	2.07	3	3	0	Y
		CO5	1.54	0.50	2.04	3	3	0	Y
17A60802	Chemical Reaction Engineering-II	CO1	1.54	0.50	2.03	3	3	0	Y
		CO2	1.73	0.50	2.22	3	3	0	Y
		CO3	1.66	0.51	2.15	3	3	0	Y
		CO4	1.52	0.50	2.02	3	3	0	Y
		CO5	1.51	0.50	2.00	3	3	0	Y
17A60803	Chemical Plant Design and Economics	CO1	1.58	0.52	2.10	3	3	0	Y
		CO2	1.60	0.52	2.12	3	3	0	Y
		CO3	1.45	0.54	2	3	3	0	Y
		CO4	1.52	0.53	2.05	3	3	0	Y
		CO5	1.74	0.52	2.26	3	3	0	Y
17A60804	Chemical Process Equipment Design	CO1	2.36	0.496	2.85	4	3	+1	Y
		CO2	2.31	0.496	2.81	4	3	+1	Y
		CO3	2.16	0.512	2.67	4	3	+1	Y
		CO4	2.08	0.502	2.58	4	3	+1	Y
17A60805	Industrial Pollution Control Engineering	CO1	2.19	0.46	2.65	4	3	+1	Y
		CO2	2.31	0.46	2.77	4	3	+1	Y
		CO3	2.38	0.48	2.59	4	3	+1	Y
		CO4	2.34	0.47	2.53	4	3	+1	Y
		CO5	2.33	0.47	2.59	4	3	+1	Y
17A60806	Solid Waste management	CO1	2.29	0.60	3	4	3	+1	Y
		CO2	2.24	0.60	2.84	4	3	+1	Y
		CO3	2.40	0.60	3	4	3	+1	Y
		CO4	2.08	0.60	2.68	4	3	+1	Y
		CO5	2.08	0.60	2.68	4	3	+1	Y

17A65501	Advanced Communication Skills Lab	CO1	2.40	0.52	2.92	4	3	+1	Y
		CO2	2.40	0.52	2.92	4	3	+1	Y
		CO3	2.40	0.54	2.94	4	3	+1	Y
		CO4	2.40	0.53	2.93	4	3	+1	Y
		CO5	2.40	0.52	2.92	4	3	+1	Y
17A60807	Mass Transfer Operation Lab	CO1	2.09	0.50	2.58	4	3	+1	Y
		CO2	2.09	0.50	2.58	4	3	+1	Y
		CO3	2.09	0.51	2.60	4	3	+1	Y
		CO4	2.09	0.50	2.59	4	3	+1	Y
		CO5	2.09	0.50	2.58	4	3	+1	Y
17A60808	Chemical Reaction Engineering Lab	CO1	2.28	0.50	2.78	4	3	+1	Y
		CO2	2.28	0.50	2.78	4	3	+1	Y
		CO3	2.28	0.51	2.81	4	3	+1	Y
		CO4	2.28	0.50	2.78	4	3	+1	Y
		CO5	2.28	0.50	2.78	4	3	+1	Y
17A60809	Comprehensive Objective type Examination	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A70801	Transport Phenomena	CO1	1.72	0.50	2.21	3	3	0	Y
		CO2	1.66	0.50	2.15	3	3	0	Y
		CO3	1.81	0.51	2.32	3	3	0	Y
		CO4	1.81	0.50	2.32	3	3	0	Y
		CO5	1.59	0.50	2.08	3	3	0	Y
17A70802	Optimization of Chemical Processes	CO1	1.4	0.50	1.9	2	3	-1	N
		CO2	1.4	0.50	1.89	2	3	-1	N
		CO3	1.32	0.51	1.83	2	3	-1	N
		CO4	1.39	0.50	1.90	2	3	-1	N
		CO5	1.47	0.50	2	2	3	-1	N

17A70803	Separation Processes	CO1	1.75	0.50	2.25	3	3	0	Y
		CO2	1.63	0.50	2.13	3	3	0	Y
		CO3	1.74	0.5	2.24	3	3	0	Y
		CO4	1.79	0.50	2.29	3	3	0	Y
		CO5	1.81	0.50	2.31	3	3	0	Y
17A70804	Industrial Safety & Hazard Management	CO1	1.29	0.52	1.81	2	3	-1	N
		CO2	1.31	0.52	1.83	2	3	-1	N
		CO3	1.45	0.54	2	3	3	0	Y
		CO4	1.33	0.53	1.86	2	3	-1	N
		CO5	1.39	0.52	2	3	3	0	Y
17A70805	Design & Analysis of Experiments	CO1	1.64	0.54	2.18	3	3	0	Y
		CO2	1.59	0.54	2.13	3	3	0	Y
		CO3	1.63	0.52	2.16	3	3	0	Y
		CO4	1.63	0.53	2.16	3	3	0	Y
		CO5	1.64	0.54	2.17	3	3	0	Y
17A70806	Energy Engineering	CO1	1.91	0.51	2.42	3	3	0	Y
		CO2	1.66	0.53	2.19	3	3	0	Y
		CO3	1.91	0.53	2.44	3	3	0	Y
		CO4	1.67	0.52	2.20	3	3	0	Y
17A79906	MOOC-I (Audit)	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A70807	Process Equipment Design & Drawing Lab	CO1	2.02	0.53	2.54	4	3	+1	Y
		CO2	2.02	0.52	2.53	4	3	+1	Y
		CO3	2.02	0.53	2.54	4	3	+1	Y
		CO4	2.02	0.53	2.55	4	3	+1	Y
		CO5	2.02	0.53	2.55	4	3	+1	Y
		CO6	2.02	0.53	2.55	4	3	+1	Y
17A70808	Process Simulation Lab	CO1	1.48	0.50	2.00	3	3	0	Y
		CO2	1.48	0.50	2.00	3	3	0	Y
		CO3	1.48	0.51	2.00	3	3	0	Y
		CO4	1.48	0.50	2.00	3	3	0	Y

17A70809	Comprehensive Objective type Examination	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A59902	Internship/Skill Development (Audit Course)	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A80801	Bio-Chemical Engineering	CO1	1.99	0.48	2.47	3	3	0	Y
		CO2	2.00	0.48	2.48	3	3	0	Y
		CO3	2.30	0.48	2.78	4	3	+1	Y
		CO4	1.99	0.48	2.47	3	3	0	Y
		CO5	2.15	0.48	2.63	4	3	+1	Y
17A80802	Fluidization Engineering	CO1	2.03	0.48	2.50	4	3	+1	Y
		CO2	2.01	0.46	2.47	3	3	0	Y
		CO3	2.00	0.48	2.48	3	3	0	Y
		CO4	2.04	0.47	2.50	4	3	+1	Y
		CO5	2.00	0.47	2.47	3	3	0	Y
17A80803	Corrosion Engineering	CO1	2.11	0.54	2.65	4	3	+1	Y
		CO2	2.30	0.54	2.84	4	3	+1	Y
		CO3	2.17	0.52	2.70	4	3	+1	Y
		CO4	2.07	0.53	2.60	4	3	+1	Y
		CO5	1.89	0.53	2.43	3	3	0	Y
17A80804	Petroleum Refining & Petrochemicals	CO1	2.10	0.50	2.59	4	3	+1	Y
		CO2	2.06	0.50	2.56	4	3	+1	Y
		CO3	2.16	0.51	2.67	4	3	+1	Y
		CO4	2.11	0.50	2.61	4	3	+1	Y
		CO5	2.13	0.50	2.63	4	3	+1	Y

17A89906	MOOC-II(Audit)	CO1							
		CO2							
		CO3	-	-	-	-	-	-	-
		CO4							
		CO5							
17A80805	Seminar	CO1	2.40	0.50	2.90	4	3	+1	Y
		CO2	2.40	0.50	2.90	4	3	+1	Y
		CO3	2.40	0.51	2.91	4	3	+1	Y
		CO4	2.40	0.50	2.90	4	3	+1	Y
		CO5	2.40	0.50	2.90	4	3	+1	Y
17A80806	Project Work	CO1	2.40	0.50	2.90	4	3	+1	Y
		CO2	2.40	0.50	2.90	4	3	+1	Y
		CO3	2.40	0.51	2.91	4	3	+1	Y
		CO4	2.40	0.50	2.90	4	3	+1	Y
		CO5	2.40	0.50	2.90	4	3	+1	Y

3.3 Attainment of Program Outcomes and Program Specific Outcomes (75)

Total Marks 75.00

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

Institute Marks : 10.00

Describe assessment tools and processes used for measuring the attainment of each Program Outcome and Program Specific Outcomes

PO Assessment Tools are categorized into direct and indirect methods to assess the program outcomes and program Specific outcomes. The assessment process is shown in below figure:

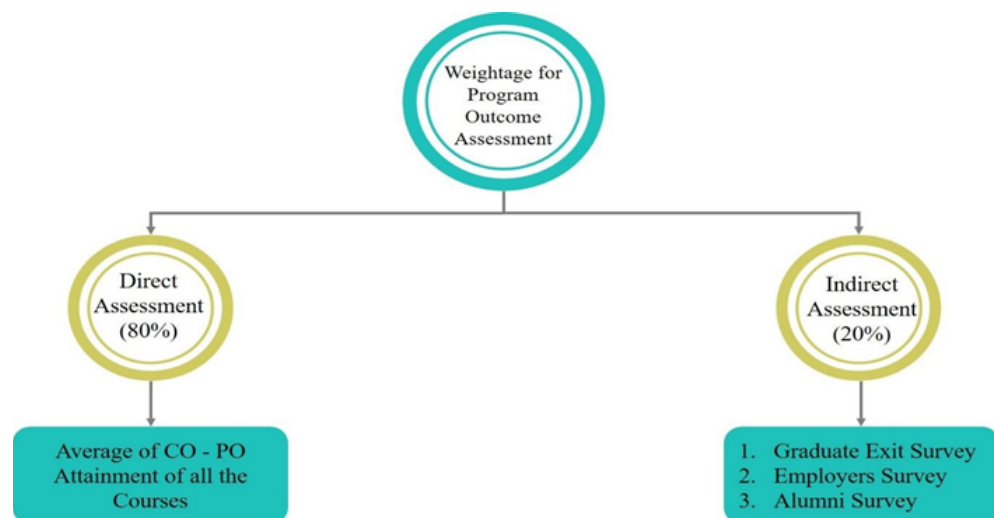


Fig. 2: Flow chart for PO Attainment process

Direct Assessment:

In direct method the attainment of each PO/PSO is measured through attainment of CO's, the attainment is done for

1. Two Internal Examinations (IE) descriptive
2. Two Internal Examinations (IE) objective
3. Two Assignments
4. Semester External Examination (SEE)

Indirect Assessment:

In direct method the tools used for measuring attainment of each PO and PSO are Graduate Exit Survey, Alumni Survey and Employers Survey.

(a) The Graduate exit survey is a questionnaire prepared by faculty member and answered by every individual student about the program after the completion of program. This is collected from the graduating students of that year. Graduate exit survey is conducted using the format shown in figure below:

JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAMU
 DEPARTMENT OF CHEMICAL ENGINEERING
 GRADUATE EXIT SURVEY
 Batch : 2018 - 2022

Student name: P. YOMUNA

Year of graduation: 20 22

After graduation, I am/ have:

Vision & Mission

Vision:

To become a globally recognized Chemical Engineering program coupled with excellence in education, training, research and consultancy in Chemical Engineering and to serve as a valuable resource for industry and society.

Mission:

- To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.
- To develop infra-structure that promotes internationally recognized research, creativity and an entrepreneurial culture.
- To foster ethical leadership and activities those support the administration, advancements, governance and regulation of chemical engineering education and the engineering profession.
- To undertake collaborative projects/consultancy works which provide opportunities for long-term interaction with academia, industry and other research organizations.

Sl. No	Question	Highly Satisfied [3]	Moderately Satisfied [2]	Satisfied [1]
1	An ability to apply the knowledge of Mathematics, Science, Engineering and fundamentals for understanding and solving of complex Engineering problems in Chemical Engineering		✓	
2	Be capable of designing and conducting experiments and be able to analyze and interpret data		✓	
3	An ability to design systems, components, and processes to meet desired needs applicable to Chemical Engineering within realistic constraints such as economic, environment, social, political, ethical, health and safety, manufacturability and sustainability		✓	
4	An ability to function effectively as individual, as a member or leader in diversified teams and multidisciplinary			✓

	the chemical engineering profession and to society at large			
7	An ability to communicate effectively by conveying technical material through both formal written medium and through oral presentations		✓	
8	To attain broad education necessary to understand the impact of chemical engineering related solutions in a global, economic, environmental and societal context			✓
9	An ability to recognize the need for continuous professional development through lifelong learning		✓	
10	Ability to possess knowledge of contemporary chemical engineering related issues			✓
11	An ability to use the techniques, skills, and modern engineering tools necessary for chemical engineering practice.		✓	
12	Ability to design, analyze and control physical and chemical processes. (Project Management and Finance)			✓
13	Ability to model, simulate and optimize Chemical Engineering problems			✓
14	Capability to design or develop effective and efficient chemical processes incorporating economics, environmental, social, health, safety and sustainability.	✓		
15	Competence to practice or apply Chemical Engineering principles, communication and other skills in a wide range of industrial academic and professional employment areas			✓
16	PEO 1. To prepare the students for successful careers in industry and/or to excel in pursuit of higher studies	✓		
17	PEO 2. To provide students with the necessary Chemical Engineering skills required for the workforce including knowledge of Chemical and Allied Engineering techniques and the ability to utilize science, mathematics, and engineering principles to analyze and solve problems, which are more essential to societal needs.	✓		
18	PEO 3. To provide students with professional skills necessary to be effective and succeed in the modern			✓

5	Ability to identify, formulate, and solve Chemical Engineering related problems.			✓
6	An understanding of professional and ethical responsibility to		✓	

workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professionalism			✓
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Fig.3 : Graduate exit survey form

(b) The Alumni Survey is designed to give graduates an opportunity to reflect upon their years at this institution. This information is used to improve the college experience for future students by identifying strengths in our programs as well as areas that need further development. Alumni survey is conducted using the format shown in figure below:

JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
Alumni Survey Format

Name of the Alumni: Hemant Kumar S

Batch: 2013-14

Vision & Mission

Vision:

To become a globally recognized Chemical Engineering program coupled with excellence in education, training, research and consultancy in Chemical Engineering and to serve as a valuable resource for industry and society.

Mission:

- To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.
- To develop infra-structure that promotes internationally recognized research, creativity and an entrepreneurial culture.
- To foster ethical leadership and activities those support the administration, advancements, governance and regulation of chemical engineering education and the engineering profession.
- To undertake collaborative projects/consultancy works which provide opportunities for long – term interaction with academia, industry and other research organizations.

S. No	Competencies	Level of Competencies		
		Highly satisfied [3]	Moderately satisfied [2]	Satisfied [1]
1	Engineering knowledge : Apply the knowledge of Mathematics, Science, Engineering and fundamentals for understanding and solving of complex Engineering problems in Chemical Engineering		✓	
2	Problem analysis : Capable of designing and conducting experiments and be able to analyze and interpret data Ability to execute a solution process and analyze results		✓	
3	Design/Development of solution : Design solutions for complex engineering problems and design system components or processes that meet the specified needs applicable to Chemical Engineering within realistic constraints such as economic, environment, social, political, ethical, health and safety, manufacturability and sustainability	✓		
4	Conduct investigations of complex problems : Function effectively as individual, as a member or leader in diversified	✓		

6	The engineer and society : An understanding of professional and ethical responsibility to the chemical engineering profession and to society at large.	✓		
7	Environment and Sustainability: Communicate effectively by conveying technical material through both formal written medium and through oral presentations.	✓		
8	Ethics : To attain broad education necessary to understand the impact of chemical engineering related solutions in a global, economic, environmental and societal context.	✓		
9	Individual and team work : Recognize the need for, and have the preparation and ability for continuous professional development through lifelong learning		✓	
10	Communication : Ability to possess knowledge of contemporary chemical engineering related issues.			✓
11	Life-long learning : An ability to use the techniques, skills, and modern engineering tools necessary for chemical engineering practice.		✓	
12	Project management and finance : Ability to design, analyze and control physical and chemical processes. (Project Management and Finance)	✓		
13	Fundamental knowledge: Ability to model, simulate and optimize Chemical Engineering problems	✓		
14	Design & Modeling: Capability to design or develop effective and efficient chemical processes incorporating economics, environmental, social, health, safety and sustainability.		✓	
15	Utilize the knowledge: Competence to practice or apply Chemical Engineering principles, communication and other skills in a wide range of industrial academic and professional employment areas		✓	
16	PEO 1. To prepare the students for successful careers in industry and/or to excel in pursuit of higher studies	✓		
17	PEO 2. To provide students with the necessary Chemical Engineering skills required for the workforce including knowledge of Chemical and Allied Engineering techniques and the ability to utilize science, mathematics, and engineering principles to analyze and solve problems, which are more essential to societal needs.		✓	
18	PEO 3. To provide students with professional skills necessary to be effective and succeed in the modern workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professionalism	✓		

Indicate your answer with tick mark "A" in the appropriate box.

	teams and multidisciplinary settings.				1) How would you rate your overall satisfaction with your preparation to become an engineer? Not Satisfied <input type="checkbox"/> Little Satisfied <input type="checkbox"/> Satisfied <input checked="" type="checkbox"/> Very Satisfied <input type="checkbox"/>
5	<u>Modern tool usage :</u> Identify, formulate, review research literature, and analyze complex Chemical Engineering related problems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		2) In general, the department has provided a quality academic programme? Poor <input type="checkbox"/> Good <input type="checkbox"/> Very Good <input checked="" type="checkbox"/>

Fig.: 4: Alumni Survey format

(c) The employers' survey is obtained from the recruiters of the company during placement drives. Employers' survey is conducted using the format shown in figure below:

2020 - 2021

Self Assessment Report

Criterion - 3

Employer Feedback Form

Date: 20-04-2021
 Name: Rajesh Sisipurapu Designation: Executive HR & Admin
 Organization: Divis Laboratories Ltd Mob. No.: 040-23786300/400
 Email id: Srajesh@divislabs.com

Please select one option for every description if you have a scope to evaluate:

Sl. No	Question	Highly Satisfied [3]	Moderately Satisfied [2]	Satisfied [1]	Not Satisfied [0]
1	Confidence in applying concepts of Mathematics and engineering fundamentals in solving complex problems	✓			
2	Ability to identify, formulate, review research literature to analyze complex engineering problems and give conclusions	✓			
3	Ability to design the system components that meet the specified needs with respect to public health and safety	✓			
4	Ability to use the knowledge obtained by research to analyze, interpret the data, synthesize the information to provide valid conclusions in real time.	✓			
5	Ability to learn appropriate techniques and IT tools (outside the formal curriculum) required to solve real time problems	✓			
6	Ability to assess societal, health, safety, legal and cultural issues		✓		
7	Ability to work for the sustained development of society by providing professional engineering solution to the societal problems	✓	✓		
8	Ability to commit to professional ethics and responsibilities	✓	✓		
9	Ability to work individually as well as in groups in multidisciplinary environment.		✓		
10	Ability to communicate effectively on complex engineering activities, comprehend, write effective reports and design documentation and make effective presentations and give and receive clear instructions.	✓	✓		
11	Ability to apply the knowledge of engineering and management principles learnt to the work as a member and leader in the team while managing projects.	✓	✓		
12	Ability to engage in independent and life-long learning in the context of technological change	✓			

Figure. 3.3.1b Employer feedback format.

S. Rajesh
 Divis Laboratories Limited

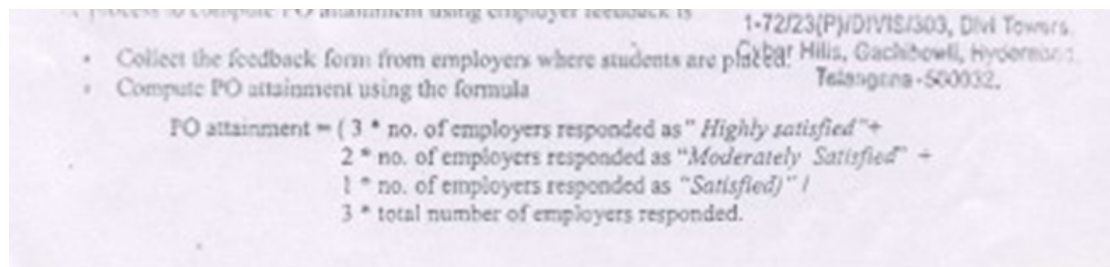


Fig.: 5: Employers survey form

Assessment through survey is calculated from all these three reports collected at the end of every year. After collection of individual survey forms, Here survey is made w.r.t three levels '3' - strongly agree / excellent, '2' - Agree / good; '1' - weekly Agree/ satisfactory

The marks for each PO attainment through survey are calculated based on the following formula given below:

$((\text{No. of Students Excellent} * 3) + (\text{No. of Students good} * 2) + (\text{No. of Students Satisfactory} * 1)) / \text{Total No. of Students}$

The final PO attainment is sum of 80% of the direct assessment, 20% of Exit survey and 10% of recruiter survey.

Attainment levels are set for every PO/PSO from the average of all PO/PSO values from Program Articulation Matrix.

3.3.2 Provide results of evaluation of each PO & PSO (65)

Institute Marks : 65.00

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
17A15501	1.04	1.56	1.04	0.87	0.52	1.9	0.87	1.38	1.73	2.59	0	2.07
17A15101	1.91	1.91	1.92	1.91	1.87	1.89	1.88	0	0	1.88	0	1.91
17A15302	2.06	1.37	0	1.37	0	1.37	1.37	0	1.37	0	0.69	0
17A10101	1.88	1.88	1.39	1.5	1.01	0.49	0.49	0	0.75	0.49	1.13	1.88
17A10103	2.38	2.2	1.5	0.83	0.85	0.84	1.37	0.83	1.35	1.35	0	1.38
17A10501	1.835	1.101	1.468	0.122	0.489	0	0	0	0.489	0.122	0.489	0
17A15304	2.55	1.7	0	1.7	0	1.7	1.7	0	1.7	0	0.85	0
17A13501	2.253	0.187	1.689	0.187	2.253	0.187	2.253	0	1.689	0	2.253	0.751
17A15502	1.16	1.75	1.17	0.97	0.58	2.14	0.97	1.56	1.94	2.91	0	2.33
17A25501	1.039	1.559	1.039	0.866	0.519	1.905	0.866	1.385	1.732	2.598	0	2.078
17A25101	1.352	1.739	0.773	0.773	0	0.966	0	0	1.932	1.352	0	0
17A25201	2.082	2.272	1.514	0.568	0.378	0	0	0	0	0	0	0.568
17A20303	1.02	1.99	1.52	1.33	0	0	1.33	0.82	0.51	0.31	0	0.51
17A22401	1.98	1.98	0	0	0	0	0	0	0	0	0	0
17A20801	2.36	2.18	1.48	0.82	0.84	0.83	1.36	0.82	1.33	1.33	0	1.36
17A25202	2.83	1.70	1.13	2.46	0.76	0	0	0	0	0	0	0
17A20504	0	2.06	1.55	1.55	0.69	0.34	0.17	0.17	0.69	0.17	1.54	0
17A22402	2.24	2.24	2.07	1.38	0	0.86	1.38	0.86	1.38	0.86	0	1.72
17A35102	1.88	1.88	1.39	1.50	0.50	0.49	0.25	0	0	0.49	0	1.12
17A35301	2.95	1.96	0	1.96	0	1.96	1.96	0	1.96	0	0.98	0
17A30801	1.45	0.97	1.45	1.45	1.45	1.45	1.45	0.48	0.97	0.97	0.48	1.45
17A30802	0.82	1.04	0.46	0.45	0	0.58	0	0	1.15	0.81	0	0.58
17A30803	1.43	1.43	1.43	0.48	0.48	0.95	0.95	1.43	0.95	0.95	0	1.43
17A30804	2.36	2.18	1.48	0.82	0.84	0.83	1.36	0.82	1.33	1.33	0	1.36
17A30104	2.56	1.70	0	1.70	0	1.70	1.70	0	1.70	0	0.85	0
17A30805	2.77	2.77	1.84	1.84	1.84	1.84	1.84	1.84	2.77	0.92	1.84	2.77
17A35104	2.42	1.93	0.73	1.45	1.93	0.73	0.73	0.48	1.21	0	0	0
17A45402	2.38	2.20	1.50	0.83	0.85	0.84	1.37	0.83	1.35	1.35	0	1.38
17A45102	0.82	1.04	0.46	0.45	0	0.58	0	0	1.15	0.81	0	0.58

17A40801	2.82	1.88	0	1.88	0	1.88	1.88	0	1.88	0	0.94	0
17A40802	2.24	2.24	2.24	2.24	2.24	2.24	2.24	1.49	1.49	1.49	1.49	2.24
17A40803	2.36	2.18	1.48	0.82	0.84	0.83	1.36	0.82	1.33	1.33	0	1.36
17A40804	1.45	0.97	1.45	1.45	1.45	1.45	1.45	0.48	0.97	0.97	0.48	1.45
17A40805	2.83	2.83	2.83	1.89	1.89	1.89	1.89	0.94	0.94	0.94	0.94	0.94
17A40806	2.81	2.81	2.65	1.72	1.72	2.81	1.87	1.56	0.94	0.94	0.94	1.87
17A50801	2.07	2.07	0.66	1.35	0.66	0	0	0.66	1.03	1.71	0.22	1.96
17A50803	0.82	1.04	0.46	0.45	0	0.58	0	0	1.15	0.81	0	0.58
17A50804	2.11	2.11	1.97	1.53	0.71	0.68	0.70	0.14	0.70	1.40	1.80	1.40
17A50805	2.46	2.27	2.28	1.39	0.71	2.08	2.46	2.46	2.27	0.53	0.69	2.27
17A50802	1.99	1.73	0.40	1.33	0.66	0	0.66	0.66	0.66	0.66	0.66	1.33
17A50806	1.88	1.88	1.39	1.50	1.01	0.49	0.49	0	0.75	0.49	1.13	1.88
17A50807	2.15	2.49	1.66	0.99	0.99	0.83	1.33	0.83	1.66	1.82	0	1.66
17A59901	2.42	1.93	0.73	0.45	1.93	0.73	0.73	0.48	1.21	0	0	0
17A50808	2.42	2.61	2.05	1.49	1.49	2.42	2.42	0.75	1.49	1.31	0.19	1.68
17A60801	2.02	1.75	1.88	1.35	1.35	0.54	0.54	0.67	0.54	0.67	0.67	1.35
17A60802	1.81	1.82	1.69	1.13	0	0.70	1.11	0.70	1.10	0.70	0	1.38
17A60803	2.11	2.11	1.97	1.53	0.71	0.68	0.70	0.14	0.70	1.40	1.80	1.40
17A60804	2.73	2.73	2.73	1.82	0.91	0.91	0.91	0	0.91	1.82	0	1.82
17A60805	2.46	2.27	2.28	1.39	0.71	2.08	2.46	2.46	2.27	0.53	0.69	2.27
17A60806	2.82	1.88	0	1.88	0	1.88	1.88	0	1.88	0	0.94	0
17A65501	1.17	1.76	1.17	0.98	0.59	2.15	0.98	1.56	1.95	2.93	0	2.34
17A60807	2.24	2.24	2.07	1.38	0.00	0.86	1.38	0.86	1.38	0.86	0.00	1.72
17A60808	2.41	2.41	2.23	1.48	0.00	0.93	1.48	0.93	1.48	0.93	0	1.86
17A70801	1.92	1.91	1.76	1.20	0.00	0.74	1.17	1.03	1.77	0.74	0.00	1.47
17A70802	1.90	1.77	1.01	1.01	1.01	0.51	0.51	0.00	0.51	0.51	0.00	1.26
17A70803	2.24	2.24	2.10	1.34	1.50	0.75	0.75	0.75	0.75	0.75	0.44	1.49
17A70804	1.88	1.88	1.39	1.50	1.01	0.49	0.49	0.00	0.75	0.49	1.13	1.88
17A70805	2.17	1.44	2.17	1.44	2.17	0.72	0.72	0.00	0.72	0.72	0.00	0.72
17A70806	2.31	2.13	2.11	1.93	2.13	2.13	1.74	1.74	1.74	0.57	0.38	1.16
17A70807	2.54	1.70	2.54	1.84	2.54	1.70	1.70	1.70	1.70	1.70	1.70	1.70

17A70808	1.99	1.99	1.16	1.82	0.99	1.49	0.83	0.00	0.00	0.17	0.50	1.49
17A80801	2.40	2.40	1.71	1.50	0.67	0.69	2.38	0.67	0.85	0.69	1.56	1.56
17A80802	2.48	2.48	1.66	1.99	0.00	1.66	1.66	0.00	0.83	0.00	1.32	1.66
17A80803	2.45	2.46	2.29	1.58	0.88	2.46	2.31	0.88	0.55	0.70	1.40	1.41
17A80804	2.61	2.09	2.10	1.22	0.00	0.87	1.56	0.00	0.00	0.00	0.70	1.92
17A80805	1.74	1.55	1.74	0.77	0.58	0.00	1.55	0.00	1.55	2.71	0.77	0.58
17A80806	1.74	1.55	1.74	1.55	0.00	0.00	1.55	0.00	0.00	0.00	1.55	1.74

PO Attainment Indirect

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Graduate S	2.98	2.68	2.82	2.71	2.69	2.87	2.79	2.69	2.63	2.7	2.79	2.68
Employer S	2.64	2.6	2.4	2.64	2.52	2.72	2.4	2.72	2.4	2.4	2.6	2.76
Alumni Surv	2.76	2.66	2.43	2.46	2.46	2.73	2.66	2.46	2.36	2.3	2.16	2.26

PO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
InDirect Attainment	2.79	2.65	2.55	2.60	2.56	2.77	2.62	2.62	2.46	2.47	2.52	2.57
Direct Attainment	2.07	1.91	1.60	1.31	0.99	1.19	1.34	0.83	1.22	1.05	0.90	1.52

PSO Attainment

Course	PSO1	PSO2	PSO3
17A15501	0.69	1.55	2.41
17A15101	1.91	1.91	1.89
17A15302	1.37	0	0
17A10101	1.88	1.75	1.63
17A10103	1.38	0.86	0.87
17A10501	0.122	1.10	0
17A15304	1.7	0	0
17A13501	0	0	0
17A15502	0.78	1.75	2.72
17A25501	0.693	1.56	2.425
17A25101	0	0	0
17A25201	0.757	1.704	0
17A20303	0.93	1.02	1.39

17A22401	0	0	0
17A20801	1.36	0.85	0.86
17A25202	0	0	0
17A20504	1.55	0.69	0.00
17A22402	1.55	1.38	1.38
17A35102	1.75	1.63	0.62
17A35301	1.96	0	0
17A30801	1.45	1.45	1.45
17A30802	0	0	1.15
17A30803	1.24	1.24	0.48
17A30804	1.36	0.85	0.86
17A30104	1.70	0	0
17A30805	2.77	2.77	2.77
17A35104	0	0	0
17A45402	1.38	0.86	0.87
17A45102	0	0	1.15
17A40801	1.88	0	0
17A40802	2.24	2.24	2.24
17A40803	1.36	0.85	0.86
17A40804	1.45	1.45	1.45
17A40805	2.83	2.83	2.83
17A40806	2.19	2.50	2.81
17A50801	2.07	1.38	0.69
17A50802	1.99	0.66	1.99
17A50803	0	0	1.15
17A50804	2.11	1.95	1.40
17A50805	1.75	2.63	1.58
17A50806	1.88	1.75	1.63
17A59901	0	0	0
17A50807	1.82	0.83	1.33
17A50808	0.93	2.42	2.42
17A60801	2.02	2.02	2.02

17A60802	1.26	1.11	1.11
17A60803	2.11	1.95	1.40
17A60804	2.73	2.73	1.82
17A60805	1.75	2.63	1.58
17A60806	1.88	0.00	0.00
17A65501	0.78	1.76	2.73
17A60807	1.55	1.38	1.38
17A60808	1.67	1.48	1.49
17A70801	1.18	1.18	1.32
17A70802	1.90	1.64	1.77
17A70803	2.24	1.95	1.65
17A70804	1.88	1.75	1.63
17A70805	2.17	2.17	1.44
17A70806	1.74	2.13	1.74
17A70807	2.54	2.54	2.54
17A70808	1.82	1.49	1.82
17A80801	0.85	2.38	1.87
17A80802	0.83	2.48	2.48
17A80803	0.52	2.64	2.64
17A80804	2.27	2.09	1.22
17A80805	2.71	2.71	2.90
17A80806	2.71	2.71	2.90

PSO Attainment Indirect

Survey	PSO1	PSO2	PSO3
Graduate Survey	2.79	2.85	2.88
Employer Survey	2.48	2.72	2.72
Alumni Survey	2.3	2.23	2.52

PSO Attainment Level

Course	PSO1	PSO2	PSO3
Direct Attainment	1.65	1.72	1.64
InDirect Attainment	2.52	2.60	2.71

4 STUDENTS' PERFORMANCE (100)

Total Marks 87.26

Institute Marks :

Table 4.1

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2021-22 (CAY)	2020-21 (CAYm1)	2019-20 (CAYm2)	2018-19 (CAYm3)	2017-18 (CAYm4)	2016-17 (CAYm5)	2015-16 (CAYm6)
Sanctioned intake of the program(N)	60	60	60	60	60	60	60
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)	54	58	58	49	49	55	56
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	0	6	6	6	6	6	5
Separate division students, If applicable (N3)	0	0	0	0	0	0	0
Total number of students admitted in the programme(N1 + N2 + N3)	54	64	64	55	55	61	61

Table 4.2

Year of entry	Total No of students admitted in the 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
2021-22 (CAY)	54				
2020-21 (CAYm1)	64	19			
2019-20 (CAYm2)	64	55	40		
2018-19 (CAYm3)	55	29	26	23	
2017-18 (LYG)	55	29	26	25	22
2016-17 (LYGm1)	61	38	28	24	24
2015-16 (LYGm2)	61	50	41	36	34

Table 4.3

Year of entry	Total No of students admitted in the 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
2021-22 (CAY)	54				
2020-21 (CAYm1)	64	19			
2019-20 (CAYm2)	64	58	60		
2018-19 (CAYm3)	55	46	50	44	
2017-18 (LYG)	55	45	50	45	45
2016-17 (LYGm1)	61	54	56	56	56
2015-16 (LYGm2)	61	54	54	54	50

4.1 Enrolment Ratio (20)

Total Marks 20.00

Institute Marks : 20.00

	N (From Table 4.1)	N1 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2021-22 (CAY)	60	54	90.00
2020-21 (CAYm1)	60	58	96.67
2019-20 (CAYm2)	60	58	96.67

Average [(ER1 + ER2 + ER3) / 3] : 94.45

Assessment : 20.00

4.2 Success Rate in the stipulated period of the program (20)

Total Marks 11.02

4.2.1 Success rate without backlogs in any semester / year of study (15)

Institute Marks : 6.75

Item	Latest Year of Graduation, LYG (2017-18)	Latest Year of Graduation minus 1, LYGm1 (2016-17)	Latest Year of Graduation minus 2 LYGm2 (2015-16)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	55.00	61.00	61.00
Y Number of students who have graduated without backlogs in the stipulated period	22.00	24.00	34.00
Success Index [SI = Y / X]	0.40	0.39	0.56

Average SI [(SI1 + SI2 + SI3) / 3] : 0.45

Assessment [15 * Average SI] : 6.75

4.2.2 Success rate in stipulated period (5)

Institute Marks : 4.27

Item	Latest Year of Graduation, LYG (2017-18)	Latest Year of Graduation minus 1, LYGm1 (2016-17)	Latest Year of Graduation minus 2 LYGm2 (2015-16)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	55.00	61.00	61.00
Y Number of students who have graduated in the stipulated period	45.00	56.00	50.00
Success Index [SI = Y / X]	0.82	0.92	0.82

Average SI[(SI1 + SI2 + SI3) / 3]: 0.85

Assessment [5 * Average SI] : 4.27

Note : If 100% students clear without any backlog then also total marks scored will be 20 as both 4.2.1 & 4.2.2 will be applicable simultaneously.**4.3 Academic Performance in Second Year (10)**

Total Marks 6.64

Institute Marks : 6.64

Academic Performance	CAYm2 (2019-20)	CAYm3 (2018-19)	LYG (2017-18)
Mean of CGPA or mean percentage of all successful students(X)	7.13	6.89	6.73
Total number of successful students (Y)	60.00	50.00	50.00
Total number of students appeared in the examination (Z)	64.00	52.00	51.00
API [X * (Y/Z)]	6.69	6.63	6.60

Average API [(AP1 + AP2 + AP3)/3] : 6.64

Assessment [AverageAPI] : 6.64

4.4 Placement, Higher Studies and Entrepreneurship (30)

Total Marks 29.60

Item	LYG(2017-18)	LYGm1(2016-17)	LYGm2(2015-16)
Total No of Final Year Students(N)	45.00	56.00	54.00
No of students placed in the companies or government sector(X)	35.00	54.00	49.00
No of students admitted to higher studies with valid qualifying scores(GATE or equivalent State or National Level tests, GRE, GMAT etc.) (Y)	10.00	2.00	3.00
No of students turned entrepreneur in engineering/technology (Z)	0.00	0.00	0.00
Placement Index [(X+Y+Z)/N] :	1.00	1.00	0.96

Average Placement [(P1 + P2 + P3)/3] : 0.99

Assessment [30 * Average Placement] : 29.60

Program Name : Chemical Engineering
Assessment Year : 2020-21 (CAYm1)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	B Sai Mukesh Reddy	17001A0820	Accenture	C9760002
2	Kotta Sai Chandana	17001A0826	Accenture	Accenture/2021/01
3	Guggilla Likhitha	17001A0805	COGNIZANT	Cognizant/2021/01
4	Chinnakonda Vinay Kiran Reddy	17001A0834	COGNIZANT	14972631
5	Bachu Badri Venkata Prasanna	17001A0845	Deccan Fine Chemicals Pvt Ltd	DFCL/BTECH/GET/2021
6	Depuru Sairaj Kousik	17001A0803	Divi's Laboratories Ltd	DIVI/202116
7	Ayyagarla Palli Mahaboob Shabaz	17001A0804	Divi's Laboratories Ltd	DIVI/2021/15
8	Hemanth Kumar S	17001A0847	Divi's Laboratories Ltd	DIVI/2021/20
9	Kuruba Lakshmi Harsha Vardhan	17001A0806	Divi's Laboratories Ltd	DIVI/2021/10
10	Cherukuru Sasi Kiran	17001A0818	Divi's Laboratories Ltd	DIVI/2021/5
11	Shaik Suhale	17001A0829	Divi's Laboratories Ltd	DIVI/2021/4
12	Rayam Venkata Ramanaiah	17001A0835	Divi's Laboratories Ltd	DIVI/2021/11
13	Budamakuntla Abhinay	17001A0839	Divi's Laboratories Ltd	DIVI/2021/14
14	Meka Veera Raja Sudheer	17001A0841	Divi's Laboratories Ltd	DIVI/2021/3
15	Chinthaginjala Srinivas	17001A0851	Divi's Laboratories Ltd	DIVI/2021/13
16	Chinnakotti Jayasankar	18005A0801	Divi's Laboratories Ltd	DIVI/2021/8
17	Rampamkotha Mabushareef	18005A0802	Divi's Laboratories Ltd	DIVI/2021/12
18	Shaik Mohammad Musthafa	18005A0803	Divi's Laboratories Ltd	DIVI/2021/2
19	Vanapalli Sai Diwakar	18005A0804	Divi's Laboratories Ltd	DIVI/2021/17
20	Gangireddy Mahendra Reddy	18005A0809	Divi's Laboratories Ltd	DIVI/2021/9
21	Narapareddy Nikhila	17001A0801	Emerson Energy Solution	Emerson/2021/01
22	Yalavarthi Abhishek	17001A0808	Emerson Energy Solution	ESI/HR/ESIPL221/0001
23	Ramadoddy Sreelatha	17001A0812	Emerson Energy Solution	Emerson/2021/02
24	Akuluti Gowthami	17001A0838	Emerson Energy Solution	Emerson/2021/03
25	Shaik Peer Shameem Bhanu	17001A0809	INFOSYS	Infosys/2021/01
26	Epuru Lakshmi Lalasa	17001A0819	INFOSYS	Infosys/2021/02
27	Gurugubelli Sudhier	17001A0831	INFOSYS	HRD/3T/21-22/1001713841
28	Sanke Yeshwanth	17001A0816	Accenture	Accenture8342021
29	Ramavath Kumar Naik	17001A0817	Infosys	HRD/3T/1003440649/21-22
30	DNS Sekhar Padavala	18005A0812	Symed Labs Limited	SYMEDLABS-OL-3335
31	Dedeepya B	17001A0833	Infosys	HRD/3T/1002477962/ 21-22
32	Karanam Harshitha	17001A0824	Accenture	ACCENTURE112019

33	Avupati Bhuvan Kumar	18005A0807	Hetero Labs	DFC(I)PL/Kesavaram/HR/Offer/2022
34	Tehseen Raisa Basri Kolimi	17001A0813	Infosys	HRD/3T/1001875366/21-22
35	Makam Preethi Kesav	17001A0846	Accenture	C10344204

Assessment Year : 2019-20 (CAYm2)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	Hemasree C G	16001A0805	Cognizant	Cognizant/2020/01
2	G.Sai Raj Gupta	16001A0835	Cognizant	Cognizant/2020/02
3	Chandra Sharathkrishna	16001A0839	Cognizant/2020/03	Cognizant
4	P Vamsi Krishna	16001A0859	Divi's Laboratories Ltd	Divi/2020/01
5	C Pavani	16001A0844	Divi's Laboratories Ltd	Divi/2020/02
6	Y Prashanthi	16001A0813	Divi's Laboratories Ltd	Divi/2020/03
7	K.Subramanyam	16001A0808	Divi's Laboratories Ltd	Divi/2020/04
8	Y.Jayashankar Varma	16001A0812	Divi's Laboratories Ltd	Divi/2020/05
9	G Harika	16001A0814	Divi's Laboratories Ltd	Divi/2020/06
10	C.Madesh	16001A0823	Divi's Laboratories Ltd	Divi/2020/07
11	M.Ravindra Reddy	16001A0827	Virchow Laboratories Ltd	Virchow022022
12	Gundala Sreekanth	16001A0831	Divi's Laboratories Ltd	Divi/2020/08
13	Gundlapalli Adithya Chandrahas	16001A0832	Divi's Laboratories Ltd	Divi/2020/09
14	K Priyanka	16001A0811	Divi's Laboratories Ltd	Divi/2020/10
15	R Likitha	16001A0818	Divi's Laboratories Ltd	Divi/2020/11
16	Palegar Raghavendra	16001A0840	Divi's Laboratories Ltd	Divi/2020/12
17	Janapathi Yamuna	16001A0830	Divi's Laboratories Ltd	Divi/2020/13
18	P.Narendra Babu	16001A0853	Divi's Laboratories Ltd	Divi/2020/14
19	S Jayasree	16001A0825	Divi's Laboratories Ltd	Divi/2020/15
20	R S Sowmya	16001A0826	Divi's Laboratories Ltd	Divi/2020/16
21	Yerragudi Mithil Kumar Reddy	17005A0801	Divi's Laboratories Ltd	Divi/2020/17
22	P Anil Kumar	17005A0828	Divi's Laboratories Ltd	Divi/2020/18
23	Venugopal Reddy Sanagala	17005A0804	Divi's Laboratories Ltd	Divi/2020/19
24	Aggidi Ashok	17005A0806	Divi's Laboratories Ltd	Divi/2020/20
25	Kamala Ushashree	16001A0804	INFOSYS	Infosys/2020/01
26	S Ishrath Jahan	16001A0809	TCS	TCS/2020/01
27	Sane Anjali	16001A0833	TCS	TCS/2020/02
28	Chandra Sekhar Vadde	16001A0807	Dr. Reddy's Laboratories Ltd	J36440-2/2021
29	Areesh Shaik	16001A0846	Dr. Reddy's Laboratories Ltd	3U3GYW-2/2021
30	Kandregula Suresh	16001A0836	Dr. Reddy's Laboratories Ltd	72354
31	Yamini Vijaya Sai Kumari Buduri	17005A0809	SciTech Patent Art	SPA/PA/338
32	Aravind Chitikireddy	17005A0803	Emerson Energy Solutions	ESI/HR/ESIPL205/ 0001

33	Nazia Taraanam	16001A0841	Cognizant	13778663
34	Sunil Chunduru	16001A0854	Emerson Energy Solutions	1346258 ESI/HR/ESIPL196/ 0001
35	Sunil Kumar Reddy	16001A0856	STOCKONE Technologies pvt ltd	STOCKONE012022
36	Venkata Sai Prasad Manchala	16001A0820	Infosys	HRD/3T/1002022965/ 21-22
37	A Harini Tejasvi	16001A0801	Deccan Fine Chemicals Pvt Ltd	DFC/2020/01
38	A Swathi	16001A0803	Deccan Fine Chemicals Pvt Ltd	DFC/2020/02
39	S Mahaboob Basha	16001A0810	Deccan Fine Chemicals Pvt Ltd	DFC/2020/03
40	V Krishna Veni	16001A0816	Deccan Fine Chemicals Pvt Ltd	DFC/2020/04
41	V Diwakar Naik	16001A0822	Deccan Fine Chemicals Pvt Ltd	DFC/2020/05
42	Sandeep vanteddu	16001A0858	SKI ENGINEERING	1024995
43	Kurrapothula Govardhan	16001A0837	Emerson Energy Solution	1380643
44	Shaik Munaf	17005A0807	Divis Laboratories Ltd	DIVI/M/042020
45	Y Tejaswi	16001A0857	Hetero Labs	Hetero/2020/01
46	U Narasimha	16001A0849	Hetero Labs	Hetero/2020/03
47	M Niranjan	16001A0847	Hetero Labs	Hetero/2020/04
48	R Aruna	16001A0845	Hetero Labs	Hetero/2020/05
49	A Vikranth Kumar	16001A0829	Hetero Labs	Hetero/2020/06
50	Medapuram Dhanyatha	16001A0834	Hetero Labs	Hetero/2020/07
51	Tamatam Bavana Reddy	16001A0838	Hetero Labs	Hetero/2020/08
52	Gorantta Renuka	16001A0843	Hetero Labs	Hetero/2020/09
53	G Pooja	16001A0815	Infosys	HRD/3T/1002031152/ 21-22
54	Kaluguri Ashasree	16001A0802	Infosys	HRD/3T/1002938850/ 21-22

Assessment Year : 2018-19 (CAYm3)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	Vadrevu Lokesh Kumar	15001A0840	Berger Paints India Ltd	Berger/187
2	Nandham Hari	15001A0805	Divi's Laboratories Ltd	Divi/2019/01
3	Kulluru Reshma	15001A0811	Divi's Laboratories Ltd	Divi/2019/02
4	Jaganti Hima Bindu	15001A0808	Divi's Laboratories Ltd	Divi/2019/03
5	Popavath Manthru Naik	15001A0812	Divi's Laboratories Ltd	Divi/2019/04
6	Shaik Rehana	15001A0824	Divi's Laboratories Ltd	Divi/2019/05
7	Sabbu Haritha	15001A0846	Divi's Laboratories Ltd	Divi/2019/06
8	Veera Prakash Reddy P	15001A0814	Infosys	Infosys/2019/01
9	Ganthimeri Vishnu	15001A0801	KCC Paint	KCC072019/01
10	Ankalugari Rahul Yadav	15001A0834	KCC Paint	KCC072019/02
11	Boya Venu Gopal	15001A0835	KCC Paint	KCC072019/03
12	Eslavath Revathi	15001A0802	KCC Paint	KCC072019/04
13	Uddandu Sai Kishore	15001A0803	KCC Paint	KCC072019/05
14	Kanduri Satya Devan	15001A0827	Southern Petrochemical Industries Corporation	SPIC232019
15	Yellanuru Naresh	15001A0809	TCS	TCS/2019/01
16	P M Bindusree	15001A0810	TCS	TCS/2019/02
17	Eranti Pallavi	15001A0817	TCS	TCS/2019/03
18	B Anjali	15001A0822	TCS	TCS/2019/04
19	Ulindala Pavan Kumar Reddy	15001A0815	TCS	TCS/2019/05
20	Komma Tejeswara Reddy	15001A0836	TCS	TCS/2019/06
21	Boya Bindu	15001A0847	TCS	TCS/2019/07
22	Ayesha Samreen	15001A0848	TCS	TCS/2019/08
23	Anchalkar Medha	15001A0853	TCS	TCS/2019/09
24	Shaik Moosa	15001A0859	TCS	TCS/2019/10
25	Ramavath Hari Naik	15001A0807	Emerson Energy Solutions	Emerson/2019/01
26	Korikala Anand	15001A0813	Emerson Energy Solutions	Emerson/2019/02
27	Kumari Ganesh	15001A0818	Emerson Energy Solutions	Emerson/2019/03
28	Mopoori Lakkeswaraiah	15001A0826	Emerson Energy Solutions	Emerson/2019/04
29	Shai Nazeer Ahamed	15001A0823	Emerson Energy Solutions	Emerson/2019/05
30	Rayapati Navya sree	15001A0828	Hetero Labs	Hetero/2019/01
31	Dudekula Babavali	15001A0830	Hetero Labs	Hetero/2019/02
32	Battu Yogasai Praneeth Raju	15001A0832	Hetero Labs	Hetero/2019/03

33	Sanjipogu Kishore	15001A0842	Hetero Labs	Hetero/2019/04
34	Shaik Shabina Taj	15001A0843	Hetero Labs	Hetero/2019/05
35	K Kartheek Reddy	15001A0845	Hetero Labs	Hetero/2019/06
36	Narasimhappagari Balaji	15001A0854	Hetero Labs	Hetero/2019/07
37	Muddalapuram Harshitha	15001A0856	Hetero Labs	Hetero/2019/08
38	Polaggari Jagadeeswara Reddy	15001A0860	Hetero Labs	Hetero/2019/09
39	Chigurupati Anusha	16005A0816	Hetero Labs	Hetero/2019/10
40	Penumaka Bhanu Prakash	16005A0805	Deccan Fine Chemical Pvt Ltd	DFC/2019/01
41	Nagala Ravi	16005A0802	Deccan Fine Chemical Pvt Ltd	DFC/2019/02
42	Erukala Lalitha	15001A0857	Deccan Fine Chemical Pvt Ltd	DFC/2019/03
43	Kullabandi Pallavi	15001A0806	Deccan Fine Chemical Pvt Ltd	DFC/2019/04
44	Viparti Suneel Babu	16005A0803	Deccan Fine Chemical Pvt Ltd	DFC/2019/05
45	Gaddam Haritha	15001A0858	Deccan Fine Chemical Pvt Ltd	DFC/2019/06
46	Boya Rohith Kumar	15001A0833	Deccan Fine Chemical Pvt Ltd	DFC/2019/07
47	Hegde Pavan	15001A0819	Deccan Fine Chemical Pvt Ltd	DFC/2019/08
48	H Nagamani	15001A0804	Deccan Fine Chemical Pvt Ltd	DFC/2019/09
49	Yellapalli Tejaswini	15001A0821	Deccan Fine Chemical Pvt Ltd	DFC/2019/10

4.5 Professional Activities (20)

Total Marks 20.00

4.5.1 Professional societies/chapters and organizing engineering events (5)

Institute Marks : 5.00

1. Professional societies/chapters and organizing engineering events

Memberships of Faculties in Professional Bodies

- IChE is Indian Institute of Chemical Engineers
- IEEE
- Andhra Pradesh Akademi of Sciences (APAS)
- Indian Membrane Society (IMS)
- Indian Society for Technical Education (ISTE)
- Institute of Engineers (IE)
- European Membrane Society (EMS)
- Association of Separation Scientists and Technologists (ASSET)
- Indian Desalination Association (IDA)
- Global Economic Progress & Research Association (GEPRA)
- ASCI ASSOCIATION, Hyderabad
- International Association of Engineers (IAENG)
- American Chemical Society (ACS)
- International Association of Computer Science & Information Technology (IACSIT)
- The Society for Advancement of Electrochemical Sciences & Technology (SAEST)
- International Safety Quality Environment Management Association (ISQEMA)

a. Available & activities of Professional societies/ Chapters

S. No.	Activities of Professional Societies/Chapters	Date
1.	Invited talks by Mr. Ravindranadh Kacharam, Senior Manager, SciTech Patent Art Services Pvt Ltd, Hyderabad on Intellectual Property Rights and Patenting	26 th August, 2022
2.	Invited talks by Prof. Altaf Hussain, Director, Lord's Institute of Engineering, Hyderabad on Chemical Engineering Applications in Real life	27 th August, 2022
3.	2005 batch Alumni students interacted with current students in the department	06 th August, 2022
4.	Invited talks of Dr. Manohar Kakunuri on Recent Advances in Rechargeable Battery Technologies	23 rd July, 2022
5.	FUSION – 2K22	26 th April, 2022
6.	Dr. S Altaf Hussain, Hyderabad invited talks on VEDIC and Chemical Engineering Health Systems	26 th March 2022
7.	Industrial Visit to SRAAC (Sree Rayalseema Alkalies and Allied Chemicals Ltd)	19th March, 2022
8.	Sri Kommineni Mallikarjuna invited talks on Importance of Process Simulation for Chemical Engineers	2nd March 2022

9.	Dr. D K Panda Joint Director, National Council for Cement and Building Materials(NCB), Indian Cement Industry Scenario in Virtual mode	6 th April 2021
10.	Chemical Engineers' Meet To discuss Recent Innovations in Chemical Engineering Every 4 th Saturday (virtual mode)	27 th February 2021
11.	Chemical Engineers' Meet To discuss Recent Innovations in Chemical Engineering Every 4 th Saturday (virtual mode)	23 rd January 2021
12.	Dr. Prashanth Kumar Gupta, Asst Professor, IIT Jodhpur, Rajasthan, invited talks on Electrochemical Energy storage devices in Virtual mode	4 th January 2021

b. Number, quality of engineering events

S. No.	List of Engineering Events organized at institute	Date
	Freedonm run Programme	14th August, 2022
	Har Ghar Tiranga Rally Programme	13th August, 2022
	International Yoga Day	21 st July, 2022
	IICHe – HRC Lecture series VI on Diagonising testing in a post – COVID world enabled by microfluidic technologies	3 rd June, 2022
	FUSION – 2K22, National level Technical Students' Symposium	26 th April, 2022
	Quiz Competition	29 th March, 2022
	Essay writing & Elocution competition	28 th March, 2022

Workshops/ Conferences/ FDP's conducted:

S. No.	Name of the Programme	No. of participants	date	Name of the Faculty
	Diagonistic testing in a Post – COVID world enabled by microfluidic technologies	100	3 rd June, 2022	Dr. B Dilip Kumar
1.	Laboratory and Workshop learning Skills in conducting practical classes	50	15 th – 20 th Feb, 2021	Dr. S Sharada
2.	Mathematical Modelling and Simulation for Scientists & Engineers	275	24-02-2020 to 07-03-2020	Dr. T Bala Narasaiah & Dr. B. Dilip Kumar

3.	Materials for energy conversion & storage devices	150	27 th – 28 th December, 2019	Dr. B Dilip Kumar
4.	Two – Day Workshop on “ Waste Management	250	13 th – 14 th November, 2019	Prof. T Bala Narasiah & Dr. B Dilip Kumar
5.	Three Day National Workshop on “Electro – Ceramics: Synthesis: Characterization and Device Applications” under TEQIP – III	170	11 th – 13 th September, 2019	Dr. B Dilip Kumar
6.	FUSION 2K19	300	29 th March, 2019	Dr. B Dilip Kumar
7.	Three – Day Workshop on Experimental Approaches & Instrumental Aspects in Analytical Chemistry	150	6 th – 8 th February, 2019	Dr. B Dilip Kumar
8.	TECH FEST – 2018	300	27 th January, 2018	Dr. B Dilip Kumar
9.	Fundamentals and usage of X-Ray Diffraction (XRD)	150	2016-17	Dr. B Dilip Kumar
10.	One – Day Workshop on Self – Assembly of Soft Materials and Their Applications in Energy	150	01 st September, 2017	Dr. P Dinesh Shankar Reddy & Dr. B Dilip Kumar

4.4.2 Publication of technical magazines, newsletters, etc. (5)

Institute Marks : 5.00

- Department publishes Department magazine for every 6 months.

S.No.	News Letter	Month and Year
1	AVISHKAR	July – Dec, 2019
2	AVISHKAR	Jan – June, 2020
3	AVISHKAR	July – Dec, 2020
4	AVISHKAR	Jan – June, 2021
5	AVISHKAR	July – Dec, 2021
6	AVISHKAR	Jan – June, 2022
7	AVISHKAR	July – Dec, 2022 (Ongoing)
8.	Tech Magazine	July, 2022
9.	Tech Magazine	June, 2022
10.	Indian Chemical Engineer – A Journal of IChE	2016 (Quarterly Journal)
11.	Indian Chemical Engineer – A Journal of IChE	2017 (Quarterly Journal)
12.	Indian Chemical Engineer – A Journal of IChE	2018 (Quarterly Journal)
13.	Indian Chemical Engineer – A Journal of IChE	2019 (Quarterly Journal)
14.	Indian Chemical Engineer – A Journal of IChE	2020 (Quarterly Journal)
15.	Indian Chemical Engineer – A Journal of IChE	2021 (Quarterly Journal)
16.	Indian Chemical Engineer – A Journal of IChE	2022 (Quarterly Journal)
17.	FULCRUM (The Science tracker)	Quarterly magazine
18.	IEI News	News letter
19.	Down to Earth	Quarterly Magazine
20.	Power Magazine	Monthly Magazine
21.	Chemical Engineering World	Quarterly Magazine
22.	Indian Chemical News	News Letters

23.	Spinco Biotech Cutting Edge	Monthly Magazine
24.	American Chemical society	Quarterly Magazine
25.	Science & Engineering Research Board (SERB)	News letter
26.	Journal of Petroleum Technology	Monthly Magazine





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

Institute Marks : 10.00

(The Department shall provide a table indicating those publications, which received awards in the events/conferences organized by another institute)

Students participated in the competitions conducted by IChE – HRC 2021-2022

S. No.	Name of the Student	Attended for	Date	Name of the Institute
1.	J Uma Chandrika	Essay writing competition	18-06-2022	IChE HRC & OUCT
2.	Rohith	Elocution	18-06-2022	IChE HRC & OUCT
3.	Ameena Keshwar	Model Making	18-06-2022	IChE HRC & OUCT
4.	Revanth	Model Making	18-06-2022	IChE HRC & OUCT
5.	Yeshwanth Sai	Model Making	18-06-2022	IChE HRC & OUCT
6.	J Arun	Singing	02-07-2022	IChE HRC & OUCT
7.	M Naga Sravani	Classical Dance	02-07-2022	IChE HRC & OUCT
8.	Bhavani Prasad & team	Skit	02-07-2020	IChE HRC & OUCT

Inter-Institute Competitions conducted under IChE during 2021-2022

Name of the Competition	Eligible IChE Members	Date & Time	Venue
Essay Writing <u>Topic:</u> COVID-19 Virus Repellent solution based on the Liquid Electric Air Sanitization	II/III/IV B.Tech Chemical Engineering	28-3-22 3.30PM	Chemical Engineering Seminar Hall
Elocution <u>Topic:</u> Embracing a low Carbon future for Industries	II/III/IV B.Tech Chemical Engineering	28-3-22 3.30PM	
Quiz Test Academic (Core Chemical Engineering) knowledge (preferably from previous GATE questions)	Only III/IV B.Tech Chemical Engineering	29-3-22 3.30PM	

Inter - Institute Level Winners list

Name of the College: JNTUA College of Engineering, Anantapur

S.No	Competition Name	Winner type	Student Name with Hall Ticket number	Year	IICHe membership number	Email ID and Phone number
1	Essay Writing	I	M Trisha (18001A0841)	IV	SM -69003	Thrishamungara2000@gmail.com (mailto:Thrishamungara2000@gmail.com) 6303697639
2		II	K Rohith (20001A0840)	II	Applied	kanitirohit3@gmail.com (mailto:kanitirohit3@gmail.com) 8328436441
3		III	J Uma Chandrika (20001A0808)	II	Applied	Umachandrika2030@gmail.com (mailto:Umachandrika2030@gmail.com) 9381781247
4	Elocution	I	P Achish (18001A0819)	IV	SM-68990	achishparri2001@gmail.com (mailto:achishparri2001@gmail.com) 9515772273
5		II	B Tejasri (18001A0835)	IV	SM-68999	bhogarajutejasri@gmail.com (mailto:bhogarajutejasri@gmail.com) 9381231594
6		III	N Yashwanth Sai (19001A0836)	III	Applied	naragollayashwanthsai12943@gmail.com (mailto:naragollayashwanthsai12943@gmail.com) 9949561578
7	Technical Quiz	I	G Swetha (18001A0812)	IV	SM-68983	swethasreekanth21@gmail.com (mailto:swethasreekanth21@gmail.com) 6304081837
8		II	M Vidyadhar Reddy (19005A0802)	IV	SM-69018	muvarreddyvidyadhar123@gmail.com (mailto:muvarreddyvidyadhar123@gmail.com) 8247291707
9		III	T Pradeep Kumar (19001A0831)	III	Applied	pradeepkumar250248@gmail.com (mailto:pradeepkumar250248@gmail.com) 9390250248
10	Scientific model making	I	N Yashwanth Sai (19001A0836)	III	Applied	naragollayashwanthsai12943@gmail.com (mailto:naragollayashwanthsai12943@gmail.com) 9949561578
11		II	A Ameena Keshwar (20001A0829)	II	Applied	keshwaramameena@gmail.com (mailto:keshwaramameena@gmail.com) 8309958450

12	III	C Revanth (20001A0823)	Applied	crevanth2001@gmail.com (mailto:crevanth2001@gmail.com) 9392507969
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2019-2020

S. No.	Name of the Student	Attended for	Date	Name of the Institute
1.	Sai Jyothi	Chemosphere – Vajra	23-24 th Oct, 2019	SVUCE, Tirupathi
2.	Achish	Chemosphere – Vajra	23-24 th Oct, 2019	SVUCE, Tirupathi
3.	D Yamuna Reddy	Chemosphere – Vajra	23-24 th Oct, 2019	SVUCE, Tirupathi
4.	M Thrisha Reddy	Chemosphere – Vajra	23-24 th Oct, 2019	SVUCE, Tirupathi
5.	Neelima Aare	Chemosphere – Vajra	23-24 th Oct, 2019	SVUCE, Tirupathi
6.	Vidyadhar Reddy	Chemosphere – Vajra	23-24 th Oct, 2019	SVUCE, Tirupathi

IChE List of Events conducted during 2021 - 2022

S. No	Name of the Program	Date of Event	No of Participants	Year of Students	Resource Person If any	Remarks
1	Invited talks	2 nd March 2022	120	III & IV	Sri Kommineni Mallikarjuna	Importance of Process Simulation for Chemical Engineers
2	Industrial Visit	19 th March, 2022	48	IV	SRAAC (Sree Rayalseema Alkalies and Allied Chemicals Ltd)	
3	Invited talks	26 th March 2022	57	IV BTech	Dr. S Altaf Hussain, Hyderabad	VEDIC and Chemical Engineering Health Systems
4	Essay writing & Elocution Competition	28 th March, 2022	30	II/ III/ IV BTech	(Essay Writing, Elocution, Technical Quiz)	Conducted at the institute level and send the winner list to IChE

5	Quiz competition	29 th March, 2022	6	III/ IV BTech	(Essay Writing, Elocution, Technical Quiz)	Conducted at the institute level and send the winner list to IChE
6	FUSION 2k22	26 th April, 2022	350	I/ II/ III/ IV BTech	National Level Students' Technical Symposium	Conducted in the Department of Chemical Engineering, JNTUACEA, Anantapur

IChE List of Events conducted during 2020 - 2021

S. No	Name of the Program	Date of Event	No of Participants	Year of Students	Resource Person If any	Remarks
1	Invited talks	4 th January 2021	88	III & IV BTech	Dr. Prashanth Kumar Gupta Asst Professor IIT Jodhpur, Rajasthan	Electrochemical Energy storage devices in Virtual mode
2	Chemical Engineers' Meet	23 rd January 2021	110	I, II, III & IV BTech	To discuss Recent Innovations in Chemical Engineering	Every 4 th Saturday (virtual mode)
3	Chemical Engineers' Meet	27 th February 2021	110	I, II, III & IV BTech	To discuss Recent Innovations in Chemical Engineering	Every 4 th Saturday (virtual mode)
4	Invited talks	6 th April 2021	120	III & IV BTech	Dr. D K Panda Joint Director, National Council for Cement and Building Materials(NCB), Haryana	Indian Cement Industry Scenario in Virtual mode

IICHE Calendar of Events in 2017 and 2018

(a) Number of seminars / workshop / Refresher Course organized (Give details including names of speakers, topics of talks, dates and venues:

S. No	Name of the program	Name of the Speaker	Topic of Presentation	Date	Venue	No of Participants
1	FUSION-2018	Prof. Sanjeev Kumar Gupta, IISc Bangalore	Challenging issues in Chemical Industries	27-03-2018	College Auditorium, JNTUACEA	350
		Prof. J. Krishnamacharyulu, Retd. Professor of Chemistry, JNTUA	Common aspects in Chemistry and Chemical Engineering			
2	Departmental Activities	Dr. L. Anil Mukung, Professor, Dept of Bio Sciences & Engineering, IIT Gowhati	Role of Chemical Engineers in Biotechnology	25-02-2018	Chemical Engineering Seminar Hall	80
3	Departmental Activities	Smt. A.Durga Devi, Assistant Public prosecutor (Hyderabad)	Career Opportunities for women Entrpreneur	10-03-2017	Chemical Engineering Seminar Hall	180
4	Departmental Activities	Sri Radha Krishna, Deputy Chief Inspector of Factories, Anantapur	Career awareness and opportunities in Industrial safety	17-03-2017	Chemical Engineering Seminar Hall	180
5	Workshop on Electrochemistry	Mr. Anuj Awasti, Co-founder, Kanopy Techno Solutions, SIDBI Incubation Center, IIT Kanpur	Role of chemical Engineers in Electrochemical Industries	27-03-2017	Chemical Engineering Seminar Hall	195
6	Recent Innovations in Unit operations for pharmaceutical Industries, FDP Program	Dr. A.G Rao, Scientist, IICT, Hyderabad	Safety in Chemical Industries	20-11-2017	Chemical Engineering Seminar Hall	120
7	One day Workshop on X-ray Diffraction	Prof. K. Raghavendra Rao, Principal & Professor of Physics, SK University, Anantapur	Hands on Training on X-Ray Diffraction	24-09-2017	Chemical Engineering Seminar Hall	120

8	One day Workshop on Self-assembly of soft materials and their applications in energy	Prof.PST Satya Sai & Dr. Rama Sagar, NIT Warangal, AP	Role of Chemical Engineers in Energy Sector	01-09-2017	Chemical Engineering Seminar Hall	200
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(b) Number of factory visits organized

S. No	Name of the Industry/R&D Organization	Date of visit	No of Participants	Year of Students
1	JSW Steels, Ballary, Karnataka	9 th Feb 2018	56	III BTech
2	Amar Raja Batteries, Tirupati	2 nd Feb 2018	60	II BTech
3	Berger Paints, Hindupur	18-02-2018	46	IV BTech
4	Chocolate Factory, Munnar	21-02-2018	46	IV BTech
5	L & T Cement, Kochi	22-02-2018	46	IV BTech

(c) Any intercollegiate competitions organized and its impact on profession**1. Intercollegiate Competitions held at IICHe-HRC 2018-19 and details are as follows:**

S. NO	Name of the Competition	Winners Name	Admission No
1	Essay Writing <i>Topic: Green Careers for Chemical Engineers</i>	1. Shabina Taj	15001A0843
		2. R. Hari Naik	15001A0807
		3. M. Ravindra Reddy	16001A0827

2	Elocution	1. V. Lokesh Kumar	15001A0840
	<u>Topic:</u> Petroleum products under GST? For or against?	2. SK. Nazeer Ahmed	15001A0823
		3.C.G. HemaSree	16001A0805
3	Quiz	1.P. Vasantha Lakshmi	14001A0847
	<u>Topic:</u> Innovation and Entrepreneurial Excellence in the Chemical Space	2.P Veera Prakash Reddy	15001A0814
	<i>Test Academic knowledge (preferably from previous GATE questions)</i>	3. R. Hari Naik	15001A0807

IChE Activities 2018

The list of Symposiums/Conferences/Workshops attended by IChE student members

S. No	Name of the Student	Admission No	Name of the conference/Workshop	Date	Place
1	B Badri Venkata Prasanna	17001A0845	One day workshop on Education Challenges and Rights of Women in Society	24 th February 2018	JNTUA College of Engineering, Anantapur (AP)
2	N Nikhila	17001A0801			
3	K Tehseen Raisa Basri	17001A0813			
4	Karanam Harshita	17001A0824			
5	S Rehana	15001A0824			
6	Y Tejaswini	15001A0821	Chemosphere-2k17	30-31 March 2017	SVU College of Engineering, Tirupati (AP)
7	B Anjali	15001A0821			
8	S Rehana	15001A0824			
9	M Dhanyatha	16001A0834	Chemosphere-2k18	10-11 March 2018	SVU College of Engineering, Tirupati (AP)
10	Lokesh	15001A0840	CHEMSPARK-2017	15-16 September 2017	CBIT, Hyderabad (AP)
11	K Anand	15001A0813			
12	G Vishnu	15001A0801			
13	K Anand	15001A0813			

14	G Vishnu	15001A0801			
15	B Anjali	15001A0821			
16	K Reshma	15001A0811			
17	E Pallavi	15001A0817			
	V Lokesh Kumar	15001A0840			
18	Y Tejaswini	15001A0821	ChemClave'18/Aspen Plus Workshop	10 th March 2018	IIT Madras, Chennai (TN)
19	P Veera Prakash Reddy	15001A0814			
20	S Rehana	15001A0824			
21	G Vishnu	15001A0801			
22	B Anjali	15001A0821			
23	K Reshma	15001A0811			
24	E Pallavi	15001A0817			
25	V Lokesh Kumar	15001A0840	ChemClave'18/MATLAB Workshop	11 th March 2018	IIT Madras, Chennai (TN)
26	P Veera Prakash Reddy	15001A0814			
27	S Rehana	15001A0824			
28	E Pallavi	15001A0817	ChemClave'18/CHEM-E-DEBATE	11 th March 2018	IIT Madras, Chennai (TN)
29	G Vishnu	15001A0801	One day Intensive Hands on Training Program on Fundamentals and Usage of X-ray Diffraction (XRD)	24 th September 2016	JNTUA College of Engineering, Anantapur (AP)
30	B Anjali	15001A0821			
31	G Vishnu	15001A0801			
32	B Anjali	15001A0821			
33	E Pallavi	15001A0817	Career Awareness and Opportunities in Industrial Safety	17 th March 2017	JNTUA College of Engineering, Anantapur (AP)
34	V Lokesh Kumar	15001A0840			
35	S Rehana	15001A0824			
36	K Satya Devan	15001A0827			
37	G Vishnu	15001A0801	Technozion 16	21-23 October 2016	NIT Warangal
38	V Lokesh Kumar	15001A0840	iB Hubs Power to India about Entrepreneurship & Emerging Technologies	21 st September 2017	JNTUA College of Engineering, Anantapur (AP)
39	P Veera Prakash Reddy	15001A0814			

40	K Satya Devan	15001A0827	Loophole Ethical Hacking Workshop	24-25 September 2016	IIT Hyderabad
41	K Satya Devan	15001A0827	Workshop on Process Intensification	18 th February 2017	UCEK, JNTUK, Kakinada
42	G Vishnu	15001A0801	FUSION-2k18	27 March 2018	JNTUA CEA Anantapur
43	E Pallavi	15001A0817			
44	S Rehana	15001A0824			
45	N Nikhila	17001A0801	National Workshop on Women Entrepreneurship-2017	22-23 Dec 2017	Sri Sai Baba National Degree College, ATP

The list of Sports/Extracurricular activities/service Oriented activities by IICe student members:

S. No	Name of the Student	Admission No	Name of the Sports/Extra curricular/Service oriented Events	Date	Place
1	G Vishnu	15001A0801	Blood Donation in connection with NSS day	04-04-2018	JNTUA CE, Anantapur
2	K Anand	15001A0813			
3	U Shraddha	15001A0813	NSS Youth Festival 2016	29-01-2016	JNTUA CE, Anantapur
4	S Rehana	15001A0824	Disaster Management & First Aid Training Programme	09-01-2018	JNTUA CE, Anantapur
5	P Veera Prakash Reddy	15001A0814	JNTUA Intercollegiate Games Tournament	13-15 March 2017	JNTUA CE, Anantapur
6	Y Tejaswini	15001A0821			JNTUA, Anantapur
7	V Lokesh	15001A0840	NSS Youth Festival	23 rd January 2017	JNTUA Anantapur
8	K Anand	15001A0813			
9	G Vishnu	15001A0801			
10	V Krishna Veni	16001A0816	NCC Combined Annual Training camp	10-19 July 2017	JNTUA CE, Anantapur
11	Y Tejaswini	15001A0821			
12	Y Tejaswini	15001A0821	NCC "B" Certificate	29-04-2017	NCC office

13	G Vishnu	15001A0801	NSS Raingun Awareness Program	29 th Aug- 3 rd September 2016	JNTUA CE, Anantapur
14	K Anand	15001A0813			
15	V Lokesh	15001A0840			

The Number of Industrial training/Fellowships Attended by IChE Student members

S. No	Name of the Student	Admission No	Name of the Industry/Organization	Dates	Place
1	K Satya Devan	15001A0827	Nagarjuna Fertilizers, & Chemicals Limited, Kakinada	15 th May to 14 th June 2017	Kakinada
2	V Lokesh Kumar	15001A0840	Nagarjuna Fertilizers, & Chemicals Limited, Kakinada	12-20 January 2018	Kakinada
3	B Anjali	15001A0823	Mangal Industries Ltd, Amara Raja Group Company	14-24 December 2017	Tirupati
4	E Pallavi	15001A0817			
5	P Veera Prakash Reddy	15001A0814			
6	G. Vishnu	15001A0801	Nava Bharat Ventures Ltd	24 th September to 3 rd October 2017	Samalkot, East Godavari.Dt. (AP)
7	V Lokesh Kumar	15001A0840			
8	V Chandra Shekar	16001A0807	JSW Steels Limited	11 th June to 6 th July 2018	Bellary, Karnataka
9	K. Subrahmanyam	16001A0808			
10	V Krishna Veni	16001A0816			

The Meritorious IChE Student members in various technical and non-technical events

S. No	Name of the Student	Admission No	Name of the event	Place	Remarks
1	G Vishnu	15001A0801	CHEMCLAVE' 18	IIT Madras	Campus ambassador
2			CHEMOSPHERE-2k17	SVU Tirupati	
3	K Tehseen Raisa Basri	17001A0813	JNTUA Science Club	Anantapur	III rd Prize

4	K Anand	15001A0813	FUSION-2k18	27 th March 2018	Treasurer
5	K Subrahmanyam	16001A0808			Fund Riser
6	E Pallavi	15001A0817			Technical Adviser
7	Y Tejaswini	15001A0821			Food Committe
8	K Pavan Kumar	17001A0814	Mess Representative at Lepakshi Hostel	2017-2018	Best Representative
9	S Rehana	15001A0824	NPTEL Online Certification	12 Week Course	Merit certificate from IIT Khargpur

S. No.	Course	Name	Admin. No.	%	Weeks	Subject
1	NPTEL	R Yuvaraj	18001A0802	70	4	Effective Writing
2	NPTEL	A Neelima	18001A0805	64	4	Mechanical Operation
3	NPTEL	G Naga Charan Sai Yadav	18001A0806	61	4	Effective Writing
4	NPTEL	SM Shameer Hussain	18001A0807	56	4	Mechanical Operation
5	NPTEL	M Naga Ganesh	18001A0809	83	4	Effective Writing
6	NPTEL	P Yamuna	18001A0811	72	4	Mechanical Operation
7	NPTEL	G Swetha	18001A0812	72	8	ecology & Environment
8	NPTEL	S Eswar Naik	18001A0814	57	4	Effective Writing
9	NPTEL	B Surya Kiran Kumar	18001A0816	63	4	Effective Writing
10	NPTEL	P Achish	18001A0819	65	4	Adiabatic two Phase Flow & Flow Boiling In Microchannel
11	NPTEL	M Divya Lakshmi Pravallika	18001A0820	51	8	Renewable Energy Engineering : solar, Wind And Biomass Energy System
12	NPTEL	D Yamuna Reddy	18001A0821	97	12	Mechanical Unit Operation
13	NPTEL	B Vijay Kumar	18001A0822	75	4	Mechanical Operation
14	NPTEL	B Chandrika	18001A0824	69	12	The joy of Computing Using Python
15	NPTEL	D Manoj Kumar	18001A0826	60	4	Mechanical Operation
16	NPTEL	D Dheeraj	18001A0829	68	4	Mechanical Operation
17	NPTEL	B Tejasri	18001A0835	56	4	Mechanical Operation
18	NPTEL	I Abhilash	18001A0836	62	4	Mechanical Operation
19	NPTEL	N Raghava Praveen	18001A0837	67	4	Mechanical Operation
20	NPTEL	C Karunakar	18001A0838	69	4	Mechanical Operation

21	NPTEL	M Srujana	18001A0839	72	4	Visual Communicatin Design For digital Media
22	NPTEL	A Devi	18001A0840	75	4	Mechanical Operation
23	NPTEL	M Thrisha	18001A0841	67	4	Mechanical Operation
24	NPTEL	N Ramya	18001A0842	68	4	Mechanical Operation
25	NPTEL	G V Sreevanya	18001A0843	68	4	Mechanical Operation
26	NPTEL	K Rishi Kumar	18001A0844	68	4	Effective Writing
27	NPTEL	G Sai Jyothi Jeythisha	18001A0845	57	4	Mechanical Operation
28	NPTEL	M Manjunath	18001A0846	62	4	Effective Writing
29	NPTEL	K Youmakeswara	18001A0848	62	4	Effective Writing
30	NPTEL	T Prudhvi Teja	18001A0849	71	4	Mechanical Operation
31	NPTEL	C Likitha	18001A0850	67	4	Mechanical Operation
32	NPTEL	G Sai Vara Prasad	18001A0851	65	4	Mechanical Operation
33	NPTEL	N Raaga Varshitha Reddy	18001A0855	69	4	Mechanical Operation
34	NPTEL	B Sumathi Reddy	18001A0857	51	4	Mechanical Operation
35	NPTEL	A Pradeep	19005A0801	53	4	Effective Writing
36	NPTEL	D Ramaya	19005A0803	78	4	Mechanical Operation
37	NPTEL	K Venugopal	19005A0804	55	4	Effective Writing
38	NPTEL	K Naveen	19005A0806	53	4	Effective Writing
39	NPTEL	N Naveen	19005A0807	54	4	Effective Writing
40	NPTEL	k Ravindra	19005A0809	55	4	Effective Writing

COURSERA Course

S. No.	Course	Name of the student	Admin. No.	Subject
1	COURSERA	T Sowmya	18001A0804	Oil & Gas Industry Operations and Markets
2	COURSERA	P Tharun	18001A0808	Programming Foundation With JavaScript, HTML and CSS
3	COURSERA	K Kavya	18001A0815	Oil & Gas Industry Operations and Markets
4	COURSERA	M Sai Upendra Reddy	18001A0825	Conflict Stress Management
5	COURSERA	P Ruchitha	18001A0854	Oil & Gas Industry Operations and Markets
6	COURSERA	Eshanka	18001A0861	Introduction to Petroleum Engineering
7	COURSERA	M Vidadhara Reddy	19005A0802	Conflict Stress Management

Online Internship Training Program 2018-22 batch students

S.No.	Name of the Student	Name of the Subject	Duration		Grade	Name of the Institute
			From	To		
1	GRIDDALURU SWETHA	Petroleum Refinery Engineering	12th may 2021	15th may 2021	A+	Indian Institute of Chemical Engineers
2	PULLOLA YAMUNA	Chemical process technology	15th feb 2021	15 th april 2021	A	Indian Institute of Chemical Engineers
3	MOPURI NAGA GANESH	Six- sigma yellow belt	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
4	PALEM THARUN	Computer Aided Engineering	31th may 2021	30th jun 2021	A	JNTUA College of Engineering
5	SHAIK MOHAMMED SHAMEER HUSSAIN	Six- sigma yellow belt	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
6	GALIBOYANA NAGA CHARAN SAI YADAV	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
7	A. NEELIMA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
8	THUMMALA SOWMYA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
9	RANGAPPA YUVARAJ	Petroleum Refinery Engineering	15th JULY 2021	30th aug 2021	A	JNTUA College of Engineering
10	K. MOKSHA SAI	MATLAB AND AUTOCAD 2D &3D	6th may 2021	26th jun 2021	A	JNTUA College of Engineering
11	K. MOKSHA SAI	MATLAB AND AUTOCAD 2D &3D	6th may 2021	26th jun 2021	A+	JNTUA College of Engineering
12	K. MOKSHA SAI	MATLAB AND AUTOCAD 2D &3D	26th jun 2021		A	JNTUA College of Engineering
13	CHEELA HAREESH	Chemical process technology	25th feb 2022	30th april 2022	A+	Indian Institute of Chemical Engineers
14	CHEELA HAREESH	SEO Foundations	Dec 31st 2020		A	LinkedIn Learning
15	CHEELA HAREESH	Online Marketing Foundations	dec 29th 2020		A	LinkedIn Learning
16	CHEELA HAREESH	Google Analytics Essential Training	dec 30 2020		A	LinkedIn Learning
17	Y. MITHIL KUMAR REDDY	Mechanical operations(NPTEL)	Feb-18	Mar-18	A	Indian Institute of Technology Roorkee
18	RUPA ARUNA	Mechanical operations(NPTEL)	Feb-18	Mar-18	A	Indian Institute of Technology Roorkee
19	KOTAKONDA MOKSHA SAI	Mechanical unit operations(NPTEL)	Jul-21	Oct-21	A	Indian Institute of Technology Guwahati

20	MANNURU SANDHYA	Mechanical unit operations(NPTEL)	Jul-21	Oct-21	A+	Indian Institute of Technology Guwahati
21	MANIGE KRISHNA KANKSHITH	Mechanical unit operations(NPTEL)	Jul-21	Oct-21	A+	Indian Institute of Chemical Engineers
22	SABHAVAT ESWAR NAIK	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
23	K.KAVYA	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
24	B.SURYA KIRAN KUMAR	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
25	P.ACHISH	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
26	MALLELA DIVYA LAKSHMI PRAVALLIKA	Petroleum Refinery Engineering	8th May 2021	19th June 2021	A	Indian Institute of Chemical Engineers
27	DODDI YAMUNA REDDY	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	B+	Indian Institute of Chemical Engineers
28	BEERE VIJAY KUMAR	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
29	BALA CHANDRIKA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
30	M SAI UPENDRA REDDY	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	B+	Indian Institute of Chemical Engineers
31	DEVANA MANOJ KUMAR	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
32	DEVADASI DEERAJ	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
33	BHAOGARAJU TEJASRI	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
34	INAMADUGU ABHILASH	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
35	NELATURU RAGHAVA PRAVEEN	Petrochemical Engineering	8th May 2021	19th June 2021	A+	Indian Institute of Chemical Engineers
36	CHIRALA KARUNAKAR	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
37	MANDALA SRUJANA	BioChemical Engineering	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
38	DEVI	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
39	MUNGARA THRISHA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers

40	NADIMINTI RAMYA	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
41	GV SREEVANYA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
42	KUNAPA RISHI KUMAR RAJU	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
43	G. SAI JYOTHI JEYTHISHA	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
44	M.MANJUNATH	Petroleum Refinery Engineering	12th may 2021	15th July2021	A	Indian Institute of Chemical Engineers
45	KAREDDULA YOMAKESWARA	Computer Aided Engineering	31st may 2021	30th June 2021	A	JNTUA College of Engineering
46	THONDU PRUDHVITEJ	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
47	LIKITHA CHARUGUNDLA	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
48	GORANTLA SAI VARAPRASAD	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	B	Indian Institute of Chemical Engineers
49	P.RUCHITHA	BHARATHI CEMENT CORPORATION	5th April 2021	4 th May 2021		JNTUA College of Engineering
50	N. RAGAVARSHITHA REDDY	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
51	BUSIREDDY SUSMITHA REDDY	Chemical process technology	8th may 2021	15th June 2021	B+	Indian Institute of Chemical Engineers
52	ESHANKA WEERASINGHE	Computer Aided Engineering	31st may 2021	30th june 2021	A	Indian Institute of Chemical Engineers
53	ALLAMUDI PRADEEP	Chemical process technology	1st may 2021	30Ht may 2021	A	Indian Institute of Chemical Engineers
54	MURAM REDDY VIDYADHAR REDDY	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
55	DASARI RAMYA	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
56	KARAMALA VENUGOPAL	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
57	KALIVELI NAVEEN	Petroleum Refinery Engineering	5th may 2021	30Ht may 2025	A	Indian Institute of Chemical Engineers
58	NARSING NAVEEN KUMAR	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
59	KANDHALA RAVEENDRA	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers

Internship Training Program of 2017-21 batch students

S.No.	Name of the student	Admission Number	Name of the Industry	No. of Days
1	K L Harsha vardhan	17001A0806	Coromandel International	30
2	C Jaya sankar	18005A0804	Godavari Gas Power	16
3	B Sai Mukesh Reddy	17001A0820	Godavari Gas Power	17
4	P Supriya	17001A0827	Godavari Gas Power	17
5	B Nikhila	17001A0840	Godavari Gas Power	17
6	B Nikhila	17001A0840	AP Genco	14
7	B Abhinay	17001A0839	AP Genco	14
8	B Sai Mukesh Reddy	17001A0820	Godavari Gas Power	14
9	N Nikhila	17001A0801	TGV SRAAC Limited	16
10	B Meenakshi	17001A0821	TGV SRAAC Limited	14
11	R Indhumathi	17001A0837	TGV SRAAC Limited	17
12	K Tehseen Raisa Basri	17001A0813	TGV SRAAC Limited	14
13	S Karishma	17001A0815	TGV SRAAC Limited	14
14	S P Shameem Banu	17001A0809	TGV SRAAC Limited	14
15	A Gowthami	17001A0838	TGV SRAAC Limited	14
16	V Jaya Lakshmi	17001A0810	TGV SRAAC Limited	14
17	S Kamalini	17001A0830	TGV SRAAC Limited	14
18	R Sreelatha	17001A0812	TGV SRAAC Limited	14
19	Y Jaya Sagar	17001A0823	ONGC limited	30
20	R Akhil	17001A0807	ONGC limited	30
21	MVR Sudheer	17001A0841	Stahi India pvt limited	13
22	D B Prem Kumar	17001A0842	Stahi India pvt limited	13
23	Y Abhishek	17001A0808	Coromandel International	30

NSS ACTIVITES DURING 2017-21

S. No	Name of the event	Date	No of participants
1	Conducted "Telugu Day Celebrations" on the eve of Telugu Language day.	29-08-2017	360
2.	Arranged a Lecture on " Importance of Yoga for the education", for the students of JNTUACEA	29-08-2017	360

3.	Conducted "Blood group checkup" camp in College dispensary, JNTUACE, Anantapur	31-08-2017	360
4	Arranged a Lecture on DIGILOCKER for the staff and students of JNTUACEA	01-09-2017	200
5	Conducted Personality Development Programme for the B.Tech Students	04-09-2017	1100 Approx
6	Arranged a Lecture on " Need for Good Governance and Growth of the Nation", for the students of JNTUACEA	06-09-2017	200
7	Arranged Seminar on the Occasion of International Day for Preservation of Ozone layer	16-09-2017	200
8	Blood Grouping Test	10-08-2017	360
9	National Unity Day (Rashtriya Ekta Diwas)	31-10-2017	350
10	Three day Workshop on Disaster Management and First Aid	09-01-2018 to 11-01-2018	45
11	Workshop on " Exams- Stress – Success	24-03-2018	200
12	World Health day	07-04-2018	50
13	Vana Mahothsavam	14-07-2018	1000
14	NSS Golden Jubilee year Celebrations	24-09-2018	350
15	Blood Donation Camp	05-12-2018	300
16	Special camp	02-03-2019 to 08-03-2019	50
17	Blood Donation Camp	28-03-2019	150
18	National Yoga Day	21-06-2019	200
19	World Environment Day	25-06-2019	100
20	Rally on "JAL SAKTHI ABHIYAN"	22-07-2019	100
21	Conducted "Organ Donation Day" on the eve of Telugu Language day.	13-08-2019	150
22	Rally on "FIT INDIA MOVEMENT"	29-08-2019	80
23	Conducted "Blood group checkup" camp for the first year students, JNTUACE, Anantapur	30-08-2019	360
24	Organized "Blood Donation Camp" in College dispensary, JNTUACE, Anantapur.	31-10-2019	120
25	Conducted "National Integration Day" at College Auditorium, JNTUACE, Anantapur	19-11-2019	300
26	Deputed students for National Integration Camp at Junagadh, Gujarat	06-01-2020 to 12-01-2020	12

27	Organized "Mega Health Camp" in College dispensary, JNTUACE, Anantapur	13-03-2020 & 14-03-2020	300
28	Arranged a lecture on "leadership and ethics"	24-09-2020	50
29	National Unity Day (Rashtriya Ekta Diwas)	31-10-2020	online
30	Organized District Youth Festival on behalf of ANSET, Anantapur	01-12-2020 to 05-12-2020	80
31	Organized National Youth Day	12-01-2021	15
32	One week 130 th Birth Anniversary Celebrations of Dr. B.R. Ambedkar	07-04-2021 to 14-04-2021	30
33	World Environment day	05-06-2021	80
34	Organized International Youth Day	12-08-2021	50
35	Conducted Vaccination Drive	28-08-2021	250
36	Freedon run Programme	14th August, 2022	300
37	Har Ghar Tiranga Rally Programme	13th August, 2022	300
38	International Yoga Day	21 st July, 2022	120

5 FACULTY INFORMATION AND CONTRIBUTIONS (200)

Total Marks 162.05

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Sr. No	Name	PAN No.	University Degree	Date of Receiving Degree	Area of Specialization	Research Paper Publications	Ph.D Guidance	Faculty receiving Ph.D during the assessment year	Current Designation	Date (Designated as Prof / Assoc. Prof.)	Initial Date of Joining	Association Type	At present working with the Institution (Yes / No)	Date of Leaving	IS HOD?
1	Dr. S.V Satyanarayana	AORPS1823G	ME/M. Tech and PhD	05/03/2004	Membrane separations, Pervaporation	39	8	13	Professor	22/04/2006	15/09/1994	Regular	Yes		No
2	Dr. T. Balanarsaiah	AEJPT3965J	ME/M. Tech and PhD	16/12/2009	Fluidization	16	8	4	Professor	01/02/2016	09/11/2006	Regular	No	04/01/2021	No
3	Dr. S Sharada	AODPP8968H	ME/M. Tech and PhD	29/09/2018	Micro Reactors	13	3	0	Associate Professor	05/03/2020	21/06/2003	Regular	Yes		No
4	Dr. B Dilip Kumar	AJUPD9576F	ME/M. Tech and PhD	28/12/2015	Nanotechnology	14	5	0	Associate Professor	14/12/2019	14/12/2006	Regular	Yes		Yes
5	Mr. M. Kalyan Kumar	AGBPK5521F	M.E/M.Tech	18/02/1998	Environmental Engineering	1	0	0	Assistant Professor		04/06/2001	Regular	Yes		No
6	Mr. K Subba Rao	MFWPS9779B	M.E/M.Tech	30/06/2008	Environmental Engineering	0	0	0	Assistant Professor		12/12/2005	Contractual	Yes		No
7	Dr. P Uma Maheshwari	AAWPU9565E	ME/M. Tech and PhD	30/03/2022	Membrane separations, Pervaporation	1	0	0	Assistant Professor		02/09/2010	Contractual	Yes		No
8	Mr M Murali Naik	BFEPN8942L	M.E/M.Tech	31/01/2011	Adsorption	4	0	0	Assistant Professor		18/07/2011	Contractual	Yes		No
9	Mr. A Raja Sekhar Babu	ALXPR4526L	M.E/M.Tech	27/10/2009	Nanotechnology	0	0	0	Assistant Professor		16/01/2013	Contractual	Yes		No
10	Mr K Peddintaiah	DMAPK9031C	M.E/M.Tech	06/01/2014	Micro Reactors	3	0	0	Assistant Professor		16/07/2016	Contractual	Yes		No
11	Ms G Neha Mallika	BSZPM4594D	M.E/M.Tech	27/11/2017	Nanotechnology	1	0	0	Assistant Professor		29/01/2018	Contractual	Yes		No
12	Mrs Sowjanya D	AHFPD7598A	M.E/M.Tech	28/04/2003	Reaction Engineering	0	0	0	Assistant Professor		09/12/2019	Contractual	Yes		No
13	Mr V Ramanjeneyulu	AIAPV0416F	M.E/M.Tech	30/06/2010	Environmental Engineering	0	0	0	Assistant Professor		09/12/2019	Contractual	Yes		No
14	Mrs. H Rehana Anjum	AWGPA8908D	M.E/M.Tech	09/04/2016	Membrane separations, Waste water treatment	1	0	0	Assistant Professor		09/12/2019	Contractual	Yes		No
15	Mrs Ch Maneesha	FWQPM5523M	M.E/M.Tech	08/02/2018	Nanotechnology	0	0	0	Assistant Professor		09/12/2019	Contractual	Yes		No

16	Dr. D Subba Rao	AAZPD4153E	ME/M. Tech and PhD	25/01/1995	Biochemical Engineering, Reaction Engineering	7	3	2	Professor	22/04/2006	30/10/1992	Regular	No	30/12/2019	No
17	Mrs. A Meenakshi	AHSPA8949F	M.E/M.Tech	20/07/2005	Chemical Engineering	0	0	0	Assistant Professor		14/11/2006	Regular	No	02/12/2019	No

5.1 Student-Faculty Ratio (SFR) (20)

Total Marks 14.00

UG

No. of UG Programs in the Department

B.Tech Chemical Engineering						
Year of Study	CAY		CAYm1		CAYm2	
	(2021-22)		(2020-21)		(2019-20)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	6	60	6	60	6
3rd Year	60	6	60	6	60	6
4th Year	60	6	60	6	60	6
Sub-Total	180	18	180	18	180	18
Total	198		198		198	
Grand Total	<input type="text" value="198"/>		<input type="text" value="198"/>		<input type="text" value="198"/>	

PG

No. of PG Programs in the Department

M.Tech Environmental Engineering						
Year of Study	CAY(2021-22)		CAYm1(2020-21)		CAYm2 (2019-20)	
	Sanction Intake		Sanction Intake		Sanction Intake	
1st Year	25		25		25	
2nd Year	25		25		25	
Total	50		50		50	
M.Tech Nano Technology						
Year of Study	CAY(2021-22)		CAYm1(2020-21)		CAYm2 (2019-20)	
	Sanction Intake		Sanction Intake		Sanction Intake	
1st Year	25		25		25	
2nd Year	25		25		25	
Total	50		50		50	
Grand Total	<input type="text" value="100"/>		<input type="text" value="100"/>		<input type="text" value="100"/>	

SFR

No. of UG Programs in the Department No. of PG Programs in the Department

Description	CAY(2021-22)	CAYm1 (2020-21)	CAYm2 (2019-20)
Total No. of Students in the Department(S)	<input type="text" value="298"/> Sum total of all (UG+PG) students	<input type="text" value="298"/> Sum total of all (UG+PG) students	<input type="text" value="298"/> Sum total of all (UG+PG) students
No. of Faculty in the Department(F)	<input type="text" value="14"/> F1	<input type="text" value="14"/> F2	<input type="text" value="15"/> F3
Student Faculty Ratio(SFR)	<input type="text" value="21.29"/> SFR1=S1/F1	<input type="text" value="19.87"/> SFR2=S2/F2	<input type="text" value="21.29"/> SFR3=S3/F3
Average SFR	<input type="text" value="20.82"/> SFR=(SFR1+SFR2+SFR3)/3		
F=Total Number of Faculty Members in the Department (excluding first year faculty)			

Note: All the faculty whether regular or contractual (except Part-Time), will be considered. The contractual faculty (doing away with the terminology of visiting/adjunct faculty, whatsoever) who have taught for 2 consecutive semesters in the corresponding academic year on full time basis shall be considered for the purpose of calculation in the Faculty Student Ratio. However, following will be ensured in case of contractual faculty:

1. Shall have the AICTE prescribed qualifications and experience.
2. Shall be appointed on full time basis and worked for consecutive two semesters during the particular academic year under consideration.
3. Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during NBA visit

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

	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY(2021-22)	4	10
CAYm1(2020-21)	4	10
CAYm2(2019-20)	5	10

Average SFR for three assessment years : 20.82

Assessment SFR : 14

5.2 Faculty Cadre Proportion (20)

Total Marks 17.00

Institute Marks : 17.00

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY(2021-22)	1.00	1.00	3.00	2.00	9.00	1.00
CAYm1(2020-21)	1.00	1.00	3.00	2.00	9.00	1.00
CAYm2(2019-20)	1.00	2.00	3.00	1.00	9.00	2.00
Average Numbers	1.00	1.33	3.00	1.67	9.00	1.33

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 10 : 17.00

5.3 Faculty Qualification (20)

Total Marks 11.05

Institute Marks : 11.05

	X	Y	F	$FQ = 2 \times [(10X + 4Y) / F]$
2021-22(CAY)	3	11	14.00	10.57
2020-21(CAYm1)	3	11	14.00	10.57
2019-20(CAYm2)	4	11	14.00	12.00

Average Assessment : 11.05

5.4 Faculty Retention (10)

Total Marks 8.00

Institute Marks : 8.00

Description	2020-21 (CAYm1)	2021-22 (CAY)
No of Faculty Retained	4	4
Total No of Faculty	5	5
% of Faculty Retained	80	80

Average : 80.00

Assessment Marks : 8.00

5.5 Faculty competencies in correlation to Program Specific Criteria (10)

Total Marks 10.00

Specialization: Faculty members of Chemical Engineering Department are specialized in diversified areas of Chemical Engineering. They have good research exposure and have published research papers in journals of repute (American Chemical Society (ACS), Springer, Elsevier, Taylor and Francis, Wiley, RSC, etc.) and presented several papers in national and international conferences in India as well as abroad. Faculty has got the provision for going for higher studies sponsored by the Institute under QIP.

The faculty members participated in FDPs, STCs, and Workshops to upgrade their knowledge in latest field of research. Faculty is involved in developing working models for laboratories for the effective teaching-learning process. Faculty members are also actively involved in conducting events such as FDPs, STCs and Workshops. Faculty shows keen interest in developing departmental library facility by recommending latest books for the benefit of students and faculty. Faculty members also takes keen interest in developing Research facilities for the benefit of B.Tech, M.Tech. and Ph.D. students.

The Department of Chemical Engineering has faculty expertise available in the domains of Membrane Separation & Transport Processes, Nanotechnology, Energy & Environmental Engineering, Biochemical Engineering, Fluidization Engineering, Micro-reactors, Modeling and Simulation, Catalysis, Electrochemical Science etc. The faculty in each domain and their research areas are given below:

A.Specialization:

S. No.	Specialization	Name of Faculty	PSO1	PSO2	PSO3
1.	Chemical Engineering	Dr. S.V Satyanarayana	Y	Y	Y
2.		Dr. T. Bala Narsaiah			
3.		Mr. M. Kalyan Kumar			
4.		Dr. S Sharada			
5.		Dr. B. Dilip Kumar			
6.		Ms. P. Uma Maheshwari			
7.		Mr. M. Murali Naik			
8.		Mr. A. Raja Sekhar Babu			
9.		Mr. K. Peddintaiah			
10.		Ms. G. Neha Mallika			
11.		Mr. V. Ramanjaneyulu			
12.		Mrs. Ch. Maneesha			
13.		Mrs. D. Sowjanya			
14.	Nanotechnology	Dr. S.V Satyanarayana	Y	Y	Y
15.		Dr. T. Bala Narsaiah			
16.		Mr. M. Kalyan Kumar			
17.		Dr. S Sharada			
18.		Dr. B. Dilip Kumar			
19.		Ms. P. Uma Maheshwari			
20.		Mr. A. Raja Sekhar Babu			
21.		Ms. G. Neha Mallika			
22.		Mrs. Ch. Maneesha			
23.		Mrs. D. Sowjanya			
24.					
25.	Dr. T. Bala Narsaiah				

26.	Environmental Engineering	Mr. M. Kalyan Kumar			
27.		Dr. S Sharada			
28.		Dr. B. Dilip Kumar			
29.		Mr. M. Murali Naik			
30.		Mr. K. Peddintaiah			
31.		Mr. V. Ramanjaneyulu			
32.		Mrs. D. Sowjanya			

B. Research Publications:

S. No.	Faculty Name	Area of Specialization	Research Publication	Book Chapters	Patent (Published/Granted*)
1.	Dr. S.V Satyanarayana	Membrane Separations, Pervaporation, Environmental Engineering, Optimization	37	4	02
2.	Dr. T. Bala Narsaiah	Fluidization, Nanotechnology	13	1	-
3.	Mr. M. Kalyan Kumar	Environmental Engineering, Energy2	2	1	-
4.	Dr. S Sharada	Microreactors, Nanotechnology, Environmental Engineering	18	1	-
5.	Dr. B. Dilip Kumar	Nanotechnology, Photo-electrochemistry, Batteries, Electrocatalytic materials, Environmental Engineering	12	4	01*
6.	Mr. K Subba Rao	Environmental Engineering	-	-	-
7.	Ms. P. Uma Maheshwari	Membrane separations, Pervaporation,	1	-	-
8.	Mr. M. Murali Naik	Adsorption	4	-	-
9.	Mr. A. Raja Sekhar Babu	Nanotechnology	-	-	-
10.	Mr. K. Peddintaiah	Microreactors	3	-	-
11.	Ms. G. Neha Mallika	Nanotechnology	1	-	-
12.	Ms. D. Sowjanya	Reaction Engineering	-	-	-

13.	Mr. V. Ramanjeneyulu	Environmental engineering	-	-	-
14.	H. Rehana Anjum	Membrane separations, waste water treatment	1	-	-
15.	Ms. Ch Maneesha	Nanotechnology	-	-	-

Patents:

S.No.	Name of the Invention	Names of the inventors	National/International	Published/Granted Year
1.	Antipsoriatic Effects of Clobetasol Loaded Nano Structured Lipid Carriers On Imiquimod Induced Psoriasis	Kudumala Ramesh Reddy, Suggala Venkata Satyanarayana, Veeram Jayasankar Reddy, Palagati Sucharitha	National	Application No. 202141009486 A, Published (2021)
2.	Clobetasol Loaded Solid Lipid Nanoparticles on Imiquimod Induced Psoriasis	Kudumala Ramesh Reddy, Suggala Venkata Satyanarayana Veeram Jayasankar Reddy, Palagati Sucharitha	National	Application No. 202141009425 A, Published (2021)
3.	Click Chemistry based Approach to Improve the Photostability of Dyes for Long Term Stability Dye Sensitized Photoelectrochemical Water splitting	Arun Prakash Upadhyay, Dilip Kumar Behara, Sri Sivakumar, Raj Ganesh S Pala	National	Indian Patent Granted with Patent No: 342773 on Granted (2020)

The faculty members are Editorial board members and reviewers as per the below

Editorial Board Member of International/ National Journals:

- Antarctica Journal of Chemical Engineering
- International Journal of Biological Sciences and Engineering

- Journal Material Science & Research
- International Journal of Nano Dimension
- International Journal of Chemistry & Chemical Engineering
- Journal of Environmental Research & Development
- International Journal of Application or Innovation in Engg. & Management
- International Journal of Scientific And Engineering Research
- International Journal or Research in Engineering & Technology
- International Journal of Advanced Research
- International Journal of Environmental Research & Management
- Research Journal of Engineering & Technology

Reviewers of International Journals:

- ACS Paragon Plus Environment (ACS Publications)
- Journal of Hazardous Materials (Elsevier Journal)
- Journal of Membrane Science (Elsevier Journal)
- Separation and Purification Technology (Elsevier Journal)
- Separation Science & Technology (Taylor & Francis)
- European Journal of Lipid Science (Wiley)
- Chemical Engineering Journal (Elsevier Journal)
- Journal of Chemical Engineering and Materials Science
- International Journal of Environmental Engineering (Elsevier Journal)
- Chinese Journal of Chemical Engineering (Elsevier Journal)

Research Publications:

Year	International/National Journals	Conference	Total
CAYm3(2018-19)	13	03	16
CAYm2(2019-20)	34	05	39
CAYm1(2020-21)	31	14	45
CAY(2021-22)	23	01	24

C. Course Developments:

Faculty of Chemical Engineering department are also developed a course, some practical labs and skill-oriented courses to enhance the knowledge of students. The list of the courses developed are mentioned below

S. No.	Course	Regulation	Impact Analysis	Programme specific Objectives
1	Chemical Technology Laboratory	R20	The knowledge of Unit operations, unit processes involved in manufacture of widely employed inorganic chemicals like Chlor-alkalis, cements, Glasses and industrial gases etc will be shared.	PSO1, PSO2, PSO3
2	Basic Thermodynamics	R20	The fundamental understanding of the thermodynamic system, properties, first law and Second law concepts etc, PVT behaviour of pure substances, estimation of volumetric properties of ideal gas etc will be learned	PSO1, PSO2, PSO3
3	Basic Thermodynamics Laboratory	R20	The knowledge of estimation of the bubble point and dew point temperature and pressure for ideal binary systems etc. and the phase and chemical reaction equilibria concepts will be learned	PSO1, PSO2, PSO3
4	Chemical Engineering Workshop	R20	The knowledge of various unit operations, unit processes in chemical engineering stream will be learned	PSO1, PSO2, PSO3
5	Computer applications in Chemical Engineering	R20	Students will be able to understand and learn the concepts of numerical and computer simulation and a range of numerical methods for the approximate solution of mathematical equations in Chemical Engineering	PSO1, PSO2, PSO3
6	Artificial Intelligence (AI) & Machine Learning (ML) Applications in Chemical Engineering	R20	The AI & ML includes various branches, namely, artificial neural network, fuzzy logic, genetic algorithm, expert systems and hybrid system which have been widely used in various applications of the chemical engineering field including modeling, process control, classification, fault detection and diagnosis. Students will be able to understand the fundamental concepts of AI & ML in various chemical engineering fields.	PSO1, PSO2, PSO3

D. Other relevant points:

Apart from Publication of Research journals, Conference, Book Chapters and e-Content development the faculty also involved in Organizing FDP's/ Seminars/Webinars and given various keynote lectures as resource persons shown in below table.

(i) Faculty involved in organizing FDPs/Seminars/Webinars

S. No.	Faculty Name	Organized (FDP/Seminars/webinars)
1.	Dr. T. Bala Narsaiah	<p>1.Coordinator, AICTE-Two-week faculty development programme on "Mathematical Modeling & Simulation for Scientists & Engineers" at JNTUA College of Engineering, Anantapur from 24-02-2020 to 07-03-2020</p> <p>2.Coordinator, Two-day program on "Waste Management "during 13-14 Nov,2019, Department of Chemical Engineering, JNTUACEA, Anantapur</p> <p>3.TEQIP workshop on "Energy Conversion and Storage" at Indian Institute of Technology Hyderabad during 2-7 Dec, 2019</p> <p>4.Orientation workshop on "Accrediting Unaccredited Institutions in South Eastern Region" organized by UGC, SERO, Hyderabad & NAAC, Bangalore on 1st October,2018 at Dr. B.R. Ambedkar open University, Hyderabad</p>
2.	Mr. M. Kalyan Kumar	Conducted Five Days National Level TEQIP III funded Short Term Online Course 'Faculty Development Program for Educators of Environmental Studies during 21-25 September 2020 at Department of Chemical Engineering, JNTUA CE Ananthapuramu.
3.	Dr. S Sharada	Organized online Six days Faculty Development programme on "laboratory and workshop Learning Skills in Conducting Practical Classes" from 15-20 February 2021 organized by Department of Chemical Engg. JNTUACEA and Directorate of Faculty development & IQAC, JNTUA, Ananthapuramu, Andhra Pradesh.
4.	Dr. B. Dilip Kumar	<p>Organized One week Faculty Development Program on "Renewable & Clean Energy Conversion Technologies" Twinning Program in Collaboration with UCET, Bikaner, Rajasthan from 4th to 8th January 2021.</p> <p>Organized Two-day Workshop on "Materials for Energy Conversion & Storage Devices", organized by Dept. of Chemical Engineering, JNTUA College of Engineering, Anantapur under TEQIP-III during 27-28 December 2019</p> <p>Organized Three-day Work shop on "Experimental Approaches & Instrumental Aspects in Analytical Chemistry", organized by Dept. of Chemical Engineering, JNTUA College of Engineering, Anantapur under TEQIP-III in association with Kanopy Techno Solutions, SIDBI Incubation center, IIT Kanpur (UP) during 6-8th February 2019</p>

(ii) Faculty invited as Resource Persons for various programs across the country

S. No.	Faculty Name	Resource Person in Invited Lectures
1.	Dr. S. V. Satyanarayana	<p>Delivered an invited lecture on "Assignments" Translational Models in Teaching and Research.</p> <p>Impact of Assignments in Continuous Education " Continuing Education Program on Integrating Pharmacy Education, Practice & Research: Bridging the Gap</p> <p>Delivered a lecture on How to Write Research Proposal" in a one-week Class work (20-26rd June 2019) on Research Methodology organised by Directorate of Research & Developments for PhD students</p> <p>Delivered a lecture on "Separation of Liquid Mixtures by Pervaporation: Challenges and Opportunities.</p>
2.	Dr. T. Bala Narasiah	<p>1. Delivered lecture on Process calculations & Thermodynamics" for M. Tech (Bio-Tech) students at Centre for Biotechnology</p> <p>2. Delivered lecture on Unit operations & fluid mechanics" for M. Tech (Bio-Tech) students at Centre for Biotechnology</p> <p>3. Delivered lecture on "Heat transfer" for M.Tech (Bio-Tech) students at Centre for Biotechnology.</p> <p>4. Delivered lecture on "mass transfer" for M.Tech (Bio-Tech) students at Centre for Biotechnology</p>
3.	Mr. M. Kalyan Kumar	<p>Invited Talk on "Safety Aspects", at One week Faculty Development Program (FDP) on "Skill Enhancement for Non-Teaching Staff", organized by Dept. of Chemical Engineering, JNTUA College of Engineering, Anantapur from 15-20 July 2019</p>
4.	Dr. B. Dilip Kumar	<p>Invited talk on "Novel Materials for Sustainable Energy Conversion and Storage", One Week Faculty Development Programme on "Novel Materials for Industrial Applications" sponsored by ATAL Academy Programmes, AICTE, New Delhi at JNTUA College of Engineering (Autonomous), Puliwendula, YSR Kadapa District scheduled during 4th to 8th October 2021.</p> <p>Invited talk on "Why students must know about Intellectual Property Rights (IPR)", to the Research Scholars of JNTUA, Orientation Program on IPR conducted by R& D Cell, JNTUA on 01-08-2021</p> <p>Invited talk on "Renewable Energy for Sustainable Development: Solar Energy Perspectives" in One week Faculty Development Program on "Renewable & Clean Energy Conversion Technologies" Twinning Program in Collaboration with UCET, Bikaner, Rajasthan from 4th to 8th January 2021</p> <p>Invited talk on "Numerical solution of ODEs and PDEs using MATLAB" at AICTE sponsored Two-week FDP on "Mathematical Modelling & Simulation for Scientists and Engineers" held at Dept. of Chemical Engineering, JNTUA CEA from 24th Feb 2020 to 7th March 2020.</p>
		<p>Invited Talk on "Electro-Ceramics- Materials, Properties, & Applications", at Three Day National Workshop on "Electro-ceramics: Synthesis, Characterization and Device Applications, organized by Dept. of Chemical Engineering, JNTUA College of Engineering, Anantapur in association with Ceramic Engineering, UCET, Bikaner, Rajasthan, from 11-13 September 2019</p> <p>Invited Talk on "Excel: Basic and Descriptive Statistics" at</p>

	<p>Invited talk on <u>Excel Basics and Descriptive Statistics</u>, at One week Faculty Development Program (FDP) on "Skill Enhancement for Non-Teaching Staff", organized by Dept. of Chemical Engineering, JNTUA College of Engineering, Anantapur from 15-20 July 2019</p>
	<p>Invited talk on "Electrochemistry and Electrochemical Processes for Energy and Environment" at Enrich 2k19, National Level Technical Symposium organized by RGUKT, IIIT Campus, RK Valley, <u>Idrupulanava, Kadapa</u> on 28-03-2019</p>
	<p>Invited Talk on "Cyclic Voltammetry: The Investigation of Electrolysis Mechanisms", at <u>Three day</u> Work shop on "Experimental Approaches & Instrumental Aspects in Analytical Chemistry", organized by Dept. of Chemical Engineering, JNTUA College of Engineering, Anantapur from 6-8 February 2019</p>

(iii) Awards/Honors received by Faculty

S. No.	Faculty Name	Award/Honour	Organization	State/National/International
1.	Dr. S.V. Sathyarayanan	GVPCE award for Best Researcher Amongst Engineering Faculty	JNTUA, Anantapur	State Award
		Best Scientist Award in Engineering Sciences by Govt. of Andhra Pradesh (APCOST) for the year 2017	JNTUA, Anantapur	State Award
2.	Dr. T. Bala Narasaiah	Received "State Teacher Award" in University level from Hon'ble Chief Minister Sri.Y.S. Jagan Mohan Reddy, Government of Andhra Pradesh on 05.09.2019 at Amaravathi, Vijayawada	JNTUA, Anantapur	State Award
3.	Dr. B. Dilip Kumar	District Best NSS Program Officer Award for Anantapur District from NSS Cell, JNT University Anantapur, Anantapuramu on 16-02-2018	JNTUA, Anantapur	District/State Award

Funds Received by the Faculty from various organizations:

S. No.	Faculty Name	Programme Organized	Funding Organization	Amount Received in lakhs
1.	Dr. T. Bala Narasaiah	Two-week FDP on "Mathematical Modelling & Simulation for Scientists and Engineers"	AICTE, New Delhi	2.32
2.	Dr. S. Sharada	One week Faculty Development Program (FDP) on "Skill Enhancement for Non-Teaching Staff", 15-20 July 2019	TEQIP-III funds	0.85
3.	Dr. B. Dilip Kumar	One week Faculty Development Program on "Renewable & Clean Energy Conversion Technologies" Twinning Program in Collaboration with UCET, Bikaner, Rajasthan from 4 th to 8 th January 2021	TEQIP-III funds	0.75
4.	Mr. M. Kalyan Kumar	Five Days National Level Short Term Online Course "Faculty Development Program for Educators of Environmental Studies during 21-25 September 2020 at Department of Chemical Engineering, JNTUA CEA	TEQIP III funds	0.80

5.6 Innovations by the Faculty in Teaching and Learning (10)

Total Marks 10.00

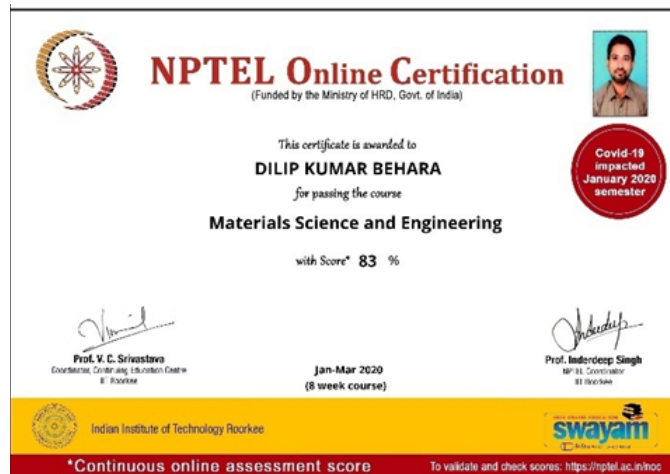
Innovations by the Faculty in Teaching and Learning

A. Statement of clear goals, use of appropriate methods, significance of results, effective presentation and reflective presentation (4)






- Use of modern teaching aids like LCD projectors, lecture capturing system (LCS)
- Wireless Keyboard and mouse, Wireless Presenter, USB wireless pen mouse, Wi-Fi enabled laptops are usually employed in classrooms and other student learning environments.
- Department encourages academic discussions between faculties and students using black board and faculties shares academic study material using it.
- Department has introduced mini projects in the curriculum.
- Usage of Role play, Model Demo, Charts etc. during teaching learning process.
- Team teaching for analytical subjects
- Expert video subject lectures delivered by the various eminent resource persons are available in the digital library and it facilitates the faculty and students to utilize E-Tutorials of NPTEL, MOOCs access E-Journals, Video Conference room, etc.
- Faculty members use department library, digital library and other Open-Source platforms to enhance their teaching skills.
- The faculty members are encouraged to participate in short term courses, staff development programs and workshops on advanced topics to keep pace with the advanced level of knowledge and skills.
- Over the past years the faculties have been participating /presenting papers in national/international conferences and publish their articles in national/international journals to enrich their knowledge.


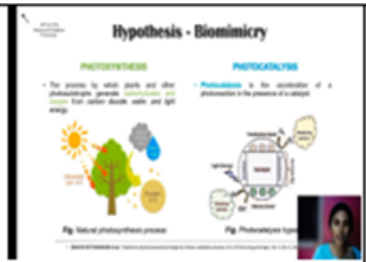



NPTEL Course Completion Certificate







The following is the different modes of best practices followed in teaching and learning

S. No	Best Practices	Goals	Model Image	Practice
1	Blended Classroom/ICT teaching tools	ICT teaching tools include simulation, modelling, CD-ROMs, teacher web publishing, word processing, spreadsheets, data logging, databases, e-mail, smart boards, interactive whiteboards and Internet browsing. Kahoot Quizzing Online app. Used for PHT & CPC Subjects		Most of the staff members are practicing this method.
2	On-site Teaching	Covers lectures and tutorials will be taken in traditional class room using chalk and black board.		Students are being taken Survey Materials for surveying on-site.
3	Case study demo	One specific case study is discussed in each semester and which will be discussed as a demo in the class. The specific case study is either from industry or society		The specific case study will help the student to understand the concept in a deeper level
4	Google Classroom	Google Classroom is a free blended learning platform that aims to simplify creating, distributing, and grading assignments. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students		Our faculty members are widely using Google class room
5	Seminar/ Assignments	Seminars and Assignments mode of teaching will bring the intellectual and thinking ability of the students. It ignites the ideas in student minds and evoke		Some of the faculty members have chosen seminar assignments to assess internal evaluation of

		new thoughts and will bring the innovative thinking skills		the student.
6	PPT	Power point presentations often user friendly tool that helps to elaborately explain the concepts to student community. The diagrams and flow charts are pictorially represented in a ease manner and self-explanatory to use the tool for presentation of content.		Many faculty members will adopt this methodology of teaching which is very user friendly and easy accessible to every student.
7	Group Discussion	The concept of Group discussion will help the students to improve their technical, communication skills. Further, it teaches to defend confidently the challenging aspects that they face in real life situations.		One recent topic of chemical engineering will be open for group discussion every Saturday in and faculty members will guide them
8	Industrial Visit/Field visits	Industrial visit and field visit is mandatory for every student as per course curriculum. The field and industrial visits will improve industry-institute interaction and evolve to solve more societal problems. Further, the students will able to ready themselves as per the industrial needs		Students are encouraged to go to industrial visit one in every semester
9	Moodle	Moodle is a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environments.	Moodle is used for blended learning, distance education and other e-learning projects in institute.	Many of the faculty using Moodle
10	Project based learning micro/major	To expand technical understandings through development in terms of software solutions and hardware implementation for industrial/societal Problems.		All Technical subjects are being taught by this method.

11	Communication Skill development	Communication skill-based courses and training is introduced to inculcate the communication skills, professional ethics which are very important to the students to get placements		Technical communication skill lab is introduced in curriculum to inculcate the communication skills to the students
12	Content beyond syllabus (Technical Seminars)	Few courses beyond syllabus and special lectures (Add-on courses) to address the content beyond syllabus and to bridge the curriculum gap		Add on courses will help to understand the concepts at a much deeper level.

B. Availability of work on Institute Website

- Curricular and extracurricular events are updated timely.
- Achievements of faculty/students are updated and awarded.
- The website provides information about the facilities of institution and also department.

C. Availability of work for peer review and critique

- The documents available in the institution website are easily accessible.
- The opinions and annotations by faculty, students and others are encouraged.

D. Reproducibility and Reusability by other scholars for further development

- Mr. Manjunath Dasari, Junior Research Fellow, working for the project "Spatial distribution of uranium and associated water quality parameters in groundwater /drinking water of Rayalaseema region (YSR, Anantapur, Kurnool and Chittoor districts) of Andhra Pradesh state" [BRNS Pros. No.:36(4)/14/19/2015] has given retractable solutions for water samples at Rayalaseema region and paves path towards development of uranium free ground and drinking water
- Mr. Arun Kumar, Junior Research Fellow, working for the project "Synthesis of Nanozeolites and Development of Highly Stable Mixed Matrix Membranes (MMM) for Dehydration of Hydrazine Hydrate Via Pervaporation" [EMR/2017/002355] has led to separate hydrazine from aqueous solutions and given solution for better utilization of Hydrazine as rocket fuel
- Many of the faculty members of the department are pursuing the PhD work are developing indigenous technologies on part of their dissertation.
- Many faculty members are encouraged to enrich the knowledge through organizing and attending Faculty Development Programs.



PROCEEDINGS OF THE PRINCIPAL
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING
ANANTHAPURAMU - 515 002 (A.P) INDIA
Present: Prof. K.PRAHLADA RAO
PRINCIPAL

Proc.No.C1/Estt/JNTUA CEA/2017-18

Dated: 10-4-2017

Sub: JNTUA – CEA – BRNS - Appointment of JRF – Orders – Issued
Ref: 1. No.36(4)/14/19/2015-BRNS/date: 28th March 2016
2. Permission letter from the Principal, dt. 9.3.2017.
3. Report submitted by the selection Committee dt. 16.3.2017.

ORDER:

Based on the recommendations of the selection committee vide ref. No. (3), The Principal, JNTUA College of Engineering, Ananthapuramu has approved the selection of **Mr.D.Manjunath** as "**Junior Research Fellow**" for the DAE Research Project under BRNS entitled "Spatial distribution of uranium and associated water quality parameters in ground water/drinking water of Rayalaseema region (YSR, Anantapur, Kurnool and Chittoor) with Prof.S.V.Satyanarayana as Principle Investigator and Prof.G.V.Subba Reddy as Co-Investigator. Mr.D.Manjunath is eligible for stipend/fellowship as per the BRNS project rules for the period of two years from the date of joining and he is informed to join immediately.

The expenditure shall be met from the DAE Project under BRNS grants sanctioned for the above Research Project.


PRINCIPAL

To

Mr. D.Manjunath
Copy to Prof.S.V.Satyanarayana, Prof. of Chemical Engg. & Principle Investigator, JNTUA
Copy to Prof.G.V.Subba Reddy, Prof. of Chemistry & Co-Investigator, JNTUA, CEP
Copy to Dr.A.Vinod Kumar, BARC, Mumbai, Project Collaborator
Copy to Mr.B.K.Rana, ESL, HPD Tummalapalli & Co-Project Collaborator
Copy to file.



PROCEEDINGS OF THE PRINCIPAL
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING (Autonomous), ANANTHAPURAMU
PRESENT: Prof. K. GOVINDA RAJULU
>0<

Procs No. CI/Estt/JNTUA CEA/2019-20

Date: 25-01-2020

Sub: JNTUA CEA - Chemic-Engg., - DST-SERB - Appointment of JRF-Orders Issued.

Ref: (1) Committee report dated 23-01-2020

(2) SERB Sanction Order File No: EMR/2017/002355 dated 26-11-2018

ORDER:

Based on the recommendations of the selection committee (ref. 1), The Principal, JNTUA College of Engineering, Ananthapuramu is pleased to appoint Mr. G. Arun Prasad as "Junior Research Fellow" to work in DST-SERB project titled "Synthesis of Nanozeolites and Development of Highly Stable Mixed Matrix Membranes (MMM) for Dehydration of Hydrazine Hydrate via Pervaporation" with Prof. S. V. Satyanarayana as Principal Investigator and Dr. P. Dinesh Sankar Reddy & Dr. B. Dilip Kumar as Co-Principal Investigators of Chemical Engineering Department (ref 2). Mr. G. Arun Prasad is eligible for stipend/fellowship as per DST-SERB Project rules for the period of three years from the date of joining and he is informed to join immediately.

The expenditure shall be met from the DST-SERB Project grants sanctioned for the above Research Project.


PRINCIPAL

To
Mr. G. Arun Prasad
Copy to Prof. S. V. Satyanarayana, Prof of Chemical Engg & Principal Investigator, JNTUACEA
Copy to Dr. P. Dinesh Sankar Reddy, Co-Principal Investigator
Copy to Dr. B. Dilip Kumar, Co-Principal Investigator
Copy to Dr. Pravakar Mohanty, Scientist, SERB, New Delhi
Copy to Principal Director of Audit, AGCR Building, New Delhi
Copy to File

5.7 Faculty as participants in Faculty development/training activities/STPs (15)

Total Marks 15.00

Name of the faculty	Max 5 Per Faculty		
	2020-21(CAYm1)	2019-20(CAYm2)	2018-19(CAYm3)
Dr. D. Subba Rao	0.00	0.00	3.00
Dr. S.V Satyanarayana	5.00	0.00	0.00
Dr. T. Bala Narsaiah	0.00	5.00	3.00
Mr. M. Kalyan Kumar	5.00	5.00	3.00
Dr. S Sharada	5.00	5.00	5.00
Dr. B. Dilip Kumar	5.00	5.00	5.00
Mr. K Subba Rao	3.00	3.00	0.00
Ms. P. Uma Maheshwari	5.00	3.00	5.00
Mr. M. Murali Naik	3.00	5.00	5.00
Mr. A. Raja Sekhar Babu	5.00	3.00	5.00
Mr. K. Peddintaiah	3.00	5.00	3.00
Ms. G. Neha Mallika	3.00	3.00	3.00
Ms. D. Sowjanya	5.00	5.00	0.00
Mr. V. Ramanjaneyulu	3.00	3.00	0.00
Ms. H. Rehana Anjum	5.00	5.00	0.00
Ms. Ch Maneesha	5.00	3.00	0.00
Sum	60.00	58.00	40.00
RF = Number of Faculty required to comply with 20:1 Student Faculty Ratios per 5.1	14.00	14.00	14.00
Assessment [$3 \times (\text{Sum} / 0.5\text{RF})$]	25.71	24.86	17.14

Average assessment over 3 years: 22.57

5.8 Research and Development (75)

Total Marks 57.00

5.8.1 Academic Research (20)

Institute Marks : 20.00

5.8.1 Academic Research**A. Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc.**

Year	International/National Journals	Conference	Total
CAYm2(2018-19)	13	3	16
CAYm2(2019-20)	34	5	39
CAYm1(2020-21)	31	14	45
CAY (2021-22)	23	4	27

Details of Publications in Last 3 Academic Years:**2021-2022**

Prof. S. V. Satyanarayana			
Title	Journal name	Date	Impact factor
Agricultural Waste Ash in the Domain of Sustainable Concrete: A Review	International Journal of Health Sciences	2022	2.96
Elevated Bloom's Taxonomy; Complete Learning through Sensors	YMER	03-Mar-22	0.143
Oleuropein loaded multifunctional lipid carrier as nanomedicine for treatment of meningitis through nasal delivery	Shod Ganga: a reservoir of Indian theses	31-07-2019	
Evaluation of the gastroprotective potential of Chloris paraguaiensissteud	International Journal of Research in Pharmaceutical Sciences	08-07-2022	0.604
Functional group modification of p-aminosalicylic acid resulted in promising antitubercular agents: in-silico drug design, synthesis, & biological activity	International Journal of Pharmaceutical Research	July-Sep 2022	0.33
An Insight into the Indian Diamond Exploration and Mining: Past and Present	Journal of the Geological Society of India	09-Aug-22	1.459
Improvement in photocatalytic activity of titanium dioxide nanoparticles through doping and calcination for textile wastewater treatment under visible light	Materials Today: Proceedings	25-Feb-22	1.46

Development of floating mini tablets loaded with chitosan Lisinopril microparticles	International Journal of Pharmaceutical Research	July sep 2022	0.33
Knowledge, attitude, and practices (KAP) of the Pharm. Dinternstowards adverse drug reaction (ADR) reporting and pharma covigilance	Pharmacy Education	04-07-2021	0.45
Books/Book Chapters			
Absorption, Distribution, Metabolism, Excretion, and Toxicity Assessment of Drugs Using Computational Tools,	Chapter 15, Computational Apporaches for Novel Therapeutic and diagnostic Designing to MitigateSARS-CoV2 Infection	2022	-
Environmental remediation using Natural low-cost Adsorbents for the removal of Pharmaceuticals contaminants from aqueous Media	Weser Books, Germany	ISBN 978-3-96492-295-3, July 2021	
Synergistic Interaction among Supplementary Cementitious Materials (SCMs) for Sustainable Solid-Waste Management	CRC Press	2022	
Dr. S. Sharada			
Perbutyric Acid with Amberlyst Catalyst in a Continuous Microreactor	Journal of Materials Today	27-Jun-22	1.46
Green Synthesis of Silicon Dioxide Nanoparticles using Desmostachya Bipinnita	Journal YMER	2022	0.143
Production of Performic Acid through a Capillary Microreactor by heterogeneous catalyst	International journal of Chemical Reactor Engineering	14-06-2022	1.51
Books/ Book Chapters			
Design Of Shell And Tube Heat Exchanger	1 st Edition by Lambert Academic	September 2022	
Nanoparticles for super hydrophobic applications"	1st Edition by Lambert Academic in the year	June 2021.	-
Dr. B. Dilip Kumar			

Dairy Waste Scum as a Potential Feed stock for Bio-Diesel Production: Optimization, Quality and Reliability Studies	Indian Chem. Eng	2022	1.091
Analytical Method Validation on Simultaneous Estimation of Ozenoxacin and Benzoic Acid in Pharmaceutical Formulations	Acta Chromatogr.	2022	1.216
Moving towards high-energy rechargeable Mg batteries- Status and challenges	Int. J. Energy Res	2022	5.164
Utilization of Tamarind Seeds waste for removal of Colours from Dye solutions	Pol. J. Environ. Stud.	2022	1.699
Conferences			
Ag-ZnO nanocomposites synthesized using "Amaranthus Viridis" plant extracts for catalytic applications	International Conference (virtual mode) on Recent innovations in Chemical Biological Engineering (RICBE-2k21)	16-18 September,2021	
Books/Book Chapters			
Utilization of Dairy Waste Scum as a Potential Feed stock for Bio-Diesel Production	LAP Lambert Book Publishers	ISBN No: 978-620-4-98181-9 2022.	
Synergistic Interaction among Supplementary Cementitious Materials (SCMs) for Sustainable Solid Waste Management, submitted as book chapter to Waste Management: Policies, Strategies & Models	CRE press, Taylor & Francis Publishers	2022	
Dr. P. Uma Maheshwari			
Pervaporation of hydrazine/water with ethyl cellulose/4A zeolite mixed matrix membranes	Korean J. Chem. Eng.	2021	3.309
Mr. M. Murali Naik			
Adsorptive Removal of Cobalt and Cadmium by Using Bagasse Pith	Ilkogretim Online – EEO	February 2021	0.192
Mr. K. Peddintaiah			
Synthesis of performic acid using heterogeneous catalyst in a batch reactor	Journal of GIS	2022	

Production of Performic Acid through a Capillary Microreactor by heterogeneous catalyst	International journal of Chemical Reactor Engineering	2022	1.51
Synthesis of Perbutyric Acid with Amberlyst Catalyst in a Continuous Microreactor	Materials Today: Proceedings	2022	1.46
Ms. G. Neha Mallika			
A Green approach to Arsenic removal using ZnO nanoparticles Synthesized from Acacia Catechu leaf Extract	Materials Today: Proceedings	June 2022	1.46
Mrs. H. Rehana Anjum			
Synthesized TiO ₂ nanoparticles for the application of photocatalytic degradation of synthetic toxic dye acridine orange	Materials Today: Proceedings	23 June 2022.	1.46

2020-2021

Prof. S. V. Satyanarayana			
Title	Journal name	Date	Impact factor
Questionnaire Based Study on the Assessment of Doctor of Pharmacy (Pharm.D) Interns Knowledge, Attitude, And Practices (KAP) Regarding The Pharmacovigilance	Asian Journal of Pharmaceutical and clinical research	05-01-2021	0.139
Pervaporation of Hydrazine/Water with Ethylcellulose/4A zeolite Mixed Matrix Membranes	Korean Journal of Chemical Engineering	16-Sep-21	3.309
Evaluation of Hepatoprotective and Antioxidant Activity of Ethanolic Extract of Artabotrys zeylanicus Against Various Hepatotoxins Induced Hepatotoxicity in Albino Wister Rats	Int. J. Res. Pharm. Sci.,	06-Feb-21	0.604
Formulation and evaluation of rosuvastatin SMEDDS for enhancement of gastro retentive absorption	International Journal of Biology, Pharmacy and Allied Sciences	2021	0.667
Novel Antitubercular Derivatives of Mannich and Schiff Bases of p-Aminosalicylic Acid, Rational Design	Journal of Research Pharmaceutical International	2021	0.604

Effect of elevated temperatures on the flexural strength of crushed rock dust concrete	Materials Today: Proceedings	24-Jan-21	1.46
Design and optimization of nano invasomal gel of Glibenclamide and Atenolol combination: in vitro and in vivo evaluation	Future Journal of Pharmaceutical Sciences	2021	1.0
Development and validation of a new analytical RP-HPLC method for simultaneous determination of Glibenclamide and Atenolol in bulk	International journal of research in pharmaceutical sciences	13-01-2020	0.604
Phytochemical Screening and in vitro antioxidant Study of Magnolia Vine, Muntingia calabura and Alangium Salviifolium Fruits, International Journal of Green Pharmacy	International Journal of Green Pharmacy	13-01-2020	0.128
Antipsoriatic effects of clobetasol loaded solid lipid nanoparticles on imiquimod induced psoriasis in balb/c mice	International Journal of Pharmaceutical Sciences and Research	01-Jun-20	0.134
Literature-based review of the drugs used for the treatment of COVID-19	Current Medicine Research and Practice	May-June 2020	2.613
Analysis of The Adverse Drug Reactions and Associated Cost Burden on The Patients in A South Indian Teaching Hospital	Journal of Advances in Medicine and Medical Research,	19-Nov-20	0.48
Books/ Book Chapters			
Bioremediation: Emerging Techniques For Environmental Cleaning Up, Education For Future	S.M. Books & Publications, Kottayam	ISBN: 978-93-88989-61-9 July 2020	
Dr. T. Bala Narsaiah			
Evaluation of activated carbon efficacy for the treatment of pharmaceutical wastewater	International Journal of Engineering Research and Applications	08-06-2021	2.105
Adsorption Studies on Removal of Malachite Green Extracted From Pre-treated Rice Straw	GIS Science journal	2021	0.1
Synthesis and characterization of Nickel Metavanadate (Ni ₃ V ₂ O ₈) application as photocatalyst and supercapacitor	International Journal of Nano dimension	12.6.2021	0.766

Enhancing adsorption capacity of nano-adsorbents via surface modification: A review	South African Journal of Chemical Engineering	31.1.2020	5.519
Fly Ash for Removal of Malachite Green Dye From Wastewater: Kinetic and Isotherm Studies	Journal of Science and Technology	25-05-2020	2.701
Evaluation of Total Phenolics and Antioxidants of Fresh and Commercial Fruit Juices	Journal of Scientific Research	March.2020	4.003
Extraction and Characterization of Lignin from Herbivorous Animal Manure	Journal of Scientific Research	Jan-20	4.003
Size Controlled Hydrothermal Synthesis and Characterization of Nickel Metavanadate (NiVO ₃) Nanoparticles	International Journal of Advanced Science and Technology	2020	0.475
Adsorption of lead ions from waste water using nano silica spheres synthesized on calcium carbonate templates	Heliyon	Nov-20	2.85
Conferences			
Hydrothermal synthesis and characterization of nanocrystalline Zinc Orthovanadate (Zn ₃ V ₂ O ₈) on Graphene oxide scaffolds	35 th Indian Engineering Congress conducted by The Institution of Engineers (India)	18-20 Dec,2020	
The Hydrothermal Synthesis and Characterization of Nickel Metavanadate (Ni ₃ V ₂ O ₈) as Electrocatalysts for Fuel Cell	Proceedings of ICSARQCSMM-19, 11-13 Dec, 2019, JNTUACE, Ananthapuramu, A.P., India.	Pp 171-175, ISBN: 9789 3539 16725	
Dr. S. Sharada			
Application of box-behnken design in optimization of biodiesel yield from neem oil	Chemical Engineering & Processing	2021	4.327
Study to remove arsenic content from groundwater using sand filtration technique	PENSEE Journal	2021	6
Surface assimilation studies for the removal of cyes from synthetic waste water from the biomass of Azadirachta Indica	IJARIE	2021	4.6
Dr. B. Dilip Kumar			

Pervaporation of hydrazine/water with Ethyl cellulose/4A zeolite mixed matrix membranes	Korean J. Chem. Eng	2021	3.309
Dual role of activated carbon as fuel and template for solution combustion synthesis of porous Zinc Oxide (ZnO) powders	J. Am. Ceram. Soc	2021	4.109
Adsorptive Removal of Methylene Blue (MB) and Malachite Green (MG) dyes from aqueous solutions using Graphene Oxide (GO)	Zeitschrift für Physikalische Chemie	2021	2.23
Design of Iso-material Heterostructures of TiO ₂ via seed mediated growth and arrested phase transitions	Phys. Chem. Chem. Phys.	2020	3.567
Multi element doped TiO ₂ /ZnO: Type-II Heterostructures for Electrochemical Crystal Violet Dye Degradation Studies	Int. J Nano Dimens	2020	0.766
Conferences			
Corrosion inhibition studies of low carbon steel using some selected plants in acidic and neutral medium	11th IconSWM-CE & IPLA Global Forum 2021, Jadavpur University, Kolkata, India (Virtual Mode)	December 01-04, 2021	
Green Synthesis of Ag-ZnO nanocomposites using "Amaranthus Viridis" plant extract for catalytic, electro-catalytic and photo-catalytic applications		2021	
ZSM-5/Sodium Alginate based Mixed Matrix Membranes for Pervaporation Dehydration of Ethanol		2021	
Synthesis and characterization of TiO ₂ anatase nanoparticles for preparation of ethyl cellulose mixed matrix membranes (MMMs)		2021	
An eco-friendly approach for synthesizing TiO ₂ /ZnO nanocomposites for removal of organic pollutants from water	1 st International Conference (online) on Emerging Trends in Catalysis for Sustainable Chemical Processes (ETCSCP-2021)	2021	
Methylene Blue removal studies using Activated carbon prepared from Tamaraindus Indica Seeds		2021	

Removal of Fluoride from ground water using Micellar Enhanced Ultra filtration (MEUF)		2021	
Graphene Oxide (GO) as flexible adsorbent for Crystal Violet Dye degradation: Batch and Continuous Studies		2021	
Biodiesel production from dairy waste scum: optimization, quality & reliability studies	International Online Conference on Sustainable Research Technology & Development (IOSCRT-2020)	September 24-25, 2020	
Corrosion inhibition studies of low carbon steel using different plant inhibitors in acidic and neutral mediums	11th IconSWM-CE & IPLA Global Forum 2021, Jadavpur University, Kolkata, India (Virtual Mode)	December 01-04, 2021	
Dr. P. Uma Maheshwari			
Conferences			
Pervaporation of hydrazine / water with Polystyrene/4A zeolite Mixed matrix membranes	Two days Online National Conference on Advanced Functional Materials NCFAM-2020	17-18 December 2020	
Pervaporation of hydrazine/water with Ethyl cellulose/4A zeolite Mixed matrix membranes	Three days National Conference CHEMCON-2020	27-29 th December 2020	
Mr. M. Murali Naik			
Adsorption of lead (pb) from waste water by using jatropha leaves powder as adsorbent	PENSEE	February 2021.	
Thermodynamic Parameters of Adsorption of Nickel and Lead onto Cinnamomum Camphora Seeds Powder	International Journal of Science and Research (IJSR)	February 2021.	

2019-2020

Prof. D. Subba Rao			
Title	Journal name	Date	Impact factor

Experimental and Kinetic Studies of Esterification of Glycerol using combustion synthesized $\text{SO}_4^{2-}/\text{CeO}_2\text{-Al}_2\text{O}_3$	Korean Chemical Engineering Research	01-08-2018	0.54
Biopharmaceutical insights of particulate emulsified systems – A prospective overview, Lipids in Health and Disease	Biomed Central Journal	10-05-2018	1.71
Stability-indicating RP-HPLC method for Quantification of Edoxabantosylate	International Journal of Research in Pharmaceutical Sciences	Apr-18	0.604
Stability-indicating RP-HPLC method for Quantification of Edoxabantosylate	International Journal of Research in Pharmaceutical Sciences	Apr-18	0.604
Oral nanoemulsion delivery systems of quetiapine fumarate for improved dissolution: development and characterization	European Journal of Biomedical and Pharmaceutical Sciences	2018	5.9
Evaluation of cytotoxic and anticytotoxic properties of apocynin	International Journal of Biology Research	Jan-18	6.58
Evaluation of Antigenotoxic effects of diosgnin in mice exposed to cyclophosphamide	International Journal of Research in Pharmaceutical Sciences	10-01-2018	0.604
Prof. S. V. Satyanarayana			
Pharmacogenetic Study Data of Indian Medicinal Plants	Int. J. Pharm. Res	Jun-20	0.34
Does Pectoralis Major My cutaneous Flap Cause the Shoulder Morbidity: A Clinical Comparative Study	Indian Journal of Otolaryngology and Head & Neck Surgery	18-Nov-20	0.229
Proniosomal gel mediated transdermal delivery of glibenclamide and atenolol combination: exvivo and pharmacodynamic studies	International Journal of Applied Pharmaceutics	20-Dec-20	0.824

Quality by design approach to stability indicating reverse-phase High-performance liquid chromatography method development, optimization and validation for the estimation of Simeprevir in bulk drug	Asian J Pharm Clin Res	2019	0.282
Formulation development and in-vivo radiographic studies of diltiazem hydrochloride loaded floating capsules prepared by modified pulsincap technology	International Journal of Pharmaceutical Sciences and Research	2019	0.134
Development and evaluation of clobetasol-loaded solid lipid nanoparticles for topical treatment of psoriasis	International Journal of Applied Pharmaceutics	04-07-2019	0.824
Clobetasol-loaded Dermal Nanostructured Lipid Carriers for the Treatment of Imiquimod Induced Psoriasis in Mice	Asian Journal of Pharmaceutics	07-09-2019	0.46
Estimation of structural and mechanical properties of Cadmium Sulfide/PVA Nano Composite films	Heliyon 5	2019	2.85
Pretreatment and Optimization of Processing Conditions for Extraction of Oleuropein from Olive Leaves using Central Composite Design	Pharmacognosy Research	June 2019	1.706
A new, simple and sensitive method for simultaneous estimation of Aspirin and Omeprazole in rat plasma b RP-HPLC and its application to pharmacokinetic study	J. Drug Delivery and Therapeutics	01 August 2019	0.51
Development of an ionic liquid based Dispersive liquid-liquid micro extraction method combined with RP-HPLC for determination of Methyclothiazide in plasma	J. Chemical and Pharmaceutical Research.	2019	0.135
Selective removal of closely related clipped protein impurities using poly(ethylenimine)- grafted anion-exchange chromatography resin	Preparative Biochemistry and Biotechnology	Aug-19	2.162

Tuning the Electrical and Thermal Functionalities of Mechanically Flexible Poly (vinyl alcohol) Nanocomposites: Effect of Cerium Zirconate Nanofiller Content	International Journal of Science, Technology, Engineering and Management-A VTU Publication	29-04-2019	---
Factorial design based optimization and in-vitro ex-vivo evaluation of clobetasol loaded nano structured lipid carriers	Int J Pharm Sci Res	2019	0.94
Antioxidant Potential of Ethanolic Extract of Canavalia Species in High-fat Diet and Streptozotocin-induced Diabetic Rats	Pharmacognosy Research	November,2019	
Selective removal of closely related clipped protein impurities using poly(ethylenimine) - grafted anion-exchange chromatography resin	Preparative Biochemistry and Biotechnology Journal	Aug 13 2019	2.162
Conferences			
Infrared heating- A new green technology for process intensification in drying of purslane leaves to reduce the thermal losses, Emerging Trends in Smart Modelling Systems and Design	International Conference on Emerging Trends in Engineering (ICETE)	27-Jul-19	
Book Chapters			
Slate Mine Waste Water the best substitute for Cementation, Urban Mining and Sustainable waste Management	Springer Professional	18-Mar-20	
Dr. T. Bala Narsaiah			
Molecular docking studies of phytocompounds with Transcriptional factors in hepatocellular carcinoma	Rasayan J of Chem	October - December 2019	1.23
Treatment of Pharmaceutical Wastewater by using TiO ₂ and N-TiO ₂ Nanoparticles	International Journal of Engineering & Technology	Sep 17, 2019	1.271
Synthesis of Nickel Nanoparticles and Application in Malachite Green Dye Colour Removal using Adsorption	International Journal for Scientific Research & Development	2019	4.369
Removal of Malachite Green Dye from Waste Water Using Rice Husk Ash as an Adsorbent	International Journal of Engineering and Science	28-07-2019	6.79

Books/ Book Chapters			
Pharmaceutical waste water treatment using TiO ₂ & N-TiO ₂ nanoparticles	LAMBERT academic publishing	ISBN 978-620-0-32243-2, 2020	-
Mr. M. Kalyan Kumar			
Synthesis and characterization of nanosilica from rice husk ash by precipitation method for chemically synthesized nanocement	Research Advancements in Applied Engineering Sciences	July, 2018	
Conferences			
Design of sewage treatment plant for Ananthapuramu Greater Municipality	2 nd International Conference on recent research emerging trends in Mechanical and Civil Engineering (ICRRETMCE 2018)	July, 2018	
Preparation and Study of Properties of innovative geopolymers concrete	International Conference on Waste, Energy and Environment	September, 2018	
Bio oxidation of high strength organic residual food waste through anaerobic and aerobic processes	ICWEE 2018	September, 2018	
Development of Biomedical Waste Treatment Scheme	3 rd International Conference on Recent Advances in Engineering Sciences ICRAES-2018	September, 2018	
Dr. S. Sharada			
Treatment of ground water using phytoremediation technique at Anantapur, India	World Environment	2019	--
Synthesis of nickel nanoparticles and application for malachite green dye removal using adsorption		01-08-2019	--
Dr. B. Dilip Kumar			
Effect of ignition temperature and fuel amount on photocatalytic activity of solution combustion synthesized ZnO	Ceram. Int	2020	3.83

TiO ₂ /ZnO: Type-II Heterostructures for Electrochemical Dye Degradation Studies	Maced. J. Chem. Chem. Engg	2020	0.88
Multi element doped TiO ₂ /ZnO: Type-II Heterostructures for Electrochemical Crystal Violet Dye Degradation Studies	Int. J Nano Dimens	2020	0.766
Mr. M. Murali Naik			
Adsorptive Removal of Zinc by using Neem Powder and Saw Dust	International Journal of Emerging Trends in Engineering and Development	June-July 2019	

2018-2019

Title	Journal name	Date	Impact factor
Prof. S. V. Satyanarayana			
Development and characterization of Rosuvastatin SMEDDS Loaded insitu gels for gastric Retention	Pharmacology and life Sciences	2018	
Bulletin of Environment			
Quality by design approach to stability indicating hplc method development for bulk drugs	Journal-of-Research-in-Pharmaceutical-Sciences-0975-7538	2018	3.133
Conferences			
Gastroprotective Effect of Fractionate extract of Breynivitisidaea leaves	Innovative Research Trends In Drug Discovery (IPTCON-2018)	2018	
Gastroprotective Potency of Medicinal plants on Ethanol induced Ulcers	International Conference on Trends in Engineering, Management, Pharmacy & Sciences (ICTEMPS-2018)	2018	
Dr. T. Bala Narsaiah			
Experimental RTD Studies in Circulating Fluidized Bed	International Journal of Engineering Research and Development	May-18	4.61

Synthesis and Characterization of Copper Oxide (CuO) Nanoparticles	International Journal for Scientific Research & Development]	2018	4.369
Catalytic soot oxidation using ceria, cobalt and copper nanocomposites	MRS advances	13.3.2018	
Conferences			
Synthesis and characterization of cobalt oxide nanoparticles for super capacitor applications	2 nd International conference on Nano science and Engineering Applications, (ICONSEA-2018)		
Dr. S. Sharada			
Treatment of ground water using phytoremediation technique at Anantapur, India	World Environment	2019	0.654
Synthesis of nickel nanoparticles and application for malachite green dye removal using adsorption	International Journal for scientific research & development	ISSN: 2321-0613 01-08-2019	4.237
Synthesis and Characterization of ZnO Nanoparticles for Hydrophobic Applications	International Journal for Research in Applied Science & Engineering Technology		
Green Synthesis of Nickel Nanoparticles from Extract of Coriandrum Sativum Leaves	International Journal for Scientific Research & Development	Sep.2018	4.396
Green Synthesis of Silver Nanoparticles ForAzoDye (Methyl Orange) Degradation Using Musa Balbisiana (Banana) Leaf Extraction	IJRAR	2018	7.17
Book Chapter			
1. Removal of Cu(II) from synthetic waste water using natural adsorbents	1 st Edition by Lambert Academic	December 2018	
2. An Overview of Biodiesel	1 st Edition by in the year. Lambert Academic	December 2018	
Dr. B. Dilip Kumar			
TiO ₂ /Fe ₂ O ₃ : Type-I Heterostructures for Electrochemical Crystal Violet Dye Degradation	J. Inst. Engrs-Series E	2019	0.83

N, S-codoped TiO ₂ /Fe ₂ O ₃ Heterostructure assemblies for Electrochemical Degradation of Crystal Violet Dye Degradation	Ira. J. Chem. Chem. Engg	2020	0.83
Mr. K. Kalyan Kumar			
Mass Transfer Operations Laboratory Manual	Lambert Academic Publishing (LAP)	978-3-330-34243-9 July 2019	-
Mr. A. Rajasekhar Babu			
Conferences			
Green route synthesis of Ag/CuO nanocomposite particles and their applications in Dye degradation	Two-day International Conference on "Recent Advances in Engineering Sciences (ICRAES-2018)	26th to 27th September 2018	

B.1.1. PhD awarded during the assessment period while working in the institute

S.No.	Name of the faculty	PhD awarded during year	Title of the research	Name of the institute
1.	S. Sharada	2018	Studies on Microreactor based processes for selected reactions	JNT University, Anantapur
2.	P. Uma Maheshwari	2022	Studies on dehydration of azeotropic mixtures by pervaporation using mixed matrix membranes	JNT University, Anantapur

B.1.2. PhD Pursuing during the assessment period while working in the institute

S. No.	Name of the faculty	PhD admitted year	Title of the research	Name of the institute
1.	A. Rajasekhar Babu	2014	Synthesis, Characterization & applications of metal/ metal oxides semiconductor nanoparticles via green route	JNT University, Anantapur
2.	Mr. K. Subba Rao	2011	Optimization of Kinetic Parameters for Aerobic Biodegradation of Vinegar Plant Waste Waters	JNT University, Anantapur
3.	Mr. M. Murali Naik	2014	Separation of heavy metals from industrial effluences	SV University, Tirupati

4.	Mr. K. Peddintaiah	2016	Heterogeneous catalytic reactions in a continuous micro reactor and batch reactor	JNT University, Anantapur
5.	Ms. G. Neha Mallika	2020	Synthesis & application of nanocomposites in batch and continuous processes	JNT University, Anantapur
6.	Mrs. D. Sowjanya	2021	Production of carboxylic acid and its importance in cosmetics	JNT University, Anantapur
7.	Mr. V. Ramanjaneyulu	2021	Waste water treatment by using Hydrodynamic Cavitation	JNT University, Anantapur
8.	Mrs. Ch. Maneesha	2021	Studies on Photocatalysts for Transesterification of waste oils for Bio-diesel Production	JNT University, Anantapur

5.8.2 Sponsored Research (20)

Institute Marks : 20.00

2020-21 (CAYm1)

Project Title	Duration	Funding Agency	Amount(in Rupees)
-	-	-	0.00
			Total Amount(X): 0.00

2019-20 (CAYm2)

Project Title	Duration	Funding Agency	Amount(in Rupees)
-	-	-	0.00
			Total Amount(Y): 0.00

2018-19 (CAYm3)

Project Title	Duration	Funding Agency	Amount(in Rupees)
Development of highly st	2018-2021	DST-SERB-EMR Govt, d	3278000.00
Nanoparticle Enhanced	2018-2021	DST-SERB EMR Govt, d	3783000.00
			Total Amount(Z): 7061000.00


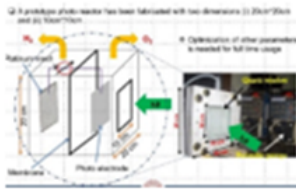

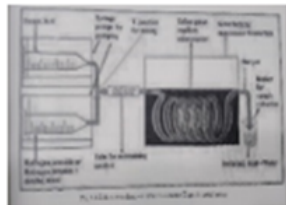
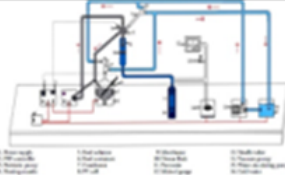
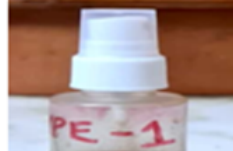
Cumulative Amount(X + Y + Z) = 7061000.00

5.8.3 Development activities (15)

Institute Marks : 15.00

A. Product Development

Table: Products developed by the students

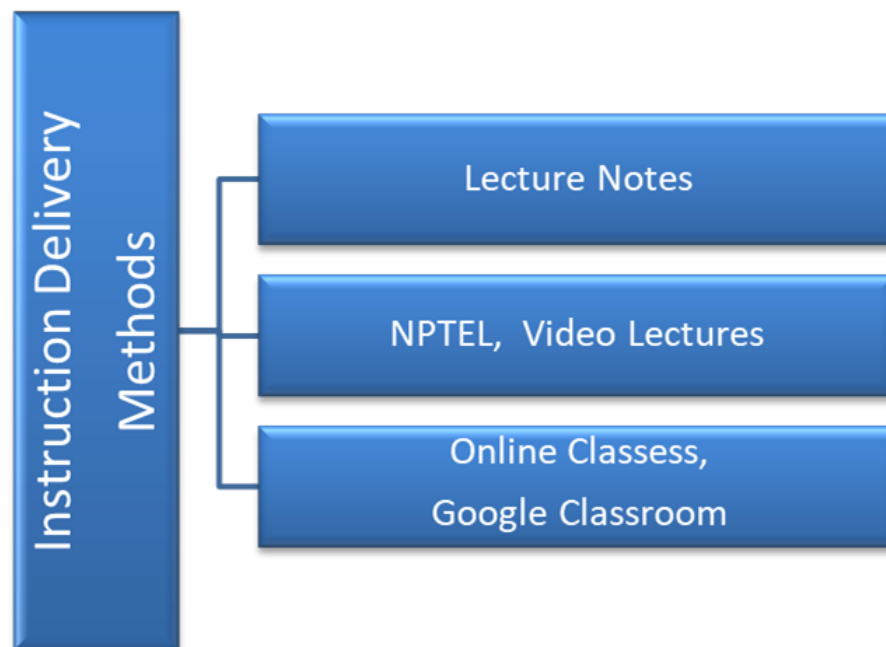
S. No.	Faculty Member	Project team	Project Title	Publication/ Product Development	Digital Image
1.	Dr. S. V. Satyanarayana	M. Ranga Rao Sameena Taz	Design and fabrication of Multipurpose Ultrafiltration membrane Cell	Best paper Award in International conference organized by Osmania University, Hyderabad.	
2.	Dr. B. Dilip Kumar	Arun P Upadyay	Design and fabrication of Photoelectrochemical cell	Indian Patent No: 342773 Granted in the Year 2020	
		Harsha Vardhan	Production of Bio-Diesel by using waste scum	Publication https://doi.org/10.1080/00194506.2022.2085193	
3	Dr. S. Sharada	K. Peddintaiah	Design and fabrication of Microreactor	https://doi.org/10.1515/ijcre-2022-0020	
4	Dr. P. Uma Maheshwari	Niharika Archana	Pervaporation Unit	Korean Journal https://link.springer.com/article/10.1007/s11814-021-0882-5	
5.	Mr. Ramanianevulu	K. Harshitha R. Akhil E. Lakshmi	Estimation of economic feasibility on the	--	

B. Research Facilities

- The Department provides facilities for the students to do project work and to enhance their knowledge.

S.No.	Name of the Research Facility	Utilization	Attained PSO
1.	HPLC	Research	PSO1, PSO2, PSO3
2.	Gas Chromatography	Research	PSO1, PSO2, PSO3
3.	X-Ray Diffraction	Research, Consultancy	PSO1, PSO2, PSO3
4.	UV-Visible Spectroscopy	Research, Consultancy	PSO1, PSO2, PSO3
5.	Potentiostat (K-Lyte)	Research	PSO1, PSO2, PSO3
6.	Water analysis Kit	Laboratory, Consultancy	PSO1, PSO2, PSO3
7.	Pervaporation Unit	Research	PSO1, PSO2, PSO3

C. Instructional materials



Apart from Chalk and Board method, other methods are used by the faculty members to make the students learn the subjects.

- Seminar halls are available to have interactive sessions for difficult subjects.
 - NPTEL video lectures are available in the Department and the Main Library where the students can access to Learning materials at any time.
 - Faculty members use models wherever required to explain the content.
 - Lesson plan is prepared for every subject before beginning of the semester and it is made part of the content delivery in a time manner.
 - Some of the topics in the subject Fluid Mechanics need models to teach the construction.
 - This motivates the students well, makes them interactive and influences them to prepare their own models and mini projects.
 - Group discussions, Mind mapping, Flash card types of activities are conducted to make to the students participate actively.
 - The individual subject staff discusses about the concepts, previous year question papers, how to solve the problems in easier methods etc.
 - Guest Lectures are conducted by inviting eminent persons from Industry andAcademics
-
- Alumni students are invited for technical talk and interact with the students.

e-Content Developed by Faculty

Name of Faculty	Module developed	Video Link
Prof S V Satyanarayana	Module 1: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1N2p3jcl1ICM3MPMW67pRHni8RfQw4_3-/view?usp=sharing (https://drive.google.com/file/d/1N2p3jcl1ICM3MPMW67pRHni8RfQw4_3-/view?usp=sharing)

Prof. S V Satyanarayana	Module 2: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1mVnzmVX1gk-H1sVW-FJhYiViNf0Bybv-/view?usp=sharing (https://drive.google.com/file/d/1mVnzmVX1gk-H1sVW-FJhYiViNf0Bybv-/view?usp=sharing)
Prof. S V Satyanarayana	Module 3: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1GTTQYPOsknlbpPJ639ngQknNwa35YuRb/view?usp=sharing
Prof. S V Satyanarayana	Module 4: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1-O2ZWZ1tsabu4vn_EzF0mK4AuL4o17jA/view?usp=sharing (https://drive.google.com/file/d/1-O2ZWZ1tsabu4vn_EzF0mK4AuL4o17jA/view?usp=sharing)
Prof. S V Satyanarayana	Module 5: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1Sc6kja-eHDnDZ0Eb1OPMilCuhclcVHvT/view?usp=sharing (https://drive.google.com/file/d/1Sc6kja-eHDnDZ0Eb1OPMilCuhclcVHvT/view?usp=sharing)
Prof. S V Satyanarayana	Module 6: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1vL12J0MKatyedMolGcEyEKwXncefXcyV/view?usp=sharing (https://drive.google.com/file/d/1vL12J0MKatyedMolGcEyEKwXncefXcyV/view?usp=sharing)
Prof. S V Satyanarayana	Module 7: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/14FBJQtKH4P4pV2vzBZPCSmhxCZhHR8e1/view?usp=sharing (https://drive.google.com/file/d/14FBJQtKH4P4pV2vzBZPCSmhxCZhHR8e1/view?usp=sharing)
Prof. S V Satyanarayana	Module 8: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/13xLaT6Mi1o5mZyMuy1GdfOsYpkJIDyly/view?usp=sharing (https://drive.google.com/file/d/13xLaT6Mi1o5mZyMuy1GdfOsYpkJIDyly/view?usp=sharing)
S V Satyanarayana	Module 9: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1RNtyhvrPkejfhHmB8Gxsn1QS2-tkFasU/view?usp=sharing (https://drive.google.com/file/d/1RNtyhvrPkejfhHmB8Gxsn1QS2-tkFasU/view?usp=sharing)
Prof. S V Satyanarayana	Module 10: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1RNtyhvrPkejfhHmB8Gxsn1QS2-tkFasU/view?usp=sharing (https://drive.google.com/file/d/1RNtyhvrPkejfhHmB8Gxsn1QS2-tkFasU/view?usp=sharing)

Prof. S V Satyanarayana	Module 11: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1RNtyhvrPkejfhHMb8Gxsn1QS2-tkFasU/view?usp=sharing (https://drive.google.com/file/d/1RNtyhvrPkejfhHMb8Gxsn1QS2-tkFasU/view?usp=sharing)
Prof. S V Satyanarayana	Module 12: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1RNtyhvrPkejfhHMb8Gxsn1QS2-tkFasU/view?usp=sharing (https://drive.google.com/file/d/1RNtyhvrPkejfhHMb8Gxsn1QS2-tkFasU/view?usp=sharing)
Prof. S V Satyanarayana	Module 13: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1szAJJoJ6_6yJ3Z8NrwGxXB-Lk_QdIJQ3C/view?usp=sharing (https://drive.google.com/file/d/1szAJJoJ6_6yJ3Z8NrwGxXB-Lk_QdIJQ3C/view?usp=sharing)
Prof. S V Satyanarayana	Module 14: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1EtrtELB3VnNtKwZVeudpa8WROo2HccRH/view?usp=sharing (https://drive.google.com/file/d/1EtrtELB3VnNtKwZVeudpa8WROo2HccRH/view?usp=sharing)
Prof. S V Satyanarayana	Module 15: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1abNXmdw9fekK2xHWxzu17M7GoN3f5Gou/view?usp=sharing (https://drive.google.com/file/d/1abNXmdw9fekK2xHWxzu17M7GoN3f5Gou/view?usp=sharing)
Prof. S V Satyanarayana	Module 16: OVER VIEW OF SEPARATION PROCESSES	https://drive.google.com/file/d/1klK5r-YdN9IPYIJQ3jHEEQthVh1ueYxg/view?usp=sharing (https://drive.google.com/file/d/1klK5r-YdN9IPYIJQ3jHEEQthVh1ueYxg/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-1: UNIT OPERATIONS:	https://drive.google.com/file/d/1yQUvBrhaxcC0rWjAdMSgbAth7UBy05wo/view?usp=sharing (https://drive.google.com/file/d/1yQUvBrhaxcC0rWjAdMSgbAth7UBy05wo/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-2: UNIT OPERATIONS:	https://drive.google.com/file/d/1FEW4puwPwSJBleThkDjK4GA6pflsUDP0/view?usp=sharing (https://drive.google.com/file/d/1FEW4puwPwSJBleThkDjK4GA6pflsUDP0/view?usp=sharing)

Dr. P. Dinesh Sankar Reddy	Module-3: UNIT OPERATIONS:	https://drive.google.com/file/d/1I5D3nIM8woUKZLbb1UJsDI-EcK0DYKuo/view?usp=sharing (https://drive.google.com/file/d/1I5D3nIM8woUKZLbb1UJsDI-EcK0DYKuo/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-4: UNIT OPERATIONS:	https://drive.google.com/file/d/1z4Sg9dZt7ypB9cf86fTB7fVsxjzTuFz/view?usp=sharing (https://drive.google.com/file/d/1z4Sg9dZt7ypB9cf86fTB7fVsxjzTuFz/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-5: UNIT OPERATIONS:	https://drive.google.com/file/d/1Csy-u_s4yAqf514GRltyfbIWgsx9xLxA/view?usp=sharing (https://drive.google.com/file/d/1Csy-u_s4yAqf514GRltyfbIWgsx9xLxA/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-6: UNIT OPERATIONS:	https://drive.google.com/file/d/1PI5gdQmjK8df_0HUtl3kvlAPD3LMSwMu/view?usp=sharing (https://drive.google.com/file/d/1PI5gdQmjK8df_0HUtl3kvlAPD3LMSwMu/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-7: UNIT OPERATIONS:	https://drive.google.com/file/d/1Emdr3GX338baJBnMimsf0yEKjgMQALi5/view?usp=sharing (https://drive.google.com/file/d/1Emdr3GX338baJBnMimsf0yEKjgMQALi5/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-8: UNIT OPERATIONS:	https://drive.google.com/file/d/141kV906b2K8Kc9dmwdnhQOe_AFqPQovT/view?usp=sharing (https://drive.google.com/file/d/141kV906b2K8Kc9dmwdnhQOe_AFqPQovT/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-9: UNIT OPERATIONS:	https://drive.google.com/file/d/1ECHmVZAHFmfj8j9IEqf187gVDb4zY8n/view?usp=sharing (https://drive.google.com/file/d/1ECHmVZAHFmfj8j9IEqf187gVDb4zY8n/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-10: UNIT OPERATIONS:	https://drive.google.com/file/d/1rZAiiJTCXxa2xTCnJVLJ18rqCh3idNc5/view?usp=sharing (https://drive.google.com/file/d/1rZAiiJTCXxa2xTCnJVLJ18rqCh3idNc5/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-11: UNIT OPERATIONS:	https://drive.google.com/file/d/1Og9Y2XZ8BJZ7dbDsrSpysxfwz9WM9-2Z/view?usp=sharing (https://drive.google.com/file/d/1Og9Y2XZ8BJZ7dbDsrSpysxfwz9WM9-2Z/view?usp=sharing)

Dr. P. Dinesh Sankar Reddy	Module-12: UNIT OPERATIONS:	https://drive.google.com/file/d/129rxrcOAJfo0vklb962wTe-TtmUb3ey/view?usp=sharing (https://drive.google.com/file/d/129rxrcOAJfo0vklb962wTe-TtmUb3ey/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-13: UNIT OPERATIONS:	https://drive.google.com/file/d/1Cl5jgxaSPvGL8xEkyTQc06Xld7uiWCDT/view?usp=sharing (https://drive.google.com/file/d/1Cl5jgxaSPvGL8xEkyTQc06Xld7uiWCDT/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-14: UNIT OPERATIONS:	https://drive.google.com/file/d/146uxWOT05v5gFMnFggsw7JJYx0vaBts7/view?usp=sharing (https://drive.google.com/file/d/146uxWOT05v5gFMnFggsw7JJYx0vaBts7/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-15: UNIT OPERATIONS:	https://drive.google.com/file/d/1HIE9dMQQVnY0c4u34FXQheoCwy3v-fA/view?usp=sharing (https://drive.google.com/file/d/1HIE9dMQQVnY0c4u34FXQheoCwy3v-fA/view?usp=sharing)
Dr. P. Dinesh Sankar Reddy	Module-16: UNIT OPERATIONS:	https://drive.google.com/file/d/11abjF5VosoRTtqd9tldaPsHDNZicJi9V/view?usp=sharing (https://drive.google.com/file/d/11abjF5VosoRTtqd9tldaPsHDNZicJi9V/view?usp=sharing)
Dr. Lt. S. Sharada	module1- Basic thermodynamics	https://www.youtube.com/watch?v=R2I2oBI3NCA&t=267s (https://www.youtube.com/watch?v=R2I2oBI3NCA&t=267s)
Dr. Lt. S. Sharada	module2- Basic thermodynamics	https://www.youtube.com/watch?v=R2I2oBI3NCA&t=267s (https://www.youtube.com/watch?v=R2I2oBI3NCA&t=267s)
Dr. Lt. S. Sharada	module3- Basic thermodynamics	https://www.youtube.com/watch?v=R2I2oBI3NCA&t=267s (https://www.youtube.com/watch?v=R2I2oBI3NCA&t=267s)
Dr. B. Dilip Kumar	Module-1: Corrosion Engineering	https://drive.google.com/file/d/1mgvt2QK13AVtH5Vjz1QKcZETZ--BI2iL/view?usp=sharing (https://drive.google.com/file/d/1mgvt2QK13AVtH5Vjz1QKcZETZ--BI2iL/view?usp=sharing)



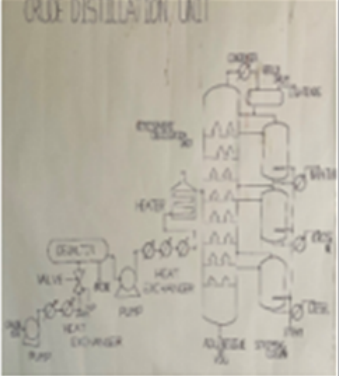

Dr. B. Dilip Kumar	Module – 2: Corrosion Engineering	https://drive.google.com/file/d/1mgvt2QK13AVtH5Vjz1QKcZETZ--BI2iL/view?usp=sharing (https://drive.google.com/file/d/1mgvt2QK13AVtH5Vjz1QKcZETZ--BI2iL/view?usp=sharing)
Dr. B. Dilip Kumar	Module - 3: Corrosion Engineering	https://drive.google.com/file/d/1324dXh0YZTrx4WGIB2rz1kO5Y905Te1T/view?usp=sharing (https://drive.google.com/file/d/1324dXh0YZTrx4WGIB2rz1kO5Y905Te1T/view?usp=sharing)
Dr. B. Dilip Kumar	Module - 4: Corrosion Engineering	https://drive.google.com/file/d/1oAjnRNbtDrBPizTsrUy5F-w9dG5yC0qI/view?usp=sharing (https://drive.google.com/file/d/1oAjnRNbtDrBPizTsrUy5F-w9dG5yC0qI/view?usp=sharing)
Dr. B. Dilip Kumar	Module - 5: Corrosion Engineering	https://drive.google.com/file/d/1Jct_U_im8LNerggDcD1tUh-wo8yw2Oz-/view?usp=sharing (https://drive.google.com/file/d/1Jct_U_im8LNerggDcD1tUh-wo8yw2Oz-/view?usp=sharing)
Dr. B. Dilip Kumar	Module - 6: Corrosion Engineering	https://drive.google.com/file/d/1aim7_QxmCO5rFGbnfv7mbY-kAwk0hfJ3/view?usp=sharing (https://drive.google.com/file/d/1aim7_QxmCO5rFGbnfv7mbY-kAwk0hfJ3/view?usp=sharing)
Dr. B. Dilip Kumar	Module - 7: Corrosion Engineering	https://drive.google.com/file/d/1Rpv6rGyNX3VTu7GRke0wOr1rkRcjhU69/view?usp=sharing (https://drive.google.com/file/d/1Rpv6rGyNX3VTu7GRke0wOr1rkRcjhU69/view?usp=sharing)
Dr. B. Dilip Kumar	Module - 8: Thermodynamics of Fe Oxidation	https://drive.google.com/file/d/1HDZ73EORAvsGWEfyJDfeaqqeYq6_9oM5/view?usp=sharing (https://drive.google.com/file/d/1HDZ73EORAvsGWEfyJDfeaqqeYq6_9oM5/view?usp=sharing)
Dr. B. Dilip Kumar	Module - 9: Corrosion Engineering	https://drive.google.com/file/d/1Zv2mp13jXEHlhSktnAH6kRVBfgamhwCV/view?usp=sharing (https://drive.google.com/file/d/1Zv2mp13jXEHlhSktnAH6kRVBfgamhwCV/view?usp=sharing)
Mrs. P. Uma Maheshwari	Module 1. Chemical Engineering Thermodynamics	https://drive.google.com/file/d/1Zr7UnI6HYY9q6mMd8pMDR-SxOO1zwpBd/view?usp=sharing (https://drive.google.com/file/d/1Zr7UnI6HYY9q6mMd8pMDR-SxOO1zwpBd/view?usp=sharing)

Mrs. P. Uma Maheshwari	Module 1. Mechanical operation	https://drive.google.com/file/d/1HE8L_0mdvtNv9IlaYNMcrQXo6zDVZAnj/view?usp=sharing (https://drive.google.com/file/d/1HE8L_0mdvtNv9IlaYNMcrQXo6zDVZAnj/view?usp=sharing)
Mr. M. Murali Naik	Module 1: Instrumentation and process control	https://drive.google.com/file/d/1MlfHTdyB8uqUoGM-87N46SYwe5yfnDpl/view?usp=sharing (https://drive.google.com/file/d/1MlfHTdyB8uqUoGM-87N46SYwe5yfnDpl/view?usp=sharing)
Mr. K. Peddintaiah	Module 1: Industrial Safety and Hazard Management	https://drive.google.com/file/d/1Ez8ctSgVlz__LXaOWD20CmEgn5fDUAHo/view?usp=sharing (https://drive.google.com/file/d/1Ez8ctSgVlz__LXaOWD20CmEgn5fDUAHo/view?usp=sharing)
G Neha Mallika	Module 1. Photo Catalysis in Water Treatment	https://drive.google.com/file/d/1INeM-5yCmUTGQkuXHTe0y9ImZWTw6TDT/view?usp=sharing (https://drive.google.com/file/d/1INeM-5yCmUTGQkuXHTe0y9ImZWTw6TDT/view?usp=sharing)
V RAMANJANEYULU	Module 1. Photo Catalysis in Water Treatment	https://drive.google.com/file/d/1T1umWX97K9OJ9dCrW49DU5ZEGwW3mTQo/view?usp=sharing (https://drive.google.com/file/d/1T1umWX97K9OJ9dCrW49DU5ZEGwW3mTQo/view?usp=sharing)
D Sowjanya	Module 1: CHEMICAL REACTION ENGINEERING - II	https://docs.google.com/presentation/d/1AGrc5meFcc8K3E3634s7ir9YKGFtd2g2/edit?usp=sharing&ouid=102394479538552207771&rtprof=true&sd=true (https://docs.google.com/presentation/d/1AGrc5meFcc8K3E3634s7ir9YKGFtd2g2/edit?usp=sharing&ouid=102394479538552207771&rtprof=true&sd=true)
H Rehana Anjum	Module 1: Mass Transfer Operation II	https://drive.google.com/file/d/1DpRLC1JgaRpmzs_RLM5xQ4os8YHqeuZw/view?usp=sharing (https://drive.google.com/file/d/1DpRLC1JgaRpmzs_RLM5xQ4os8YHqeuZw/view?usp=sharing)

Ch Maneesha	Module 1: Heat Transfer mode	https://drive.google.com/file/d/1VgcEI89nWFFgo9exXS45rSS16mhTzxUo/view?usp=sharing (https://drive.google.com/file/d/1VgcEI89nWFFgo9exXS45rSS16mhTzxUo/view?usp=sharing)
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D. Working models/charts/monograms etc.

Lab manuals are prepared by faculty members and circulated to students. Working models/charts/monograms are available in the laboratories for the reference of students. The working models displayed in Mass Transfer Operations Laboratory is shown below.

S. No.	Name of the Student	Name of the working model/chart	Digital Image
1	Ameena Revanth Yaswanth	Refining of crude oil Unit	
2	Ameena Revanth Yaswanth	Demonstration of Unit Operations	
3	Praveen Kumar	Crude Distillation Unit	
			

5.8.4 Consultancy (from Industry) (20)

Institute Marks : 2.00

2020-21 (CAYm1)

Project Title	Duration	Funding Agency	Amount(in Rupees)
-	-	-	0.00
			Total Amount(X): 0.00

2019-20 (CAYm2)

Project Title	Duration	Funding Agency	Amount(in Rupees)
Electrochemica	Feb 2019 – Till	Kanopy Techno	212000.00
			Total Amount(Y): 212000.00

2018-19 (CAYm3)

Project Title	Duration	Funding Agency	Amount(in Rupees)
-	-	-	0.00
			Total Amount(Z): 0.00

Cumulative Amount(X + Y + Z) = 212000.00

5.9 Faculty Performance Appraisal and Development System (FPADS) (10)

Total Marks 10.00

Faculty members have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, Faculty members need to conduct research for their self-renewal, keep abreast with changes in technology, and to develop expertise for effective implementation of curricula. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real-life problems in industry. Another role relates to the shouldering of administrative responsibilities and co-operation with other Faculty, Heads-of- Departments and the Head of Institute. An effective performance appraisal for Faculty is vital for optimizing the contribution of individual Faculty to institutional performance.

Process:

- i. Faculty shall submit Performance based Appraisal System (PBAS) form as prescribed by AICTE for diploma staff and submit to concern head of department at the end of academic year.
- ii. Head of department shall collect and submit PBAS form of all faculties along with student feedback report and confidential report to Principal
- iii. Principal shall form a Screening Committee at institute level to evaluate the self-evaluation report.
- iv. Overall appraisal of the faculty shall be done on the following basis
 - I. **50 % for Assessment of Self-Appraisal Report (SAR)- (Minimum API Score as per AICTE norms should be required)**
 - II. **30 % for the students' feedback- (Minimum 70% feedback should be required)**
 - III. **20 % for Assessment by HOD- (Based on Confidential Report by HOD)**

I. **Sample SAR form followed in our Institute:**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERISTY ANANTAPUR
ADHOC FACULTY PERFORMANCE APPRAISAL**

Name of the College: JNTUA College of Engineering Anantapur

Name of the department: Chemical Engineering

For the Period from 2021 to 2022

1. Name in Full: Dr. P. Uma Maheshwari
2. Highest Qualification: PhD
3. Additional/Eligibility Qualification: Nil
4. GATE/SLET/NET Qualified: No
5. Date of joining the institution: 10-02-2010
6. Total teaching experience: 11
7. Email id: pmahi25.chemengg@jntua.ac.in
8. Mobile: 8790616516
9. Aadhar Number: 485337474328

1. Performance of Engaging Lectures/ Practical's:

S.No.	Year & Sem	UG/PG	Subjects taught	No. of classes as per timetable in a semester (a)	Classes actually engaged in a semester (b)	Performance (a) / (b) x 100
1.	I Year I Sem	UG	C Programming and Data Structures(Theory)	48	43	111.67
2.	I Year I Sem	UG	C Programming and Data Structures (Practical)	48	54	112.5
3.	II Year I Sem	UG	Mechanical Unit Operations	48	38	126.31
4.	II Year I Sem	UG	Mechanical Unit Operations	48	42	87.5

2. Performance of Attendance of Students:

S. No.	Year & Sem	UG/PG	Subjects taught	Total no. of students present for all the classes engaged (a)	Classes actually engaged (b)	Students on Roll (c)	Average attendance (a) x 100 / (b)x(c)
1.	I Year I Sem	UG	C Programming and Data Structures(Theory)	2067	43	60	80.12
2.	I Year I Sem	UG	C Programming and Data Structures (Practical)	2385	54	60	73.61
	II Year I Sem	UG	Mechanical Unit				

3. Performance of Results ;

S.No.	Year & Sem	UG/PG	Subjects taught	Pass percentage
1.	I Year I Sem	UG	C Programming and Data Structures(Theory)	Results Awaited
2.	I Year I Sem	UG	C Programming and Data Structures (Practical)	
3.	II Year I Sem	UG	Mechanical Unit Operations	
4.	II Year I Sem	UG	Mechanical Unit Operations	

4. Mentoring/Counseling the students, any specific problem of any student solved, or taken initiative to solve

S. No.	Mentor	I B.Tech	II B.Tech	III B.Tech	IV B.Tech	I M.Tech	II M.Tech
1	Dr. P. Uma Maheshwari	21001A0827 21001A0828 21001A0829 21001A0830 21001A0831	20001A0831 20001A0832 20001A0833 20001A0834 20001A0835	19001A0832 19001A0833 19001A0834 19001A0835 19001A0836	18001A0829 18001A0830 18001A0832 18001A0834	21001D8207 21001D8107	20001D8109 20001D8224 20001D8225

5. Student Projects handled

S. No.	UG/PG	Student (s) details	Title of the Project	Completed/In process	Specify date if completed
1	PG	Gurram Veerendra (19001D8103)	Synthesis of TiO ₂ nanoparticles in different phases (Anatase, Mixed & Rutile) for Dehydration of Hydrazine Hydrate through Pervaporation Using Ethyl Cellulose Mixed Matrix Membrane	In process	
2	UG	G. Swetha (18001A0812) M. Thrisha (18001A0841) T. Prudhvi Teja (18001A0849) M. Manjunath (18001A0846)	Corrosion Inhibition Study of Okra on Mild Steel	Completed	17-5-22
3	UG	P V S Dinesh Yadav (19001A0864) M V Sunil Kumar (18001A0801) M Krishna Kankshith (18001A0810) B Venkatesh (18001A0813) SK Lakeer mohammad (18001A0833)	Solid Waste Management for reusability and recycling in JNTUA College of Engineering Campus Hostels	In process	
4	UG	M.Sathwik Krishna (21001A0827) G. Sai Divya (21001A0828) M. Pavan Kalyan (21001A0829) A. Anil (21001A0830)	Develop a C program for Newton Forward Interpolation along with Algorithm	completed	07-07-2022

- Any project completed other than students' projects, if yes give details: Nil
- Experiments designed or formulated beyond curriculum, if yes give details: Nil
- Course content introduced beyond curriculum, if yes give details: Nil
- Involvement in examination related works, Invigilation duties assigned etc. give details

External Exam Invigilation Duties:

S.No.	Date of duty assigned	Details of duties assigned	Attended/Not attended/Adjusted the assigned duties
1	07-02-2021	JNTUA-CEA – All India Sainik School Entrance Examination (AISSEE) - 2021	Attended
2	17-09-2021	JNTUA-CEA - III B.Tech – II (R17) Semester Regular Exams	Attended

		Regular/Supple Exams	
9	04-04-2022	JNTUA-CEA - III B.Tech - I (R19) Semester Regular/Supple Exams	Attended
10	30-04-2022	JNTUA-CEA - MBA - III Semester Regular/Supple Exams	Attended
11	31-05-2022	JNTUA-CEA - IV B.Tech - II (R17) Semester Regular/Supple Exams	Attended
12	01-06-2022	JNTUA-CEA - I MCA - I & III Semester Regular/Supplementary Exams	Attended
13	15-06-2022	JNTUA-CEA - I MCA - I & III Semester Regular/Supplementary Exams	Attended
14	17-07-2022	JNTUA-CEA - NEET (UG) Examination	Attended

Internal Exam Invigilation Duties:

S.No.	Date of duty assigned	Details of duties assigned	Attended/Not attended/Adjusted the assigned duties
1	06-05-2022	M.Tech I Year I Sem Mid Examinations	Attended
2	16-05-2022	M.Tech I Year I Sem Mid Examinations	Attended
3	30-05-2022	B.Tech IV Year II Sem (R17) Mid Examinations	Attended
4	30-09-2021	B.Tech I Year I Sem & II Year II Sem Mid Examinations	Attended
5	07-10-2021	B.Tech I Year I Sem & II Year II Sem Mid Examinations	Attended
6	23-08-2021	B.Tech III Year II Sem (R17) Mid Examinations	Attended
7	26-08-2021	B.Tech III Year II Sem (R17) Mid Examinations	Attended
8	02-03-2022	B.Tech I Year I Sem Mid Examinations	Attended

External Practical Examinations:

S.No.	Date of duty assigned	Name of the Practical Course Examination	Details of duties assigned
1	07-05-2022	C & Data Structures Laboratory Examination	B.Tech I Year I Sem (R20) Regular Practical Examination
2		C & Data Structures Laboratory Examination	B.Tech I Year I Sem (R20) Supplementary Practical Examination
3			

10. Research Papers published

S.No.	Month and Year	Title of the Paper	Name of the Journal	UGC listed / SCI / SCOPUS / etc.	Impact Factor	Publication URL
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13. Development of e-content, give details:

14. Assisting in the following College/University activities, give details

(a) Co-curricular & Extra Curricular activities (b) Community and Extension services, (c) NBA/NAAC (d) Any other

S.No	Co-curricular & Extra Curricular activities	Responsibility
1	Fusion 2K22 two day technical symposium	Organizing committee member Registration committee
2	IICChE Lecture Series VI "DIAGNOSTIC TESTING IN A POST-COVID WORLD ENABLED BY MICROFLUIDIC TECHNOLOGIES"	Organizing committee member

➤ Participated in Higher Education Conclave on NBA & ABET organized by MasterSoft ERP Solutions PVT. LTd. On 9th January 2021.

➤ The responsibility of completing criterion 1 & 2 for NBA.

15. Continuous professional development, attending workshops/Seminars/Symposium/conferences etc., give details

S.No.	Workshop/Seminar/ FDP/Conference/Other	Organized by	Title	Date (s) conducted
1	AICTE Training And Learning (ATAL) Academy Online Five day Faculty Development programme No:ATAL/2021/1610356214	Coimbatore Institute of Technology	<i>Green Technology & Sustainability Engineering</i>	18-1-2021 to 22-1-2021
2	AICTE Training And Learning (ATAL) Academy Online Five day Faculty Development programme No: ATAL/2021/1631685936	Manakula Vinayagar Institute of Technology	<i>Nanoscience for Nano materials</i>	20/09/2021 to 24/09/2021
3	1 st Online International Conference on "Emerging Trends in Catalysis for Sustainable Chemical Processes (ETCSCP - 2021)"	Jointly organized by IICChE - Bangalore Regional Centre, Catalysis Society of India - Bangalore Chapter, Department of Chemical Engineering, M S Ramaiah Institute of Technology, Bangalore,	<i>"ZSM-5 / Sodium Alginate Based Mixed Matrix Membranes for Pervaporation Dehydration of Ethanol"</i>	26-08-2021 to 28-08-2021

	Conference on "Emerging Trends in Catalysis for Sustainable Chemical Processes (ETCSCP - 2021)"	Bangalore Regional Centre, Catalysis Society of India - Bangalore Chapter, Department of Chemical Engineering, M S Ramaiah Institute of Technology, Bangalore, Poomaprajna Institute of Scientific Research (PPISR) and Department of Chemical Engineering, Dayananda Sagar College of Engineering.	<i>Based Mixed Matrix Membranes for Pervaporation Dehydration of Ethanol"</i>	2021
4	1 st Online International Conference on "Emerging Trends in Catalysis for Sustainable Chemical Processes (ETCSCP - 2021)"	Jointly organized by IICChE - Bangalore Regional Centre, Catalysis Society of India - Bangalore Chapter, Department of Chemical Engineering, M S Ramaiah Institute of Technology, Bangalore, Poomaprajna Institute of Scientific Research (PPISR) and Department of Chemical Engineering, Dayananda Sagar College of Engineering.	<i>"Synthesis and characterization of TiO₂ anatase nanoparticles for preparation of ethyl cellulose mixed matrix membranes(MMMs)"</i>	26-08-2021 to 28-08-2021

Evaluation criteria or Rubrics to assess the performance of individual faculty is as follows:

ASSESSMENT RUBRICS

Assessment is based on the five-point scale in respect of the following parameters.

Outstanding – 5, Excellent – 4, Good – 3, Average – 2, Poor – 1

S.No.	Parameter	Evaluation of points
1	Teaching Load	Minimum workload of 16hrs/week in a semester as per UGC norms carries 5 points
2	Regularity in engaging classes	Above 95% attendance by teacher to a class carries 5 pts, 90-95% carries 4 pts, 85-90 % carries 3 pts, 75-85% carries 2pts and less than 75% carries 1point
3	Performance in attendance of students	Above 95% attendance by student to a class carries 5 pts, 90-95% carries 4 pts, 85-90 % carries 3 pts, 75-85% carries 2pts and less than 75% carries 1point
4	Performance in results	Above 95% results of the class carries 5 pts, 90-95% carries 4 pts, 85-90 % carries 3 pts, 75-85% carries 2pts and less than 75% carries 1 point
5	Mentoring /Counseling the students	Mentoring one student in one class in semester carries 1 point
6	Project guidance to students	Project guidance of one student in one class in a semester carries 1 point
7	Any Projects completed other than the student's projects	Any mini / innovative project carries 1 point
8	Experiments designed or formulated beyond curriculum	Experiments designed in one lab carries 1 point
9	Course content introduced beyond curriculum	Course designed in one lab carries 1 point
10	Publications in Journals	3 points for one SCOPUS/SCI Publication
11	Patents Published/granted	5 points for one Patent field /granted
12	Books / Book chapters published	3 points for one Book / Book chapter
13	Examination related works, (examination section has to provide details on punctuality, sincerity or any lapses in attending related works)	For attending maximum in Sem: 3 points
14.	Involvement in departmental & college related activities	1 point for each activity
15	Involvement in Co-curricular & Extracurricular activities	1 point for each activity
16	E Content development	No. of modules/topics/subject: 1 point for each subject of 10 modules
17.	Continuous professional development, attending	Enrolling to professional membership

II. Students Feed Back

JNTU Anantapur College of Engineering (Autonomous), Ananthapuramu
Feed Back on Teacher by Students

Class: IV.B.Tech

Batch: 2018-2022

Semester: II-Sem

Branch: Chemical

Note: Rate the teacher on the scale of 10 (Excellent: 10 Very Good: 8 Good: 6 Fair: 4 Poor: 0)

S. No.	Parameters	Performance (Write rating in appropriate box)			
		BCE	IE	CE	PRP
	Faculty Name	Mr. M. Murali Naik	Ms. G. Neha Mallika	Dr. B. Dilip Kumar	Mr. V. Ramanjaneyulu
1	Punctuality to Class	8	8	10	8
2	Voice (Clear and Audible)	6	6	10	8
3	Lesson Plan (Clear Objective)	4	8	10	8
4	Command on Subject	8	8	10	8
5	Writing (legible)	6	8	10	8
6	Questions and discussions (Promote interaction and effective thinking)	8	8	10	8
7	Encouragement, Complaints and Praising the Originality and Creativity displayed by Students	8	8	8	10
8	Is courteous and impartial in dealing the students	8	8	8	10
9	Syllabus completion in time	8	8	10	10
10	Towards evaluation of sessional exam, lab records (fair and impartial)	8	8	10	10
11	Prompt in valuing and returning the answer scripts and providing feedback on performance	8	8	10	10
12	Offers assistance and counselling to the needy students	8	6	10	8
13	Imparts the practical knowledge concerned to the subject	8	10	10	8
14	Overall rating of the Teacher	8	9	9.5	9
General Comments (if any)					

S.No.	Parameters	Comments
1	Quality of work/performance	
2	Professional knowledge	
3	Attitude & ownership towards work	
4	Decision making capability	
5	Initiative	
6	Written & verbal power of expression	
7	Team work (relationship with seniors, juniors, colleagues)	
8	Organizing capability	
9	Loyalty towards work and organization	
10	Any special quality	
11	Overall remark (<i>Extraordinary, Excellent, Very good, Good, satisfactory</i>)	

Name & Signature of the Head of the Department

5.10 Visiting/Adjunct/Emeritus Faculty etc. (10)

Total Marks 10.00

Visiting/Adjunct/Emeritus Faculty etc.

2019-2020

S. No.	Topic in the regular course/ Name of the Lecture	Details of Visiting faculty	No. of Hours	Total Hours
1	Process Equipment & Design	Dr. Lutukurthi D N V V Konda Assistant Professor Department of Chemical Engineering New Academic Complex, Room No: 421 Indian Institute of Technology (Indian School of Mines), Dhanbad Dhanbad 826004, India.	14	52
2	Mass Transfer Operations	Mr. Venkata Srinu Gollapalli, Dy. Manager Engineers India Ltd	12	
3	Petroleum Refining and Petrochemicals	Mr. Y P V Surendra Senior Engineer-PSS / Prod Planning Reliance Industries Ltd.	12	
4	Natural Gas and its exploration	Mr. Poorna Chandar Naik Gugulavath, Senior Manager GAIL INDIA LIMITED	10	
5	Iron Ore extraction and Corrosion prevention methodologies	Mr. N. Humayun Manager SMIORE	04	

2020-21

S. No.	Topic in the regular course/ Name of the Lecture	Details of the Visiting Faculty	No. of Hours	Total Hours
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1	Chemical Reaction Engineering	Dr. Manohar Kakunuri Assistant Professor Department of Chemical Engineering NIT Warangal	20	54
2	Introduction to Chemical Engineering (First-Year)	Sri. Tedla Sravan Kumar, USA	12	
3	Electrochemical Energy storage devices	Dr. Prashanth Kumar Gupta, Asst Professor, IIT Jodhpur, Rajasthan	12	
4	Lecture on Safety To Cover the First-year Syllabus	Mr. D. M. Butala, President, IChE, Kolkata	4	
5	Indian Cement Industry Scenario in Virtual mode	Dr. D K Panda Joint Director, National Council for Cement and Building Materials (NCB)	2	
6	Computational Fluid Dynamics (For Third year students)	Sri. Dhanush Nagawati Atomic Energy Regulatory Board	2	
7	Materials & Metallurgical Concepts Connected to Chemical Engineering	Purnachandra Rao Tulluri Deputy ore dressing officer Modren Mineral processing laborarory and pilot plant Indian Bureau of mines	2	

2021-22

S. No.	Topic in the regular course/ Name of the Lecture	Details of the Visiting Faculty	No. of Hours	Total Hours
1.	Momentum Transfer and Process Control	Dr. Suresh Kumar Yatirajula Assistant Professor Indian Institute of Technology (Indian Schools of mines) IIT (ISM), Jharkhand, Dhanbad.	14	52

2.	Alternative renewable fuels: Biodiesel importance and production using different catalysts	Venu Babu Borugadda Manager research and Development Tide water Renewables Ltd.	12
3.	Over view of Oil, Gas and Petroleum	Ch. Ramakrishna Lead Production Operations Cairn Oil & Gas Vedanta Limited	12
4.	Drug delivery and targeting	Tirupati Rao Vatti Senior GT & E Partner Pfizer Healthcare India Private Limited	14

Guest Lectures Arranged

S.No	Resource person name	Designation	Topic	Date
1.	Prof. K. Srinivasan	University of Western Australia	Thermodynamics	27-01-2018
2.	Prof. Dr. Kannan Pakshirajan	Dep of Science and Technology IIT Guwahati	Application of Bio-Chemicals in the Field of Chemical Engineering	07-03-2018
3.	Prof. D. Nandini	Conservation and Carrier Opportunity in the field of Chemical Engineering	Foundation for Revitalization of Local Health Traditions	08-06-2018
4.	Dr. Sujay Chattopadhyay	Sustained Release of Drug Loaded Liposome	IIT Roorkee	14-9-18
5.	Mr. MUQEEM AHMED MOHAMMED	Brief Applications of Chemical Engineering in The Field of Petrochemical Industrials	(2005-2009) ALUMNI	05-02-2019
6.	Dr. P. Seshalpa Sai	Chemical Engineering	IIT Madras	14-02-2019
7.	Sri. Dhanush Nagawati	Computational Fluid Dynamics	Atomic Energy Regulatory Board	13-12-19
8.	Sri. Giri Naga Babu	Gas Industry Sector	GAIL. Cop	16-02-2019
9.	Sri Kommineni Mallikarjuna	Assistant professor NITW	Importance of Process Simulation for Chemical Engineers	2-03-2022
10.	Dr. D K Panda	Joint Director, National Council for Cement and Building Materials (NCB)	Indian Cement Industry Scenario in Virtual mode	6-04- 2021

11.	Dr. Prashanth Kumar Gupta,	Asst Professor, IIT Jodhpur, Rajasthan	Electrochemical Energy storage devices in Virtual mode	4-01-2020
12.	Sri. Kommineni Mallikarjuna	Importance Of Process Simulations for Chemical Engineers	Shell India	02-03-2022
13.	S. Harsha Vardhan Reddy	Opportunities of Chemical Engineering in Process Industries	Aveva Solutions	24-03-2022
14.	Dr. S Altaf Hussain, Hyderabad	Director, Lord's Institute of Engineering, Hyderabad	VEDIC and Chemical Engineering Health Systems	26-03-2022
15.	Dr. Manohar Kakunuri	Assistant professor NITW	Recent Advances in Rechargeable Battery Technologies	23-07-2022
16.	Prof. Altaf Hussain	Director, Lord's Institute of Engineering, Hyderabad	Chemical Engineering Applications in Real life	27-08-2022
17.	Mr. RavindranadhKacharam	Senior Manager, SciTech Patent Art Services Pvt Ltd, Hyderabad	Intellectual Property Rights and Patenting	26-08-2022

6 FACILITIES AND TECHNICAL SUPPORT (80)

Total Marks 80.00

6.1 Adequate and well equipped laboratories, and technical manpower (40)

Total Marks 40.00

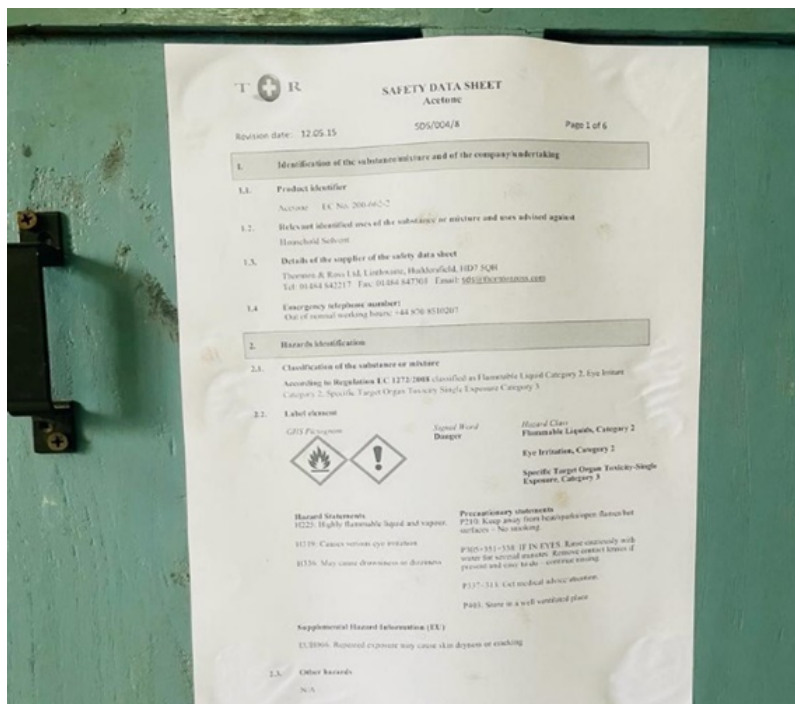
Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Chemical Engi	4	1. Flow mete	2 sessions of 3	Mr. A. Sunil Ku	Record Assista	ssc
2	Basic Thermod	4	1. Simple dil.	2 sessions of 3	Mr. M. Nagara	Junior Instructc	8th pass
3	Mechanical Op	4	1. Jaw Crusl	2 sessions of 3	Mr. A. Sunil Ku	Record Assista	ssc
4	Momentum Tra	4	1. Reynolds	2 sessions of 3	Mr. B. Md Ansæ	Junior Lab Ass	7th pass
5	Energy & Envir	4	1. PH meter	2 sessions of 3	Mr. B. Md Ansæ	Junior Lab Ass	7th pass
6	Chemical Tech	4	1. Viscomete	2 sessions of 3	Mr. P. Gangadl	Record Assista	ssc
7	Process Heat 1	4	1. Heat Tran	2 sessions of 3	Mr. P. Gangadl	Record Assista	ssc
8	Mass Transfer	4	1. Simple Di:	2 sessions of 3	Mr. P. Gangadl	Office Subordir	5th class
9	Chemical Reac	4	1. Batch Reæ	2 sessions of 3	Mr. S. Sreenivæ	Senior Instructc	ITI Mechanic
10	Instrumentatio	4	1. PID Contr	2 sessions of 3	Mr. B. Md Ansæ	Junior Lab Ass	7th pass
11	Process Simulæ	1	50 Computers	2 sessions of 3	Mrs. G. Parvatl	Record Assista	ssc
12	C Programminç	1	50 Computers	2 sessions of 3	Mrs. K. Jayamr	Office Subordir	5th pass
13	Research Le	3	UV- Spectroph	2 sessions of 3	Mr. B. Md Ansæ	Junior Lab Ass	7th pass

6.2 Laboratories maintenance and overall ambiance (10)

Total Marks 10.00

Maintenance

- All the Laboratories in the Department are well equipped with components and Equipment's required for conducting experiments given in the syllabus and beyond.
- Lab technician checks the working condition of the equipment's/systems regularly.
- Every day cleaning of equipment's and work tables are done.
- Groups of 5-6 students are allotted an experiment for the lab work assigned.
- All the labs have good ambience equipment and experiments are arranged in such a manner to make the students feel comfortable while working.
- The students are given preliminary instructions in handling the equipment's before doing the experiments.
- Laboratory manual is given to students which include, list of experiments and the procedure of doing the experiments.
- All the labs are equipped with technical supporting staff available during working hours and beyond.
- Do's and Don'ts of the laboratory is displayed in all the Labs.
- All the laboratories have fire extinguishers.
- Proper storage facilities for the allied accessories. (MSDS & sand trace etc))



- Air-conditioned system in Computer Programming Lab (Ground floor)
- UPS in the Computer Programming Labs are monitored regularly for every 3 months for better maintenance.
- Minor repairs are carried out by the Lab technicians of the department based on available resources and expertise.
- Major repair of the equipment is sent to industry service and report is obtained from industry person. Approval for service of equipment's from the vendor is obtained by the HOD, from the head of the institution.
- Student's check-in and check-out register is maintained in each laboratory.

Overall Ambience:

The infrastructure and added facilities in the laboratories create the right ambience for the students to conduct experiments in the laboratories.

- Spacious and well-furnished laboratories with good ventilation and lighting facilities are available.
- All laboratories are equipped with essential equipment's to meet the requirements of curriculum.
- All laboratories have good ambience as well as equipment's, are labelled correctly and arranged in a proper way so that students feel very comfortable in carrying out their experiments.

- Necessary furniture for students is provided in each laboratory. Based on the requirement, the students utilize them in the laboratories
- Working models of machines and devices in the form of charts are placed on the walls.
- Do's and Don'ts are displayed in the laboratory.
- List of experiments are placed in the laboratory.
- Laboratory manuals contains information on vision, mission, PEO, PO, PSO, safety precautions, equipment handling instructions along with the details of the experiments are distributed to students well in advance.

6.3 Safety measures in laboratories (10)

Total Marks 10.00

Institute Marks : 10.00

Sr. No	Laboratory Name	Safety Measures
1	Chemical Technology/ Mass Transfer/Chemical Reaction Engineering Lab/Momentum Transfer lab/Heat Transfer Lab/ instrumentation and process control lab/ Mechanical Operations Lab/ Chemical Engineering	Common Safety measures in the Laboratories are: 1. First Aid kit is available in the department for any emergency service. 2. Fire Extinguisher is available in each laboratory. 3. Students are instructed to avoid direct contact with any chemical, voltage source and power line voltages. 4. Students must wear apron, mask, hand gloves and shoes 5. All the solvents in chemical engineering laboratories are separated into two tanks namely 1. Chlorinated and 2. Non-chlorinated. 6. Acids should be treated with bases as well as bases with acids before dispose (neutralization) 7. Students must assure that their hands are dry and not standing on wet floor. 8. Students are advised to wear rubber-soled shoes, Laboratory-coat and avoid loose clothing. 9. Students are advised not to switch ON the experiments without the permission from the faculty/Lab technician. 10. Students must make sure that the electric supply is OFF before operating the equipment. 11. Avoid the use of damaged equipment and provides needful equipment and components. 12. Periodical servicing of the lab equipment. 13. Ensuring proper outflow of exhaust gases through exhaust fans
2	Computer programming lab/Simulation lab	1. All high-tension cable lines are safely installed and protectively maintained in the laboratories. 2. Ensuring no spillage of electrolytes from the batteries 3. Ensuring air conditioning of the lab for the proper functioning of computers

6.4 Project laboratory (20)

Total Marks 20.00

Facilities:

- Various laboratories have been provided to carry out research work and project work.
- The Computer Programming lab is also utilized by the students for doing their project work.
- Computer Labs are furnished with required software tools such as MATLAB, C++ are available for the students.
- 10 Mbps internet connection (LAN & Wi-Fi) is made available in Computer Labs.
- Research lab is also utilized for projects.

Table B 6.4 Project Laboratories and facilities

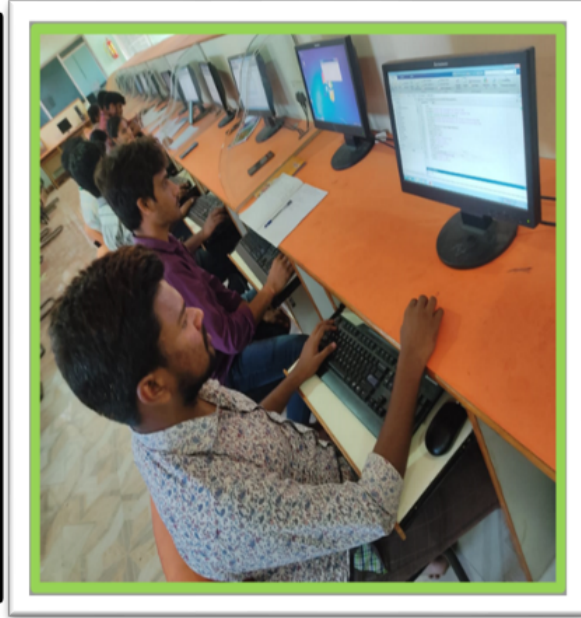
S.No.	Name of the Laboratory	Name of the Equipment	Purpose
1.	Computer Programming Lab	Systems with software's like MATLAB, Turbo C	UG, PG and Research Projects
2.	Chemical Reaction Engineering Lab	CSTR, PFR, Batch Reactor	UG, PG and Research Projects
3.	Momentum Transfer Lab	Hydrodynamic Cavitation, Flow meters, Fluidized bed	UG, PG and Research Projects
4.	Mass Transfer Operations	Simple Distillation Unit, Vacuum Oven, Forced Draft Tray Dryer, Packed Bed Distillation Unit, VLE Unit, Steam Distillation Unit, Ultrafiltration Unit, Pervaporation Unit, Digital Weighing balance of five decimals precision, Refractometer,	UG, PG and Research Projects
5.	Mechanical Operations	Crushers(Roll mill, Ball mill), Disc Grinder, Sieve shaker	
6.	Research Laboratory	UV- Spectrophotometer, Micro-oven, Sonicator, Wet mixer and Grinder, Fume Hood, BOD analyzer, Water Sampler Kit, Air Samplers, Muffle furnace, , Orbital shaker	UG, PG Research Projects and consultancy
7.	Instrumentation Lab	UV- Spectrophotometer, XRD, Gas Chromatography, <i>Atomic Absorption spectrometry, High Performance Liquid Chromatography</i>	UG, PG Research Projects and consultancy

Utilization:

- Computer Programming Labs are available for the students during the college working hours.
- On prior request and permission, the students can access the facility during non-working days also.
- Labs are operated beyond the college hours for the convenience of the students from 5:00 PM to 7:00 PM.
- Virtual Labs have been conducted during COVID – 19.



Fig: Mechanical Operations Laboratory



Momentum Transfer and Computer Laboratory



Research Laboratory

7 CONTINUOUS IMPROVEMENT (75)

Total Marks 75.00

7.1 Actions taken based on the results of evaluation of each of the COs, POs & PSOs (30)

Total Marks 30.00

POs Attainment Levels and Actions for Improvement- (2020-21)

POs	Target Level	Attainment Level	Observations
PO 1 : Engineering Knowledge			
PO 1	2.25	2.02	Chemical engineering curriculum requires the strong foundation of theoretical and practical knowledge of Physics, chemistry and mathematics, which the student's study in their first year, but student's lags in correlating the theoretical concepts with applications. Further, few lateral entry students are not exposed to fundamental in the mathematics/Science subjects before joining their engineering course and they find it difficult to understand mathematical based engineering subjects. Further, some students can't relate basic engineering subject to core engineering subjects. All these key points are leading to nearest attainment to the target level. Total no of courses mapped: 78 Target level not attained The following actions are made in order to meet and sustain this attainment level.
Actions taken i. Remedial classes in basic sciences (mathematics, physics, and chemistry) as well as computer subjects like C Programming is arranged to all the backlog students ii. Pedagogy included homework assignments, tutorials and continuous assessment components were included in basic courses of First year classes iii. Additional theory classes and tutorial classes were conducted to understand the concepts of basic science and engineering subjects. Further, more practical teaching has been emphasized and more problems are given for practice. iv. Encouraging students to participate in technical events and industrial visits so that they can gain insight in solving complex engineering problems. v. Visit to core process Industries to boost the technical knowledge/skills of Chemical Engineering. Additionally the visit will be helpful to understand the industrial environment & co-ordination between various sections of the industry.			
PO 2 : Problem Analysis			
PO 2	2.25	1.91	The problem solving and analyzing skills gained through first year to further year courses helps the students to apply in real time application. However, the attainment level has not reached as they are unable to relate to principles of core chemical engineering concept in the context of application of engineering knowledge to industry problems. Total no of courses mapped: 78 Target level not attained The following actions are made in order to meet and sustain this attainment level.
Actions taken i. More assignments and tutorial classes are conducted. ii. Faculty and students are encouraged and facilitated to write review papers and have classroom and departmental seminars on selected themes and have open discussions on emerging issues. iii. More emphasis is given for solution of complex engineering problems by visiting industries near to Anantapur (Saptagiri Camphor, Siflon Drugs etc.). iv. Students are encouraged to observe their homes and surroundings to gain insight into real life engineering problems and think of possible approaches/solutions to these problems.			
PO 3 : Design/development of Solutions			
PO 3	2.25	1.45	Projects (Major/Minor) undertaken by students individually or under guidance lack strong social relevance and concern to environmental issues. Students lack in understanding the integrated approach for design of a process/equipment of chemical engineering stream. Total no of courses mapped: 78 Target level not attained The following actions are made in order to meet and sustain this attainment level.
Actions taken i. Planned to introduce Project-based Learning in the upcoming curriculum, which allow students to understand the design of process or plant for a selected chemical problem. ii. Planned to demonstrate to the students the black-box type of models (especially with process simulation software) by developing the equations based on the fundamental conservation equations, which are the backbone for any simulation software. iii. All the problems in Computational Methods in Chemical Engineering course were designed based on the concepts in Chemical Engineering, where students are required to develop mathematical equations based on the first principle. These developed equations were solved using MATLAB. Further, AI and ML applications in Chemical Engineering were introduced in R21 Regulations for students joined from 2021 admitted batch onwards. iv. Students are encouraged to include all standard parameters within the constraints of safety& sustainability, while designing a chemical process. v. Students are inspired to take up the design products with special emphasis on environmental concerns.			
PO 4 : Conduct Investigations of Complex Problems			

PO 4	2.0	1.31	Students found difficulties in solving complex problems such as design of non-isothermal and multi-tubular packed bed reactor design. These complex problems require time. Further, Students found difficulties with the mathematics involved in boundary layer problems. It is observed that most of the investigations/project (abstract and literature survey) are addressing the research but does not end with valid conclusions. Total no of courses mapped: 78 Target level not attained The following actions are made in order to meet and sustain this attainment level.
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Actions taken i. To aid in better fundamental understanding of complex systems which require more time from students to investigate complex problems, projects were introduced as part of continuous assessment, which allow students to spend more time in learning the complex problems, especially for non-isothermal design. ii. For Multi-input and Multi-output (MIMO) problems in Process Control, which involves multiple transfer functions and multiple manipulating variables (such as control of distillation column) were given as course projects, which enables the students for better understanding of the problems. iii. All the B.Tech projects are must to have a research components enabling the students to explore the recent trends for a defined problem. Further, we encourage students having CGPA greater than 8.0 to publish a Scopus indexed paper iv. Technical events/workshops/STC's/Online Courses were organized to impart more knowledge & research methods to formulate innovative solutions to complex Chemical Engineering Problems.

PO 5 : Modern Tool Usage

PO 5	1.5	0.74	Upgradation of resources and modern tools is fundamental to drive meaningful research and meet industry standards. Students find difficulties in solving multiple Nonlinear equations encountered in Chemical Reaction Equilibrium. Further, students were not able to solve the problems involving Equations of State, Vapor-Liquid Equilibrium, Flash separation, and Multi-phase reactive systems. Total no of courses mapped: 78 Target level not attained The following actions are made in order to meet and sustain this attainment level.
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Actions taken i. Use Microsoft-Excel (Solver module) for solving problems related to Chemical Reaction Equilibrium, with constraint specifications. ii. Use Microsoft-Excel (Goal seek module) for constraint-based solution procedure for solving Vapor-Liquid-Equilibrium (VLE), Flash Separation problems. iii. Microsoft-Excel based macro for Newton Raphson method for solving Equation of state problems to find the phase of a substance or a mixture at a given temperature and pressure. iv. Labs are modernised & developed to inculcate the image of modern analytical & computational tools like TGA, FTIR, CHNS Analyser, FLUENT, MATLAB etc.

PO 6 : The Engineer and Society

PO 6	1.5	1.09	The courses of Chemical Engineering need to address the needs of health, safety and social concerns regarding engineering practices in real life. There is a need for the students to understand the contemporary societal needs in the areas of food, health, safety, hygiene, energy security, and economic empowerment. Further, Students need to develop local solutions based on the problem. Total no of courses mapped: 78 Target level attained The following actions are made in order to sustain this attainment level.
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Actions taken i. Community Service Projects were already introduced in the course curriculum, which helps the students to have more interaction with community and able to solve societal problems. ii. Planned to introduce Professional ethics needs to be integrated into the curriculum as part of first year course. iii. As part of Computer Aided Design of Chemical processes and Process Integration, the concepts of process integration for energy savings and profitability need to be addressed

PO 7 : Environment and Sustainability

PO 7	1.5	1.15	The issues of global and environmental awareness among the student should be improved and the main emphasis is to be given locally available energy resources. There is a need of Identification of solutions that are sustainable need to be understood in detail based on the location. Students lack in understanding the big picture on the sustainability. Solving only one of the problems related to food, energy, waste management and water etc., might make the others unsustainable. Total no of courses mapped: 78 Target level not attained The following actions are made in order to meet and sustain this attainment level.
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Actions taken i. Peer teaching as part of Environmental Studies course to discuss the different sustainability methodologies. ii. Organic farming procedures were adapted as student projects to practice sustainability. iii. Projects addressing the global energy & environmental issues are prepared to be taken up by the students with a focus on consumption, utilization & proper management of energy iv. Technical workshops related to environmental issues & utilization of renewable energy resources are planned to organize as a regular practice.

PO 8 : Ethics

PO 8	1.5	0.60	Communications and other ethical/moral knowledge is lagging when it comes to application of Engineering expertise, needed to be addressed for real life situations. Students lack in discipline and ethics to followed in the industry after their employment. Total no of courses mapped: 78 Target level not attained The following actions are made in order to meet and sustain this attainment level.
Actions taken i. Motivational talks, cooperative lectures & programmes on mutual & ethical practices are arranged in order to inculcate professional ethics & sense of honesty in students. ii. Professional ethics need to be integrated as part of the curriculum in the first year itself. iii. Need to obtain feedback from students after every internship that they will undergo.			

PO 9 : Individual and Team Work

PO 9	1.0	1.15	Ability to work as team, with coordination, found to be slightly lacking. Capability to attain constructive results by students when working individually on Projects/Ideas is needs to be improved. Total no of courses mapped: 78 Target level attained The following actions are made in order to sustain this attainment level.
Actions taken i. To help the students to groom the skills like leadership, team work, coordination, commitment and being an effective team member. Various programmes and counselling sessions are organized on departmental as well on institute level. ii. Students are given group assignments and minor projects to groom the individual and teamwork skills. iii. The final year project is broken into minor task to build integrity within the group yet not compromising on the effective function as an individual. iv. To improve the individual and multidisciplinary learning, students are given challenged problems as course level projects, where in students are required to combine all the concepts that were learned in a single course.			

PO 10 : Communication

PO 10	1.0	0.87	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. Students require improvements in writing technical reports and formatting the reports. Total no of courses mapped: 78 Target level not attained The following actions are made in order to sustain this attainment level.
Actions taken i. Group discussions, seminars, presentations and soft skills training programmes are organized to enhance the aspects of communication/skills. ii. Even though the target level can be attained by motivating students to perform any activities like innovative seminar, group discussion, technical quiz, personality development program and to write technical articles in order to reach higher attainment level. iii. Conduction of Mock Interviews, Personal Interviews etc. at regular Intervals as a part of Training the students.			

PO 11 : Project Management and Finance

PO 11	1.0	0.55	Managerial principles to students work is needed to be inculcated in students by introduction of various courses underlining these principles. Students lack in obtaining the specification of the parts /s consumables/ equipment required. Further, students need to be trained to obtain quotations for a purchase of chemicals before planning their experimental work. Total no of courses mapped: 78 Target level not attained The following actions are made in order to attain this attainment level.
Actions taken i. The final year project must have research component, which improves individual learning. This will also demonstrates the team management, time management. This is ensured during regular reviews from semester 7 onwards. ii. The final year project is broken into minor task to build integrity within the group yet not compromising on the effective function as an individual. iii. To improve the individual and multidisciplinary learning, students are given challenged problems as course level projects, where in students are required to combine all the concepts that were learned in a single course. iv. The awareness is generated in students regarding managerial principles and projects through some core courses related to management, economics and organization of process industries.			

PO 12 : Life-long Learning

PO 12	1.0	1.26	The pre-final and final year courses of the program impart knowledge of contemporary issues and develop aptitude for lifelong learning. Students needs improvement in independent and life-long learning. Further, they needs to be aware of current technological change / new technologies in Chemical and allied areas. Total no of courses mapped: 78 Target level attained The following actions are made in order to sustain this attainment level.
Actions taken i. The final year project must have individual research component, which is individual in nature to bring individual learning. ii. All the course projects must be individual to enhance life-long learning. iii. Using ICT facilities like PPT's, live demonstrations, NPTEL lectures. iv. Encourage the teachers to highlights the allied areas of chemical engineering to keep pace with contemporary technology.			

PSOs Attainment Levels and Actions for Improvement- (2020-21)

PSOs	Target Level	Attainment Level	Observations
PSO 1 : Ability to model, simulate and optimize chemical engineering problems			
PSO 1	1.25	1.47	Students find difficulties in modeling multiple Nonlinear equations encountered in Chemical Reaction Equilibrium. Further, because of lack of basic mathematics they have been unable to use simulation soft wares like MATLAB properly to simulate chemical engineering problems. It was observed that many students were not attained good marks in optimization of chemical processes course which tells they are lacking in understanding the optimization concept in chemical engineering program. Additionally, students were not able to solve the problems involving Equations of State, Vapor-Liquid Equilibrium, Flash separation, and Multi-phase reactive systems. Exposure of students to various sophisticated analytical tools/equipments to motivate them to undertake real life problems for model, simulate and optimize. Total no of courses mapped: 78 Target level attained Although, target level is attained, the following actions are made in order to sustain this attainment level.
ACTIONS i. An user-friendly GUI based on MATLAB has been developed and circulated amongst students for distillation column design. ii. Make students use Aspen HYSYS (A Process simulation software) for all case studies to improve their understanding on how each subject in Chemical Engineering Curriculum are integrated iii. Microsoft-Excel based macro for Newton Raphson method for solving Equation of state problems to find the phase of a substance or a mixture at a given temperature and pressure. iv. Use Multiple Linear Regression for obtaining kinetic rate parameters in heterogeneous reactions.			
PSO 2 : Capability to design or develop effective and efficient chemical processes incorporating economic, environmental, social, health, safety and sustainability aspects			
PSO 2	1.25	1.43	Students lack in understanding the integrated approach for design of a process / equipment. Further, students lack in discipline and ethics to followed in the industry after their employment. There is a need for the students to understand the contemporary societal needs in the areas of food, health, safety, hygiene, energy security, and economic empowerment. Total no of courses mapped: 78 Target level attained Although, target level is attained, the following actions are made in order to sustain this attainment level.
ACTIONS i. More emphasis on design is made by splitting the Chemical reaction engineering-I course into two parts wherein, the first part primarily consists of kinetic and reactor design for homogeneous reactions and the second part on kinetics, transfer processes and reactor design for heterogeneous reactions. ii. To aid in better fundamental understanding of complex systems which require more time from students to investigate complex problems, projects were introduced as part of continuous assessment, which allow students to spend more time in learning the complex problems, especially for non-isothermal design. iii. For Multi-input and Multi-output (MIMO) problems in Process Control, which involves multiple transfer functions and multiple manipulating variables (such as control of distillation column) were given as course projects, which enables the students for better understanding of the problems.			
PSO 3 : Competence to practice or apply chemical engineering principles, communication and otherskills in a wide range of industrial, academic and professional employment areas			
PSO 3	1.25	1.36	To inculcate ethics, good interpersonal relationships, ability to communicate, leadership and project management. Students have visited several industries and attended several academic activities and been part of IChE professional body. Total no of courses mapped: 78 Target level attained Although, target level is attained, the following actions are made in order to sustain this attainment level.
i. Workshops and seminars are conducted to inculcate ethics, good interpersonal relationships, ability to communicate effectively, leadership qualities and project management. ii. Keeping in point of Industry 4.0, skill oriented courses are introduced in the curriculum (R20 regulations) which produce the graduates as per the needs of Industry iii. More emphasis is given to understand the safety, environmental & Social aspects of process Industries & take up collaborative projects for their professional growth. iv. Students are motivated to take up the real life problems during the project work with the focus on industrial pollution, its effects and proper remedies through usage of modern software and equipments. v. Students are encouraged to coordinate with Innovation and Entrepreneurship cell of the Institute to develop entrepreneurship skills Academic and Entrepreneurship workshops and conferences are being organized frequently to share the concerns of the society with emphasis on entrepreneurship			

Academic Auditing:

- The department audit committee conducts periodical academic audits for the Teaching Learning Process and other departmental activities once in a semester.
- Academic audit is conducted in the spirit of mutual respect and trust in the department.
- Audit is seen as the process to improve the quality and not as mechanism for finding faults.
- The academic audit is a system verifying documents like students admitted resources available, curriculum, teaching and learning process, student achievements, placement details, publications and feedback analysis.

Objectives of Audit System

- To ensure academic accountability.
- To monitor and enhance the quality of technical education through proper guidelines for both teaching faculty and students.
- To define effectiveness of teaching – learning process and to devise methodology to confirm maximum output from faculty members as well as students.
- To ensure that the department is following OBE in its true sense.

The external Academic Audit Committee is constituted with following faculty members for the department of Chemical Engineering:

1. Sri Haneef, Managing Director, Sapthagiri Camphor Ltd, Ananthapuramu.
2. Dr. Altaaf Hussain, Professor, Lords Institute of Engineering, Hyderabad.

The Internal Academic Audit Committee is constituted with following faculty members for the department of Chemical Engineering:

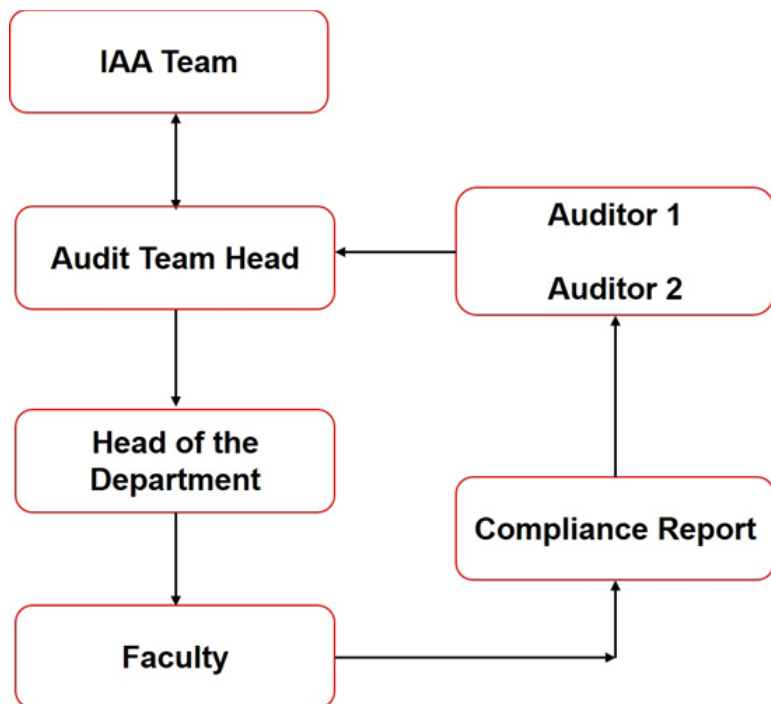
1. Prof. V. Sankar, Professor of EEE, JNTUA CEA, Anantapur.
2. Prof. B Durga Prasad, Professor of ME JNTUACEA, Ananthapuramu.

Frequency of Academic Audit – Once in an academic year.

Process of Academic Audit

- The academic audit committee shall conduct the audit as per the pre-defined audit format.
- The audit panel shall highlight the best practices of the department as well as the issues related to academic activities.
- The audit report is submitted to Head of the department.
- Head of the Department shall implement the suggestions/guidelines given by the members, Academic Committee to improve the quality of academic activities.

As shown in below flowchart



Process for Academic Audit

The assessment components of department audit committee are

- Course plan for theory, practical, seminar, project etc.
- Course File
- Assessment of course delivery as per the curriculum
- Consolidated Attendance statement of students
- Consolidated statement of marks of internal tests
- Seminar presentation details
- Project (Mini project/Final semester project) progress review reports.
- Register of Remedial/Bridge/Language Lab classes.
- Result Analysis
- Quality of the Mid-term examinations question papers
- Counseling records
- Beyond Syllabus (topics, notes etc.)
- Feedback on faculty (by student) and actions (if needed)

- Publications of faculty

The Rubrics followed for internal academic audit by our Institute



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING, ANANTHAPURAMU**

Internal Academic Audit Rubrics

I- No. of Classes:

No. of classes conducted:-

≤25 – 2 points

>25 ≤35 – 4 points

>35 ≤40 – 6 points

>40 ≤50 – 8 points

>50 – 10 points

II – Syllabus Coverage:

≤25% – 2 points

>25% ≤50% – 4 points

>50% ≤75% – 6 points

>75% ≤100% – 8 points

>100% – 10 points

III – Internal Evaluation:

Parameters to Consider:-

Scheme of valuation preparation – 2 points

Evaluating as per Scheme – 2 points

Impartiality – 2 points

Conformance with Academic Regulations – 2 points

Disclosure & Discussion with Students – 2 points

IV – Record Keeping:


Blue Book Cumulative attendance, Mid marks recording, Teacher diary recording

- 4 points

Assessment for the Academic Audit of AY 2021-22 (2017 Ad. Batch Student subjects)

AY: 2021-22

S. No	Name of the faculty	Subject Name	No. of classes conducted (in points to a scale of 10)	Syllabus coverage (in points to a scale of 10)	Internal evaluation (in points to a scale of 10)	Record keeping (in points to a scale of 10)	Total points
1	S.V. Satyanarayana	ICHE	8	8	9	10	35
2	B. Dilip Kumar	CE	8	8	9	10	35
3	S. Sharada	BT	10	8	9	10	37
4	M. Kalyan Kumar	IPC	8	8	9	10	35
5	K. Subba Rao	ES	6	6	8	8	28
6	M. Murali Naik	BCE	8	10	8	8	34
7	A. Rajashekar Babu	DAE	8	8	8	8	32
8	P. Uma Maheswari	C&DS	8	8	8	10	34
9	K. Peddintaiah	CT	6	8	10	8	32
10	G. Neha Mallika	IE	4	10	10	10	34
11	V. Ramanjaneyulu	PCE	8	6	8	8	30
12	D. Sowjanya	TP	10	10	8	9	37
13	H. Rehana Anjum	COI	6	10	8	8	32
14	Ch. Maneesha	IPCE	8	8	8	8	32


 Head, Chemical Engineering

Measures taken by the department:

For Academic Year: **2019-20**

- Workshops and Training Programmes have been conducted to improve the practical knowledge of the students.
- Encourage the students to go for Industrial Visits and Internships.
- FDPs and Webinars are conducted to excel their presentation skills and publications.
- Encourage the faculty to submit R & D projects.

For Academic Year: **2020-21**

- Training Programmes are arranged for improvement of placements.
- GATE classes are conducted to encourage students for their higher studies.
- Encourage the faculty to submit R & D Projects.
- Permitted students to go for Internships and Industrial visits.

For Academic Year: **2021-22**

- Consultancy (interms of characterization of samples of XRD, UV-Vis etc) initiated in the department.
- Encourage the students to go for Industrial Visits and Internships.
- Encourage the faculty to submit R & D Projects.
- Faculty have published papers in referred Journals.
- Faculty have received patents for their Research.

7.3 Improvement in Placement, Higher Studies and Entrepreneurship (10)

Total Marks 10.00

Assessment is based on improvement in:

- Placement: number, quality placement, core industry, pay packages etc
- Higher studies: performance in GATE, GRE, GMAT, CAT etc., and admissions in premier institutions
- Entrepreneurs

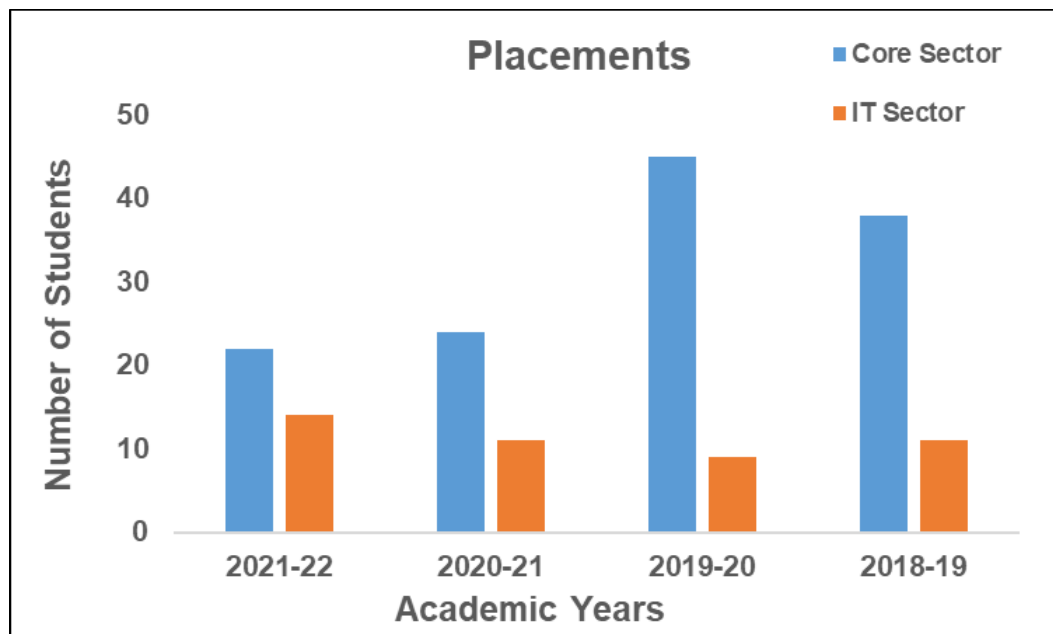
Year	No of Students appeared in final year examination (N)	No of students graduated out of students appeared in final year examination (G)	Z= (No of students placed + selected for higher studies + opted for Entrepreneurship)	Placement Ratio (Z/N)
2021-22	55	54	32	58.18
2020-21	55	50	50	91.00
2019-20	61	58	56	91.80
2018-19	61	50	51	83.61

A. Placement List:

Year	No of students graduated	No of students placed			
		Core Sector	Pay Package (Lakhs per Annum)	IT Sector	Pay Package (Lakhs per Annum)
2021-22	54	22		14	
2020-21	50	24	3.5-4.0	11	4.5 -6.2
2019-20	58	45	3.0-3.5	9	3.2-4.0
2018-19	50	38	2.0-2.6	11	2.5-3.0

It is observed that the number of students placed is during the AY 2018-19 and 2019-2020 has steadily increased (9% improvement). However, there is a decrease of overall placements in the AY 2020-2021 compared to the previous AYs due to COVID pandemic. It is noticed the number of students placed in core sector during the AY 2018-19 and 2019-2020 has increased compared to AY 2020-2021. The placements in IT sector have steadily increased over the AYs 2018-2019 to 2020-2021. The is also observed that the pay packages in both core as well as IT sectors have increased over the mentioned AYs. The students got placed in reputed core and IT sector as showed below (mentioned in Criterion 4).

S. No	Name of the Industry/ Company	
	Core Sector	IT Sector
1	Dr. Reddy's Laboratories Ltd	Stockone Technologies
2	Deccan Fine Chemicals	Accenture
3	KCC Cements	Cognizant Technology Solutions India Private Limited
4	Hetero Drugs	TATA Consultancy Services Limited
5	Energy Solutions	Infosys

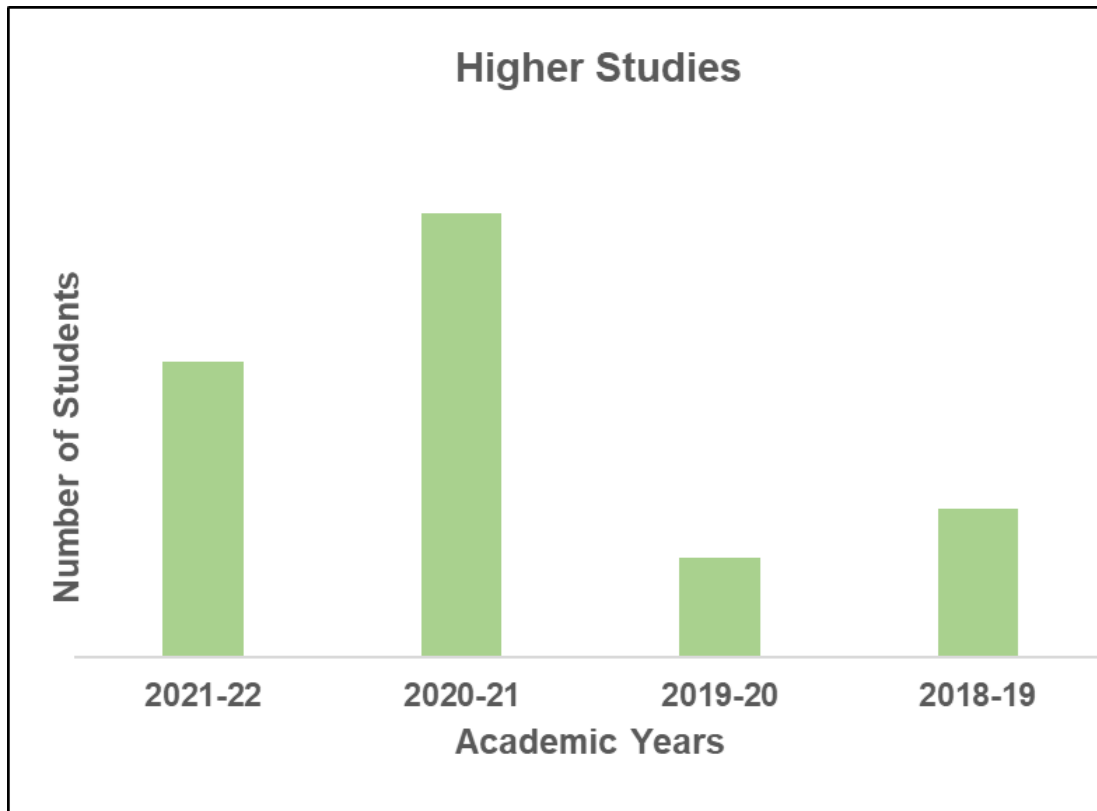


A. Higher Studies:

Year	No of students graduated	Higher Studies
2021-22	54	06*
2020-21	50	09
2019-20	58	02
2018-19	50	03

The admission to higher students of the students has steadily increased over the AYs 2018-19 to 2020-21 except in the year 2019-20. Few of the reputed Institutes where the students got admission are listed below (mentioned in Criterion 4).

S. No	Name of the Premier Institutes	
	India	Abroad
1	IIT Madras	University of Calgary, USA
2	IIT Guwahati	Sungkyunkwan University, South Korea
3	IIT BHU	University of Buffalo, USA
4	IIT Indore	New Jersey Institute of Technology, USA
5	IITDM Kancheepuram	Texas Tech University Graduate School, USA
6	NIT Warangal	University of Michigan, USA



7.4 Improvement in the quality of students admitted to the program (20)

Total Marks 20.00

Institute Marks : 20.00

Item		2021-22	2020-21	2019-20
National Level Entrance Examination	No of students admitted	0	0	0
	Opening Score/Rank	0	0	0
	Closing Score/Rank	0	0	0
State/ University/ Level Entrance Examination/ Others APEAPCET	No of students admitted	54	58	58
	Opening Score/Rank	8633	5915	11783
	Closing Score/Rank	104439	92882	123896
Name of the Entrance Examination for Lateral Entry or lateral entry details APECET	No of students admitted	7	7	7
	Opening Score/Rank	68	24	24
	Closing Score/Rank	255	250	254
Average CBSE/Any other board result of admitted students(Physics, Chemistry&Maths)		82.25	74.49	73.91

8 FIRST YEAR ACADEMICS (50)

Total Marks 46.84

8.1 First Year Student-Faculty Ratio (FYSFR) (5)

Total Marks 5.00

Please provide First year faculty information considering load

Name of the faculty member	PAN No.	Qualification	Date of Receiving Highest Degree	Area of Specialization	Designation	Date of joining	Teaching load (%)			Currently Associated (Yes / No)	Nature Of Association (Regular / Contract)	Date Of leaving(In case Currently Associated is 'No')
							CAY	CAYm1	CAYm2			
Dr. E. Keshava	AAHPE0305P	M.Sc. and PhD	08/03/2000	Functional Analysis and Operations Research	Professor	15/06/2002	50	0	0	Yes	Regular	
Dr. R. Bhuvana	AOMP1863Q	M.Sc. and PhD	15/03/2000	Algebra and Fluid Dynamics	Professor	07/11/2018	0	50	55	Yes	Regular	
Dr. A. Saila Kuri	CJGPS5789D	M.Sc. and PhD	30/03/2010	Fluid Dynamics and Operations research	Assistant Professor	04/02/2011	63	56	50	Yes	Regular	
Dr. S. Sri Lakshmi	DFRPS4504A	M.Sc. and PhD	19/04/2012	Number theory	Assistant Professor	13/09/1995	75	56	63	Yes	Contractual	
Mrs. G. Neeraj	BDWPN2022H	M.Phil	07/05/2019	Fluid Dynamics	Assistant Professor	02/09/2014	56	75	99	Yes	Contractual	
Dr. R. Padma Sree	AUSPS5146B	M.Sc. and PhD	06/11/2002	Electronics and Materials science	Professor	04/02/2011	100	100	86	Yes	Regular	
Dr. D. Zareena	AOOPD4278H	M.Sc. and PhD	30/11/2007	Molecular Bio Physics and Materials science	Assistant Professor	11/02/2011	100	100	100	Yes	Regular	
Dr. N. Suresh Kumar	GETPS6914C	M.Sc. and PhD	05/07/2019	Spectroscopy and Materials	Assistant Professor	23/10/2013	94	100	94	Yes	Contractual	
Dr K. Aruna	CQOPK2921C	ME/M. Tech and PhD	05/09/2015	Bio technology	Assistant Professor	28/02/2011	75	0	0	Yes	Regular	
Dr T. Noorjahan	AWMPB0500E	M.Sc. and PhD	23/08/2014	Organic chemistry	Assistant Professor	09/10/2014	100	100	100	Yes	Contractual	
Mr. B. Pradeep	APLPB3634H	M.Phil	11/03/2019	Organic chemistry	Assistant Professor	01/10/2013	100	100	100	Yes	Contractual	
Dr K. P. Sathesh	BHRPS0088K	M.Sc. and PhD	20/04/2005	Analytical chemistry	Assistant Professor	26/07/2018	75	75	75	Yes	Contractual	
Dr. V. B. Chitr	AAZPV1105G	M.A and Ph.D	12/12/2007	English	Professor	14/03/2011	100	100	100	Yes	Regular	
Dr. R. Manjula	AOCPM1284Q	M.A and Ph.D	12/01/2010	English	Assistant Professor	07/02/2011	100	100	100	Yes	Regular	
T. Sailaja	EEFPS5878H	M.Phil	09/03/1998	English	Assistant Professor	29/09/2005	100	100	100	Yes	Contractual	
K. Thabrez Khanna	DKPPK0188H	MA	29/04/2005	English	Assistant Professor	26/08/2013	100	100	100	Yes	Contractual	
Dr. M. Rama Nandini	ASYPM8313L	M.A and Ph.D	02/01/2014	Commerce	Assistant Professor	09/07/2014	100	75	75	Yes	Contractual	

Dr.K.Rajesh Sa	AQLPK6492K	MBA & Ph.D	07/05/2022	Management	Assistant Professor	22/11/2012	100	75	75	Yes	Contractual	
Smt.K.Mani	CEQPK1308M	M.E/M.Tech	30/01/2015	Structural Engineering	Assistant Professor	29/06/2015	50	50	50	Yes	Contractual	
Smt.G.Nirupar	BYHPG3092C	M.E/M.Tech	31/05/2017	Structural Engineering	Assistant Professor	02/07/2018	50	50	50	Yes	Contractual	
Smt. N.Swathi	AQIPN7927K	M.E/M.Tech	01/03/2014	Control System	Assistant Professor	02/07/2018	0	0	81	Yes	Contractual	
Smt. P. Swathi	GSZPS1795F	M.E/M.Tech	08/06/2015	Electrical Power Systems	Assistant Professor	06/03/2020	84	66	94	Yes	Contractual	
Ms.Venkata Sa	AVYPR1245D	M.E/M.Tech	21/12/2016	Electrical Power Systems	Assistant Professor	17/02/2017	0	75	88	No	Contractual	15/06/2021
Sri.S.Sridhar	BXTPS1306Q	M.E/M.Tech	30/10/2006	Power and Industrial Drives	Assistant Professor	09/02/2011	75	63	0	Yes	Regular	
Smt.M.NagaCh	ALNPC2322H	M.E/M.Tech	12/11/2012	Electrical Power Systems	Assistant Professor	30/06/2016	75	0	0	Yes	Contractual	
Dr.RJV Anil Ku	ALPHA5585D	ME/M. Tech and PhD	03/10/2017	Mechanical	Assistant Professor	30/07/2005	100	0	100	Yes	Contractual	
Dr. M.P Ranga	BPRPM7237L	ME/M. Tech and PhD	15/07/2016	Mechanical	Assistant Professor	01/10/2007	100	0	100	Yes	Contractual	
Sri.J.Paul Rufu	BQXPB5416P	M.E/M.Tech	08/06/2011	Mechanical	Assistant Professor	22/09/2012	0	100	0	Yes	Contractual	
Sri. D. Sashidh	BWYPS5912G	M.E/M.Tech	09/07/2012	Mechanical	Assistant Professor	01/06/2012	0	100	100	Yes	Contractual	
Sri. Ps. Bharad	BNAPB7196N	M.E/M.Tech	27/06/2011	Mechanical	Assistant Professor	22/09/2012	100	100	0	Yes	Contractual	
Dr. A. Nagaraju	AFPPN4128N	ME/M. Tech and PhD	02/02/2016	Mechanical	Assistant Professor	03/09/2007	0	0	100	Yes	Contractual	
Sri. T. Dada Ka	BGDPK6591E	M.E/M.Tech	24/06/2011	Mechanical	Assistant Professor	04/07/2018	100	0	0	Yes	Contractual	
Mr.K Srinivasa	BBPPR2556B	M.E/M.Tech	15/03/2012	Communications and Signal Processing	Assistant Professor	20/06/2012	100	0	0	Yes	Contractual	
Mr .M Sreedha	CUGPS4577L	M.E/M.Tech	20/04/2011	Signals and Systems Processing	Assistant Professor	07/06/2014	0	100	0	Yes	Contractual	
Smt .K. Mamat	BNOPM7458Q	M.E/M.Tech	17/05/2016	Digital Electronics and Communication Systems	Assistant Professor	09/01/2017	0	100	0	Yes	Contractual	
Smt .R Sandhy	AVJPR5723K	M.E/M.Tech	04/02/2015	Digital Electronics and Communication Systems	Assistant Professor	03/07/2017	100	0	100	Yes	Contractual	

Smt.K.R.Remy	AMCPR9461N	M.E/M.Tech	19/03/2014	Communication Engineering	Assistant Professor	10/04/2017	0	0	100	No	Contractual	03/03/2020
Prof. P. Chennai	AFWPR8891M	ME/M. Tech and PhD	20/05/2009	Computer Networks	Professor	07/11/2012	50	50	50	Yes	Regular	
K. Somasena F	APAPR9247P	M.E/M.Tech	28/06/2013	Computer Science	Assistant Professor	07/10/2013	50	0	75	Yes	Contractual	
K. Surendra	CZCPS0039Q	M.E/M.Tech	13/08/2011	Software Engineering	Assistant Professor	30/06/2016	0	50	75	Yes	Contractual	
V. Tejaswini	AQVPV1324M	M.E/M.Tech	07/11/2015	Computer Science and Engineering	Assistant Professor	30/06/2016	50	50	75	No	Contractual	01/07/2022
N.kirankumar	AKSPN1987D	M.E/M.Tech	25/09/2015	Computer Science Engineering	Assistant Professor	30/06/2016	50	50	0	Yes	Contractual	
G.Sudha Goud	ACQSP4086F	M.E/M.Tech	25/09/2009	Computer Science Engineering	Assistant Professor	30/06/2016	75	0	50	No	Contractual	10/08/2022
Y. Samreen Be	DXKPB0384N	M.E/M.Tech	21/09/2017	Artificial Intelligence	Assistant Professor	02/07/2018	50	50	75	No	Contractual	25/07/2022

Year	Number Of Students(approved intake strength) N	Number of Faculty members(considering fractional load) F	FYSFR (N/F)	*Assessment=(5*20)/FYSFR(Limited to Max.5)
2019-20(CAYm2)	360	27	13	5
2020-21(CAYm1)	360	24	15	5
2021-22(CAY)	360	27	13	5
Average	360	26	13	5

AverageFYSFR: 0.00

Assessment [(5 * 15) / AverageFYSFR]: 5.00

8.2 Qualification of Faculty Teaching First Year Common Courses (5)

Total Marks 5.00

Institute Marks : 5.00

Year	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)	Assessment Of Faculty Qualification [(5x + 3y) / RF]
2019-20	17	24	18	8.00
2020-21	17	25	18	8.00
2021-22	17	24	18	8.00

Average Assessment: 8.00

8.3 First Year Academic Performance (10)

Total Marks 6.84

Institute Marks : 6.84

Academic Performance	CAYm1(2020-21)	CAYm2(2019-20)	CAYm3 (2018-19)
Mean of CGPA or mean percentage of all successful students(X)	7.87	7.67	7.39
Total Number of successful students(Y)	318.00	342.00	245.00
Total Number of students appeared in the examination(Z)	353.00	360.00	295.00
API [$X*(Y/Z)$]	7.09	7.29	6.14

Average API[(AP1+AP2+AP3)/3] : 6.84

Assessment = Average API : 6.84

8.4 Attainment of Course Outcomes of first year courses (10)

Total Marks 10.00

8.4.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcomes of first year is done (5)

Institute Marks : 5.00

Describe the Assessment process used to gather the data upon which evaluation of Course Outcome is based (10)

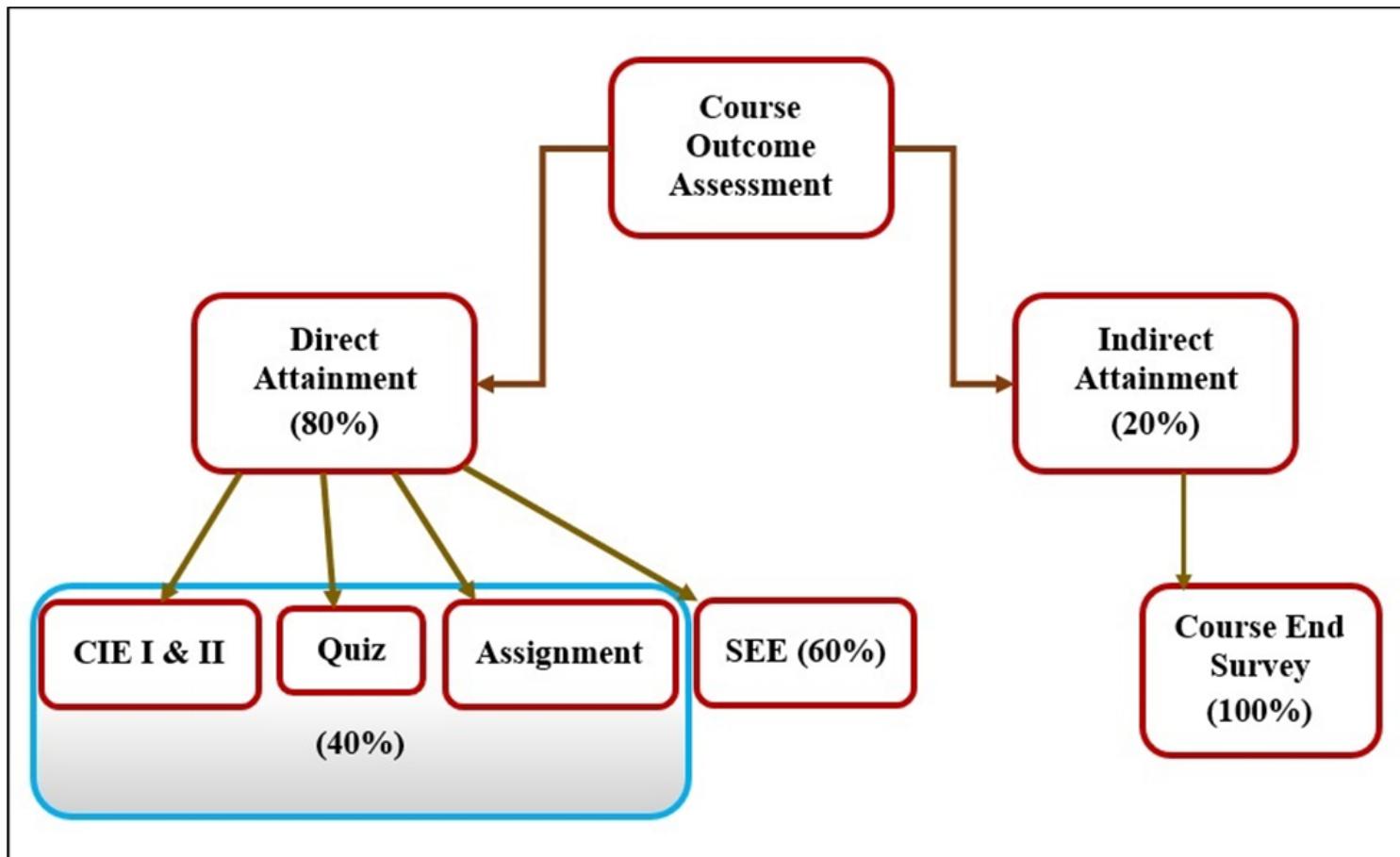
In Outcome Based Education (OBE), Course Outcome attainment is evaluated by direct assessment tools and In-direct assessment tools.

CO Assessment Process:

- The direct method of assessment includes, CIE, Assignment, Quiz, Project and Seminar.
- The indirect method of assessment includes the feedback obtained from students after completion of each course.

Type of Assessment	Course Assessment and Evaluation Method	Process
Direct Assessment Tools	Common Internal Examination (CIE)	Besides the semester end examinations two Internal Examinations are planned and conducted at regular intervals. Questions in the question paper are mapped to CO's.
	Assignments	Assignment Questions are prepared based on the course objectives. Assignment works submitted by students are assessed towards attainment of CO's.
	Laboratory Course	Performance of evaluation of students for laboratory course is based on lab internal and lab external examination same as the theory course evaluation according to CO's mapped for that laboratory course.
	Seminar/ Technical Presentation	The idea behind seminar is to familiarize students more extensively with their course and also to allow them to interact with examples of the practical problems that occur in recent scenario. It also improves student's communication skills.
	Project	It Provides an opportunity to students to demonstrate independence and originality, to plan and organize a project over a given period, and to put into practice, the techniques that have been taught.
Indirect Assessment Tools	Semester End Examination	At the end of each semester, Semester End Examination is conducted for all courses. The questions for this examination covers entire syllabus.
	Course End Survey	On Completion of every semester, a feedback is obtained from the students for the courses which they have learnt.

The following diagram shows the weightage distribution among CO's for assessment of Course Outcome calculation:



Flowchart for CO attainment procedure

***Note:** CIE-Common Internal Examination

SEE-Semester End Examination

Process of Calculation for Direct Assessment:

Every question is mapped to a CO the students who got more than 40% of marks are considered for fixing attainment levels.

Attainment level 3: No of students scoring above 70% of Max marks

Attainment level 2: No of students scoring between 60% to 69 % Max marks

Attainment level 1: No of students scoring between than 40% to 59% of Max marks

Attainment level 0: No of students scoring below 40% of Max marks

Process of Calculation for Indirect Assessment:

Course End Survey Calculation:

Assessment through survey is calculated from course end survey reports collected at the end of every semester. After collection of individual survey forms, Here survey is made w.r.t three levels '3' - strongly agree / excellent, '2' - Agree / good; '1' - weekly Agree/ satisfactory

The marks for each Course end survey attainment through survey are calculated based on the following formula:

Final CO attainment for each course is calculated based on the contribution of Direct and SEE/ Course end survey assessments as per the weightage given below:

1. Direct Assessment (80%)
2. Course End Survey Assessment (20%)

Final CO attainment level = [(80% of Direct assessment (CIE+SEE) + 20% of Indirect Assessment (Course End Survey Assessment)]/ 100

Course Name :		ENGINEERING DRAWING												
Course Code :		15A03202												
Semester :		I Year II Sem												
Batch :		2018												
Academic Year:		2019-2019												
		I Mid Exam						II Mid Exam						
Course Outcomes		CO1	CO1	CO1	CO2	CO2	CO2	CO3	CO3	CO4	CO4	CO5	CO5	
Maximum Marks		10	10	10	10	10	10	10	10	10	10	10	10	10
Question Numbers		QNO.1	QNO.2	QNO.3	QNO.4	QNO.5	QNO.6	QNO.1	QNO.2	QNO.3	QNO.4	QNO.5	QNO.6	Assgnmt
S.No.	ROLLNO													
1	18001A0801	10	0	0	10	0	10	10	0	10	0	8	0	10
2	18001A0802	10	10	0	10	0	10	10	0	10	0	8	0	10
3	18001A0803	9	0	0	9	0	10	8	0	8	0	0	4	10
4	18001A0804	9	0	0	9	0	9	8	0	8	0	0	4	10
5	18001A0805	10	9	0	10	0	9	10	0	10	0	0	9	10
6	18001A0806	0	6	0	2	0	6	6	0	6	0	8	0	10
7	18001A0807	0	7	0	10	0	0	10	0	8	0	10	0	10
8	18001A0808	6	0	6	0	0	10	8	0	8	0	10	0	10
9	18001A0809	7	0	0	9	0	4	6	0	8	0	8	0	10
10	18001A0810	10	0	10	0	0	6	10	0	0	0	0	0	10
11	18001A0811	9	0	0	10	0	0	8	0	0	8	8	0	10
12	18001A0812	10	0	0	10	0	10	10	0	0	10	10	0	10
13	18001A0813	8	0	0	10	0	10	8	0	0	0	0	0	10
14	18001A0814	9	0	7	10	0	6	7	0	0	2	7	0	10
15	18001A0815	10	0	0	10	0	5	10	0	0	10	10	0	10
16	18001A0816	10	9	0	9	0	10	10	0	0	0	0	0	10
17	18001A0817	10	0	0	9	0	9	10	0	9	0	0	10	10
18	18001A0818													
19	18001A0819	10	0	0	9	0	10	9	0	9	0	0	9	10
20	18001A0820	9	0	0	6	0	2	7	0	7	0	0	7	10
21	18001A0821	10	0	0	7	0	9	8	0	8	0	0	0	10
22	18001A0822	10	0	0	9	0	5	9	0	9	0	6	0	10
23	18001A0823	10	0	0	10	0	8	9	0	9	0	9	0	10
24	18001A0824	8	0	0	10	0	6	6	0	6	6	6	0	10
25	18001A0825	10	0	0	10	0	10	10	0	10	0	0	0	10
26	18001A0826	9	0	0	8	0	8	10	0	10	0	0	0	10
27	18001A0827	9	0	0	9	0	8	6	6	6	0	0	10	10
28	18001A0828	9	0	0	10	0	8	10	0	9	0	0	10	10
29	18001A0829	10	0	0	10	0	10	9	0	0	9	9	0	10
30	18001A0830	10	0	10	9	0	10	10	0	10	0	10	0	10
31	18001A0831													10
32	18001A0832	10	0	0	10	0	0	10	0	10	0	0	0	10
33	18001A0833	10	0	0	10	0	10	10	0	10	0	6	0	10
34	18001A0834	10	0	0	10	0	10	10	0	10	0	0	8	10
35	18001A0835	10	10	0	10	0	10	10	0	10	0	10	0	10

Total CO Attainment																				
	Direct attainment	Survey Level 20	Total attainment		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
C01	2.4	0.48	2.88	C01	2	3	3	2			2	1	1			1		2		
C02	1.92	0.4	2.32	C02		3					2	1					3		3	
C03	1.92	0.4	2.32	C03	2		3	2				1	1	2		1		2	3	
C04	1.92	0.4	2.32	C04		3		2			2	1					3		3	
C05	1.92	0.5	2.42	C05	2	3	3	2			2	1	1			1		2		

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C01	1.92	2.88	2.88	1.92	0.00	0.00	1.92	0.96	0.96	0.00	0.00	0.96	0.00	1.92	0.00
C02	0.00	2.32	0.00	0.00	0.00	0.00	1.55	0.77	0.00	0.00	0.00	0.00	2.32	0.00	2.32
C03	1.55	0.00	2.32	1.55	0.00	0.00	0.00	0.77	0.77	1.55	0.00	0.77	0.00	1.55	2.32
C04	0.00	2.32	0.00	1.55	0.00	0.00	1.55	0.77	0.00	0.00	0.00	0.00	2.32	0.00	2.32
C05	1.61	2.42	2.42	1.61	0.00	0.00	1.61	0.81	0.81	0.00	0.00	0.81	0.00	1.61	0.00
	1.02	1.99	1.52	1.33	0.00	0.00	1.33	0.82	0.51	0.31	0.00	0.51	0.93	1.02	1.39

PO Attainment																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Level	1.02	1.99	1.52	1.33	0.00	0.00	1.33	0.82	0.51	0.31	0.00	0.51	0.93	1.02	1.39	

	Total attainment	Target Level	Remarks
C01	2.88	2	N
C02	2.32	2	N
C03	2.32	2	N
C04	2.32	2	N
C05	2.42	2	N

As Attainment levels are set for every CO attainment in the process as said above in the Course outcome. The program has decided/ set the following Attainment level

Academic Year(2018-2019)

Semester	Course	CO1	CO2	CO3	CO4	CO5
I Semester	English	2.86	2.47	2.18	2.15	2.24
	Mathematics -I	2.493	2.485	2.418	2.507	2.429
	Physical Chemistry	2.1	2.2	2.06	2.04	2.1
	Environmental Studies	2.1	1.85	1.9	2	1.9
	Engineering Mechanics and Strength of Materials	2.4	2.5	2.60	2.3	2.4
	Problem Solving & Computer programming	1.71	1.52	1.43	1.50	1.53
	Physical Chemistry workshop	3	3	3	-	-
	Engineering workshop & IT workshop	2.1	2.2	2.16	2.0	2.1
	English Language Communication Skills Lab.	2.72	2.72	2.74	2.73	2.72
II Semester	Technical Communication and Presentation Skills	1.82	1.56	1.44	1.51	1.55
	Mathematics -II	1.43	1.45	1.20	1.38	1.38
	Engineering Physics	2.8	2.68	2.6	2.4	2.3
	Engineering Drawing	3	2	2	2	2
	Elements of Electrical and Electronics Engineering	1.12	1.09	0.99	-	-
	Introduction to Chemical Engineering	2.1	1.8	1.7	1.96	1.6
	Engineering Physics Lab	2.83	2.83	2.85	2.84	2.83
	Computer Programming Lab	2.53	2.53	2.54	2.53	2.53
	Electrical and Electronics Engineering Lab	2.3	2.2	2.40	2.3	2.4

8.5.1 Indicate results of evaluation of each relevant PO and/or PSO if applicable (10)

Institute Marks : 10.00

POs Attainment:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
17A15:	1.14	1.71	1.14	0.95	0.57	2.10	0.95	1.52	1.90	2.86	0	2.29
17A15:	1.20	1.55	0.69	0.69	0	0.86	0	0	1.72	1.20	0	0
17A15:	2.50	1.69	0	0	0	0.83	1.69	0	0	0	0	1.69
17A10:	1.2	0.60	0.60	0	0	1.20	0.80	1.80	0	0	0	1.20
17A10:	1.54	1.54	0.87	0	0	0	0	0	0	0	0	0
17A10:	1.71	1.03	1.37	0.11	0.46	0	0	0	0.46	0.11	0.46	0
17A15:	2.55	1.70	0	1.70	0	1.70	1.70	0	1.70	0	0.85	0
17A13:	1.80	2.70	2.70	2.70	1.80	1.80	0.90	0	1.80	0	1.80	2.70
17A15:	1.09	1.63	1.09	0.91	0.54	1.99	0.91	1.45	1.81	2.72	0	2.18
17A25:	0.73	1.09	0.73	0.61	0.36	1.34	0.61	0.97	1.22	1.82	0	1.46
17A25:	0.67	0.86	0.38	0.38	0	0.48	0	0	0.95	0.67	0	0
17A25:	2.20	1.46	1.46	1.46	0.73	0	0	0	0	0	0	1.46
17A20:	1.51	2.30	1.73	1.54	0	0	1.54	0.96	0.58	0.38	0	0.58
17A22:	0.40	0.40	0	0	0	0	0.40	0	0	0	0	0.40
17A20:	1.90	1.90	1.36	1.90	0.63	1.90	1.86	1.90	0.63	1.36	0.63	1.36
17A25:	2.83	1.70	1.13	2.45	2.45	0.75	0	0	0	0	0	0
17A20:	0	2.02	1.52	1.52	1.52	0.67	0.34	0.17	0.17	0.67	0.17	1.52
17A22:	2.60	2.60	0	0	0	0	0	0	0	0	0	0

PO Attainment Level**PSOs Attainment:**

Course	PSO1	PSO2	PSO3
17A15:	0.76	1.71	2.67
17A15	0	0	0
17A15:	0.83	1.69	0
17A10	0	1.20	0
17A10	0	0	0
17A10:	0.11	1.03	0
17A15:	1.70	0	0
17A13:	0.90	0	0
17A15:	0.73	1.63	2.54
17A25:	0.49	1.90	1.70
17A25	0	0	0
17A25:	1.46	0	0
17A20:	1.15	1.15	1.73
17A22:	0	0	0
17A20:	1.90	1.90	1.90
17A25:	0	0	0
17A20:	1.52	0.67	0
17A22:	0	0	0

PSO Attainment Level

Course	PO1	PO2	PO3
Direct Attainment	1.05	1.43	2.11
PSO Attainment	1.05	1.43	2.11

8.5.2 Actions taken based on the results of evaluation of relevant POs and PSOs (10)

Institute Marks : 10.00

POs Attainment Levels and Actions for Improvement- (2020-21)

POs	Target Level	Attainment Level	Observations
PO 1 : Engineering Knowledge			
PO 1	1.8	1.51	Chemical engineering curriculum requires the strong foundation of theoretical and practical knowledge of Physics, chemistry and mathematics, which the student's study in their first year, but student's lags in correlating the theoretical concepts with applications. Further, few lateral entry students are not exposed to fundamental in the mathematics/Science subjects before joining their engineering course and they find it difficult to understand mathematical based engineering subjects. Further, some students can't relate basic engineering subject to core engineering subjects. All these key points are leading to nearest attainment to the target level. Total no of courses mapped: 18 Target level not attained The following actions are made in order to meet and sustain this attainment level.
Actions taken i. Remedial classes in basic sciences (mathematics, physics, and chemistry) as well as computer subjects like C Programming is arranged to all the backlog students ii. Pedagogy included homework assignments, tutorials and continuous assessment components were included in basic courses of First year classes iii. Additional theory classes and tutorial classes were conducted to understand the concepts of basic science and engineering subjects. Further, more practical teaching has been emphasized and more problems are given for practice. iv. Encouraging students to participate in technical events and industrial visits so that they can gain insight in solving complex engineering problems.			
PO 2 : Problem Analysis			
PO 2	1.8	1.58	The problem solving and analyzing skills gained through first year to further year courses helps the students to apply in real time application. However, the attainment level has not reached as they are unable to relate to principles of engineering concept in the context of application of engineering knowledge to industry problems. Total no of courses mapped: 18 Target level not attained The following actions are made in order to meet and sustain this attainment level.
Actions taken i. More assignments and tutorial classes are conducted. ii. Faculty and students are encouraged and facilitated to write review papers and have classroom and departmental seminars on selected themes and have open discussions on emerging issues. iii. Students are encouraged to observe their homes and surroundings to gain insight into real life engineering problems and think of possible approaches/solutions to these problems			
PO 3 : Design/development of Solutions			
PO 3	1.8	1.04	Projects (Major/Minor) undertaken by students individually or under guidance lack strong social relevance and concern to environmental issues. Students lack in understanding the integrated approach for design of a process/equipment of any engineering stream. Total no of courses mapped: 18 Target level not attained The following actions are made in order to meet and sustain this attainment level.
Actions taken i. Planned to introduce Project-based Learning in the upcoming curriculum, which allow students to understand the design of process or plant for a selected problem. ii. Planned to demonstrate to the students the black-box type of models (especially with process simulation software) by developing the equations based on the fundamental conservation equations, which are the backbone for any simulation software. iii. Students are encouraged to include all standard parameters within the constraints of safety& sustainability, while designing a chemical process. iv. Students are inspired to take up the design products with special emphasis on environmental concerns.			
PO 4 : Conduct Investigations of Complex Problems			
PO 4	1.8	1.20	Students found difficulties in solving complex problems such as design of non-isothermal and multi-tubular packed bed reactor design. These complex problems require time. Further, Students found difficulties with the mathematics involved in boundary layer problems. It is observed that most of the investigations/project (abstract and literature survey) are addressing the research but does not end with valid conclusions. Total no of courses mapped: 18 Target level not attained The following actions are made in order to meet and sustain this attainment level.

Actions taken i. To aid in better fundamental understanding of complex systems which require more time from students to investigate complex problems, projects were introduced as part of continuous assessment, which allow students to spend more time in learning the complex problems, especially for non-isothermal design. ii. For Multi-input and Multi-output (MIMO) problems in Process Control, which involves multiple transfer functions and multiple manipulating variables were given as course projects, which enables the students for better understanding of the problems. iii. All the B.Tech projects are must to have a research components enabling the students to explore the recent trends for a defined problem. Further, we encourage students having CGPA greater than 8.0 to publish a Scopus indexed paper iv. Technical events/workshops/STC's/Online Courses were organized to impart more knowledge & research methods to formulate innovative solutions to complex Engineering Problems.

PO 5 : Modern Tool Usage

PO 5	1.0	0.46	Upgradation of resources and modern tools is fundamental to drive meaningful research and meet industry standards. Students find difficulties in solving multiple Nonlinear equations encountered. Total no of courses mapped: 18 Target level not attained The following actions are made in order to meet and sustain this attainment level.
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Actions taken i. Use Microsoft-Excel (Solver module) for solving problems. ii. Use Microsoft-Excel (Goal seek module) for solving problems. iii. Microsoft-Excel based macro for Newton Raphson method for solving Equation of state problems to find the phase of a substance or a mixture at a given temperature and pressure. iv. Labs are modernised & developed to inculcate the image of modern analytical & computational tools like TGA, FTIR, CHNS Analyser, FLUENT, MATLAB etc

PO 6 : The Engineer and Society

PO 6	1.8	0.96	The courses of Engineering need to address the needs of health, safety and social concerns regarding engineering practices in real life. There is a need for the students to understand the contemporary societal needs in the areas of food, health, safety, hygiene, energy security, and economic empowerment. Further, Students need to develop local solutions based on the problem. Total no of courses mapped: 18 Target level attained The following actions are made in order to sustain this attainment level.
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Actions taken i. Community Service Projects were already introduced in the course curriculum, which helps the students to have more interaction with community and able to solve societal problems. ii. Planned to introduce Professional ethics needs to be integrated into the curriculum as part of first year course.

PO 7 : Environment and Sustainability

PO 7	1.6	0.80	The issues of global and environmental awareness among the student should be improved and the main emphasis is to be given locally available energy resources. There is a need of Identification of solutions that are sustainable need to be understood in detail based on the location. Students lack in understanding the big picture on the sustainability. Solving only one of the problems related to food, energy, waste management and water etc., might make the others unsustainable. Total no of courses mapped: 18 Target level not attained The following actions are made in order to meet and sustain this attainment level.
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Actions taken i. Peer teaching as part of Environmental Studies course to discuss the different sustainability methodologies. ii. Organic farming procedures were adapted as student projects to practice sustainability. iii. Projects addressing the global energy & environmental issues are prepared to be taken up by the students with a focus on consumption, utilization & proper management of energy iv. Technical workshops related to environmental issues & utilization of renewable energy resources are planned to organize as a regular practice.

PO 8 : Ethics

PO 8	1.2	0.67	Communications and other ethical/moral knowledge is lagging when it comes to application of Engineering expertise, needed to be addressed for real life situations. Students lack in discipline and ethics to followed in the industry after their employment. Total no of courses mapped: 18 Target level not attained The following actions are made in order to meet and sustain this attainment level.
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Actions taken i. Motivational talks, cooperative lectures & programmes on mutual & ethical practices are arranged in order to inculcate professional ethics & sense of honesty in students. ii. Professional ethics need to be integrated as part of the curriculum in the first year itself. iii. Need to obtain feedback from students after every internship that they will undergo.

PO 9 : Individual and Team Work

PO 9	1.0	1.03	Ability to work as team, with coordination, found to be slightly lacking. Capability to attain constructive results by students when working individually on Projects/Ideas is needs to be improved. Total no of courses mapped: 18 Target level attained The following actions are made in order to sustain this attainment level.
<p>Actions taken i. To help the students to groom the skills like leadership, team work, coordination, commitment and being an effective team member. Various programmes and counselling sessions are organized on departmental as well on institute level. ii. Students are given group assignments and minor projects to groom the individual and teamwork skills. iii. The final year project is broken into minor task to build integrity within the group yet not compromising on the effective function as an individual. iv: To improve the individual and multidisciplinary learning, students are given challenged problems as course level projects, where in students are required to combine all the concepts that were learned in a single course.</p>			

PO 10 : Communication

PO 10	1.5	0.94	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. Students require improvements in writing technical reports and formatting the reports. Total no of courses mapped: 18 Target level not attained The following actions are made in order to sustain this attainment level.
<p>Actions taken i. Group discussions, seminars, presentations and soft skills training programmes are organized to enhance the aspects of communication/skills. ii. Even though the target level can be attained by motivating students to perform any activities like innovative seminar, group discussion, technical quiz, personality development program and to write technical articles in order to reach higher attainment level. iii. Conduction of Mock Interviews, Personal Interviews etc. at regular Intervals as a part of Training the students.</p>			

PO 11 : Project Management and Finance

PO 11	1.0	0.40	Managerial principles to students work is needed to be inculcated in students by introduction of various courses underlining these principles. Students lack in obtaining the specification of the parts /s consumables/ equipment required. Further, students need to be trained to obtain quotations for a purchase of chemicals before planning their experimental work. Total no of courses mapped: 18 Target level not attained The following actions are made in order to attain this attainment level.
<p>Actions taken i. The final year project must have research component, which improves individual learning. This will also demonstrates the team management, time management. This is ensured during regular reviews from semester 7 onwards. ii. The final year project is broken into minor task to build integrity within the group yet not compromising on the effective function as an individual. iii. To improve the individual and multidisciplinary learning, students are given challenged problems as course level projects, where in students are required to combine all the concepts that were learned in a single course. iv. The awareness is generated in students regarding managerial principles and projects through some core courses related to management, economics and organization of process industries.</p>			

PO 12 : Life-long Learning

PO 12	1.0	0.95	The pre-final and final year courses of the program impart knowledge of contemporary issues and develop aptitude for lifelong learning. Students needs improvement in independent and life-long learning. Further, they needs to be aware of current technological change / new technologies in Chemical and allied areas. Total no of courses mapped: 18 Target level not attained The following actions are made in order to sustain this attainment level.
<p>Actions taken i. The final year project must have individual research component, which is individual in nature to bring individual learning. ii. All the course projects must be individual to enhance life-long learning. iii. Using ICT facilities like PPT's, live demonstrations, NPTEL lectures. iv. Encourage the teachers to highlights the allied areas of chemical engineering to keep pace with contemporary technology.</p>			

PSOs Attainment Levels and Actions for Improvement- (2020-21)

PSOs	Target Level	Attainment Level	Observations
PSO 1 : Ability to model, simulate and optimize chemical engineering problems			
PSO 1	0.7	0.77	Students find difficulties in modeling multiple Nonlinear equations. Further, because of lack of basic mathematics they have were unable to use simulation soft wares like MATLAB properly to simulate engineering problems. It was observed that many students were not attained good marks in course which tells they are lacking in understanding the optimization concept in engineering program. Exposure of students to various sophisticated analytical tools/equipments to motivate them to undertake real life problems for model, simulate and optimize. Total no of courses mapped: 18 Target level attained Although, target level is attained, the following actions are made in order to sustain this attainment level.
ACTIONS i. An user-friendly GUI based on MATLAB has been developed. ii. Make students use Aspen HYSYS (A Process simulation software) for all case studies to improve their understanding on how each subject in Engineering Curriculum are integrated iii. Microsoft-Excel based macro for Newton Raphson method for solving Equation of state problems to find the phase of a substance or a mixture at a given temperature and pressure. iv. Use Multiple Linear Regression for obtaining kinetic rate parameters in heterogeneous reactions.			
PSO 2 : Capability to design or develop effective and efficient chemical processes incorporating economic, environmental, social, health, safety and sustainability aspects			
PSO 2	0.7	0.86	Students lack in understanding the integrated approach for design of a process / equipment. Further, students lack in discipline and ethics to followed in the industry after their employment. There is a need for the students to understand the contemporary societal needs in the areas of food, health, safety, hygiene, energy security, and economic empowerment. Total no of courses mapped: 18 Target level attained Although, target level is attained, the following actions are made in order to sustain this attainment level.
Action Taken : i. To aid in better fundamental understanding of complex systems which require more time from students to investigate complex problems, projects were introduced as part of continuous assessment, which allow students to spend more time in learning the complex problems, especially for non-isothermal design. ii. For Multi-input and Multi-output (MIMO) problems in Process Control, which involves multiple transfer functions and multiple manipulating variables were given as course projects, which enables the students for better understanding of the problems.			
PSO 3 : Competence to practice or apply chemical engineering principles, communication and otherskills in a wide range of industrial, academic and professional employment areas			
PSO 3	0.7	0.87	To inculcate ethics, good interpersonal relationships, ability to communicate, leadership and project management. Students have visited several industries and attended several academic activities. Total no of courses mapped: 18 Target level attained Although, target level is attained, the following actions are made in order to sustain this attainment level.
Action taken: i. Workshops and seminars are conducted to inculcate ethics, good interpersonal relationships, ability to communicate effectively, leadership qualities and project management. ii. Keeping in point of Industry 4.0, skill oriented courses are introduced in the curriculum (R20 regulations) which produce the graduates as per the needs of Industry iii. More emphasis is given to understand the safety, environmental & Social aspects of process Industries & take up collaborative projects for their professional growth. iv. Students are motivated to take up the real life problems during the project work with the focus on industrial pollution, its effects and proper remedies through usage of modern software and equipments. v. Students are encouraged to coordinate with Innovation and Entrepreneurship cell of the Institute to develop entrepreneurship skills Academic and Entrepreneurship workshops and conferences are being organized frequently to share the concerns of the society with emphasis on entrepreneurship			

9 STUDENT SUPPORT SYSTEMS (50)

Total Marks 50.00

9.1 Mentoring system to help at individual level (5)

Total Marks 5.00

9.1 Mentoring system to help at individual level

Mentoring System:

In order to take personal care of individual student, a faculty (proctor) is assigned with 20 students, who will be a mentor for four years of students stay in the Institute. The mentor offers guidance to the students while selecting electives, project work, internships and any other help the students may need and serve as local guardian. Mentor act as a single window information source for the parents. Mentors also identify the strength and weakness of the students and provide counselling accordingly. Mentors also maintain the academic records of their students. All the students and their parents have been benefited from this system.

Table.9.1. Details of mentoring system

S.No	Department	Number of faculty mentors	Number of students per mentor	Frequency of meeting
1	Civil Engineering	14	20	Monthly
2	Electrical & Electronics Engineering	20	20	Monthly
3	Mechanical Engineering	27	20	Monthly
4	Electronics & Communication Engineering	15	20	Monthly
5	Computer Science & Engineering	18	20	Monthly
6	Chemical Engineering	14	20	Monthly

Monitoring System:

A team of faculty members constituted comprising of senior faculty members from all departments. This team is assigned with responsively of monitoring students at hostels between 8pm to 10pm. This enables faculty to interact with the students at individual level. Faculty members with department wise interact with the allotted students twice or once in every month by giving the prior information. Girl students are allotted to the women faculty members and boys are allotted to the male faculty members.

From the various observations the Mentor-mentee process plays a very important role in the student community in terms of individual development as well as group level development. Students are very much satisfied with the suggestions given by the faculty members time to time.

Faculty Allocation, Counselling form (Sample copy):

**JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS) ANANTHAPURAMU
DEPARTMENT OF ELECTRICAL ENGINEERING**

Date: 19/01/2022

Sub: I B.Tech – I Semester – Mentors and Counsellors – Nomination of Teaching Staff for the academic year 2021-22 – Reg.

The nomination of teaching staff as Mentors and Counsellors for I B.Tech - I Semester is as follows:

B. Tech(2021)

S. No.	Name of the Mentor and Counselor	Roll No. of Students
For Girls:		
1.	Dr. P. Sujatha	21001A0201,205,207,210,212,213,216,217,218 ,219, 220 (11)
2.	Dr. N. Visali	21001A0222,229,231,234,240,243,244,245,246, 248, 249 (11)
3.	Dr. R. Kiranmayi	21001A0250,251,252,254,255,256,257,258,260,261,265(11)
For Boys:		
4.	Sri. S. Sridhar	21001A0202,203,204,206,208,209,211,214,215,221, 223 (11)
5.	Dr. M. Anka Rao	21001A0224,225,226,227,228,230,232,233,235 , 236, 237 (11)
6.	Dr. M. Ramasekhara Reddy	21001A0238,239,241,242,247,253,259,262,263,264,266 (11)

All the members are requested to conduct a meeting with allotted students twice in a semester and record the points raised by the students and counsel them according to the problems.

HEED

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING (Autonomous), ANANTHAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
COUNSELLING FORM**

1. Name of the Student : Busireddy Susmitha Reddy
 2. SAMCET Rank : 60308
 3. Admission Number : 18001A0087
 4. Date of Birth : 20/04/2001
 5. Reservation if any: No Scholarship if any: Yes (LVD)
 6. Family Particulars :

Relationship	Name	Occupation	Yearly Income (₹)	Phone No. (9) / Mobile
Father	Busireddy Chenna Subba Reddy	Driver	70,000	798164170
Mother	Busireddy Ramadevi	Housewife	Nil	7799345786
Brothers	Busireddy Sural Kumar Reddy	Student	Nil	7093728909
Sisters	Nil	Nil	Nil	--

7. Academic Record

Degree	S.S.C.	Diploma / Intermediate	B.Tech.													
			SI	IS	SI	IS	SI	IS	SI	IS	SI	IS				
School/ University	Zwart	St. Shroff's	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA	JNTUA
Year of Passing	2018	2018	2018	2018	2020	2020	2021	2021								
Grade / Mark	84.6	74.2	7.08	8.16	7.65	7.89	7.93									

8. Hostel Address / Local Address

Room No. / Hostel Name	I Year	II Year	III Year	IV Year
1-132		2-210	3-013-a	

9. Parent's Address

10. Strengths and weaknesses

11. Objective / Goals

12. Plan of Action to address Objectives / Goals

Working on the skills

B. Susmitha Reddy
Signature of the student

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY COLLEGE OF ENGINEERING ANANTAPURAMU
DEPARTMENT OF CHEMICAL ENGINEERING
STUDENT COUNSELLING / MENTORING
(AY- 2021-22)**

Mentor and counsellor: Mrs. H. Rohana Arora
 The following students are enrolled on: 09/01/2022

S. No.	Admission No.	Name of Student	Signature of Student
1.	18001A0087	A. Subal Das	A.R.S.
2.	18001A0087	S. Subashini	S.S.
3.	18001A0087	S. Subashini	S.S.
4.	18001A0087	N. Nishitha Reddy	N.R.S.
5.	18001A0087	M. Anand Prasad	M.A.P.
6.	18001A0087	M. Anand Prasad	M.A.P.
7.	18001A0087	M. Anand Prasad	M.A.P.
8.	18001A0087	M. Anand Prasad	M.A.P.
9.	18001A0087	M. Anand Prasad	M.A.P.
10.	18001A0087	M. Anand Prasad	M.A.P.
11.	18001A0087	M. Anand Prasad	M.A.P.
12.	18001A0087	M. Anand Prasad	M.A.P.
13.	18001A0087	M. Anand Prasad	M.A.P.
14.	18001A0087	M. Anand Prasad	M.A.P.
15.	18001A0087	M. Anand Prasad	M.A.P.
16.	18001A0087	M. Anand Prasad	M.A.P.
17.	18001A0087	M. Anand Prasad	M.A.P.
18.	18001A0087	M. Anand Prasad	M.A.P.

Signature of the Counsellor

The Specific Support (or) Services/Facilities Available:

• **Alumni Connect**

Alumni of the Institute have been involved very actively in the process of Career advancement of the current students. Our Distinguished Alumni have been very proactive and deliver Lectures regarding student requirements of career building. Every month Alumni with varying expertise in industry, academia and successful entrepreneurship achievements are invited to have face to face interaction and deliver lectures related to their specific areas.

• **Exposures of students to other institution of higher learning / corporate intuitions**

The students are exposed to the current trends in the industry by arranging guest lecture from the reputed institution and industries. The students are also encouraged to take up the in-plant training in the industry to get the hands-on experience about the current technology in the industries. The institute arranges for industrial visits to the students to get first-hand information about the industries and their technologies.

- **Student's Grievances Redressal**

Grievances accepted both in offline and online mode are presented before the Coordinator, HOD and Principal. The concerned authority shall make an effort to solve the problem and redress the grievance informally but if he does not succeed in this, a grievance committee shall be formed, the composition of which shall depend on the grievance. The committee shall look in to the grievance objectively and having due regard to the rules and the institutional and academic goals, recommend appropriate action to redress the grievance.

- **Anti-Ragging Committee**

Anti-Ragging committee headed by Principal, Vice-Principal, Faculty members and Student committee members is in place since long. Sign Boards have been put up specifically for this purpose all over the campus with strict warnings of not indulging in any such activity which would be considered as Ragging. Anti-ragging measures are taken in the Institute campus and hostels.

9.2 Feedback analysis and reward /corrective measures taken, if any (10)

Total Marks 10.00

9.2 Feedback analysis and reward /corrective measures taken, if any

- Feedback collected for all courses (Yes/No): **YES**

Feedback through mentoring system: Mentors collect grievance from the students during the meeting. The same will be conveyed to the concerned authorities for appropriate action.

Feedback at the end of the semester:

- At the end of the semester, the students are asked to give their feedback through a survey for all the courses. This is made mandatory. The feedback information is consolidated and the points of concern are discussed with the faculty by the feedback evaluation committee and the faculty members are asked to give reasons and the corrective actions. The indices such as opportunity for interaction, critical thinking, evaluation process and clarity of teaching are used for the measuring quality of teaching and learning.
- The Institute is having a well-defined student feedback and analysis system.

Different types of feedback systems are available in the institution. Some of them are:

Faculty feedback: It will be collected for every course in every semester

Course end survey: After completion of course in every semester (on course outcomes)

Student exit survey: Collected every year from the graduated students (Final year students)

Alumni Survey: Every year from Alumni of the institution (Batch wise)

Employer Survey:

Collected form recruiters about our students performance

Parents Survey: Collected every year from parents about their satisfaction level

Participation in feedback:

From the collected data, it is observed that on an average 95% of the students participated in the faculty feedback, course end survey and exit survey. 60% of alumni participation is observed in the Alumni feedback, employer survey and parents survey.

Sample faculty feedback template:

FACULTY FEEDBACK REPORT		
Department : CSE		
Class : BTECH CSE IV year II sem (2018-2019)		
Subject : OPTIMIZATION TECHNIQUES		
Faculty :YSAMBRESH BEGUM		
OVERALL PERCENTAGE : 86.19		
S.No	Faculty	Percentage(%)
1	Teacher comes to the class on time	97.01
2	Teacher speaks clearly and audibly	79.38
3	Teacher plans lesson with clear objective	80
4	Teacher has got command on the subject	80
5	Teacher writes and draws legibly	96.13
6	Teacher asks questions to promote interaction and effective thinking	97.5
7	Teacher encourages ,compliments and praises originality and creativity displayed by the student	80
8	Teacher is courteous and impartial in dealing with the students	79.69
9	Teacher covers the syllabus completely	79.69
10	Teacher evaluation of the sessional exams answer scripts ,lab records etc is fair and impartial	96.13
11	Teacher is prompt in valuing and returning the answer scripts providing feedback on performance	97.01
12	Teacher offers assistance and counseling to the needy students	79.38
13	Teacher imparts the practical knowledge concerned to the subject	79.69
14	Teacher leaves the class on time	79.38

Graduate Exit survey:

JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAM
DEPARTMENT OF CHEMICAL ENGINEERING
SRAGATEL EAST CAMPUS
Batch - 2018 - 2019

Student name: A. Balaji
 Year of graduation: 2019
 After graduation, I am/ have

Vision & Mission

Vision:
 To become a globally recognized Chemical Engineering program equipped with excellence in education, training, research and consultancy in Chemical Engineering and to serve as a valuable resource for industry and society.

Mission:

- To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.
- To develop infrastructure that promotes internationally recognized research, creativity and an entrepreneurial culture.
- To foster ethical leadership and activities that support the administration, advancement, governance and regulation of chemical engineering education and the engineering profession.
- To undertake collaborative program/consultancy works which provide opportunities for long - term interaction with academic, industry and other research organizations.

Sl. No	Question	Highly Satisfied (1)	Medium Satisfied (2)	Satisfied (3)
1	An ability to apply the knowledge of Mathematics, Science, Engineering and Fundamentals for understanding and solving of complex Engineering problems in Chemical Engineering.			✓
2	Be capable of designing and conducting experiments and to able to analyze and interpret data.			✓
3	An ability to design systems, components, and processes to meet desired needs applicable to Chemical Engineering within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.			✓
4	An ability to function effectively as an individual, as a member or leader in diversified teams and multidisciplinary areas.			✓
5	Ability to identify, formulate, and solve Chemical			✓

6	Engineering related problems for understanding of professional and ethical responsibility to the chemical engineering profession and to society at large.			✓
7	Communicate effectively by conveying technical material through both formal written medium and through oral presentations.			✓
8	To attain broad education necessary to understand the impact of chemical engineering related solutions in a global, economic, environmental and societal context.			✓
9	An ability to recognize the need for continuous professional development through lifelong learning.			✓
10	Ability to possess knowledge of contemporary chemical engineering related issues.			✓
11	An ability to use the techniques, skills and modern engineering tools necessary for chemical engineering practice.			✓
12	Ability to design, analyze and control physical and chemical processes (Project Management and Finance).			✓
13	Ability to model, simulate and optimize Chemical Engineering problems.			✓
14	Capability to design or develop effective and efficient chemical processes incorporating sustainable, environmental, social, health, safety and manufacturability.			✓
15	Competence to practice or apply Chemical Engineering principles, communication and other skills in a wide range of industrial academic and professional employment area.			✓
16	PEO 1: To prepare the students for successful career in industry sector or to go for postgraduate studies.			✓
17	PEO 2: To provide students with Fundamental Chemical Engineering skills required for the workforce including knowledge of Chemical and Allied Engineering techniques and the ability to utilize science, mathematics and engineering principles to analyze and solve problems, which are most essential to success.			✓
18	PEO 3: To provide students with professional skills necessary to be effective and successful in the modern workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professional conduct.			✓

Alumni Survey:

JNTUA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAM
DEPARTMENT OF CHEMICAL ENGINEERING
Alumni Survey Form

Name of the Alumni: A. Balaji
 Batch: 2018-19

Vision & Mission

Vision:
 To become a globally recognized Chemical Engineering program equipped with excellence in education, training, research and consultancy in Chemical Engineering and to serve as a valuable resource for industry and society.

Mission:

- To provide students with broad curriculum in the basic sciences, process systems and design, unit operations and modern experimental and computing techniques to make them competent and practicing chemical engineers without compromising professional ethics and moral values.
- To develop infrastructure that promotes internationally recognized research, creativity and an entrepreneurial culture.
- To foster ethical leadership and activities that support the administration, advancement, governance and regulation of chemical engineering education and the engineering profession.
- To undertake collaborative program/consultancy works which provide opportunities for long - term interaction with academic, industry and other research organizations.

Sl. No	Competencies	Highly satisfied (1)	Medium Satisfied (2)	Satisfied (3)
1	Engineering knowledge: Apply the knowledge of Mathematics, Science, Engineering and Fundamentals for understanding and solving of complex Engineering problems in Chemical Engineering.	✓		
2	Problem analysis: Capable of designing and conducting experiments and to able to analyze and interpret data. Ability to ensure a suitable process and analyze results.		✓	
3	Design/Development of solution: Design solutions for complex engineering problems and design systems components or processes that meet the specified needs applicable to Chemical Engineering within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.		✓	
4	Conduct investigations of complex problems: Function effectively as an individual, as a member or leader in diversified teams and multidisciplinary settings.		✓	
5	Modern tool usage: Identify, formulate, review research literature, and analyze complex Chemical Engineering related problems.		✓	
6	The engineer and society:		✓	

7	An understanding of professional and ethical responsibility to the chemical engineering profession and to society at large.			✓
8	Environment and Sustainability: Communicate effectively by conveying technical material through both formal written medium and through oral presentations.			✓
9	Ethics: To attain broad education necessary to understand the impact of chemical engineering related solutions in a global, economic, environmental and societal context.			✓
10	Individual and team work: Recognize the need for, and have the preparation and ability for continuous professional development through lifelong learning.			✓
11	Communication: Ability to possess knowledge of contemporary chemical engineering related issues.			✓
12	Life-long learning: An ability to use the techniques, skills, and modern engineering tools necessary for chemical engineering practice.			✓
13	Project management and finance: Ability to design, analyze and control physical and chemical processes (Project Management and Finance).			✓
14	Fundamental knowledge: Ability to model, simulate and optimize Chemical Engineering problems.			✓
15	Design & Modeling: Capability to design or develop effective and efficient chemical processes incorporating sustainable, environmental, social, health, safety and manufacturability.			✓
16	Lifelong knowledge: Competence to practice or apply Chemical Engineering principles, communication and other skills in a wide range of industrial academic and professional employment area.			✓
17	PEO 1: To prepare the students for successful career in industry sector or to go for postgraduate studies.			✓
18	PEO 2: To provide students with the necessary Chemical Engineering skills required for the workforce including knowledge of Chemical and Allied Engineering techniques and the ability to utilize science, mathematics, and engineering principles to analyze and solve problems, which are most essential to success.			✓
19	PEO 3: To provide students with professional skills necessary to be effective and successful in the modern workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professional conduct.			✓

Industry visit, discuss with tick mark "X" in the appropriate box.

1) How would you rate your overall satisfaction with your preparation to become an engineer?
 Not Satisfied Little Satisfied Satisfied Very Satisfied

2) In general, the department has provided a quality academic programme?
 Poor Good Very Good

Employer feedback:

Employer Feedback Form

2021 - 2022 Date: 2nd Sep 2022

Name: M S Pavan Prakash Designation: Assistant Consultant, Campus Lead

Organization: Tata Consultancy Services Ltd. Mob. No: 9704879414

Email id: sriram.pprakash@tcs.com

Please select one option for every description if you have a scope to evaluate:

Sl. no	Question	Highly Satisfied [3]	Moderately Satisfied [2]	Satisfied [1]	Not Satisfied [0]
1	Confidence in applying concepts of Mathematics and engineering fundamentals in solving complex problems		2		
2	Ability to identify, formulate, review research literature to analyze complex engineering problems and give conclusions		2		
3	Ability to design the system components that meet the specified needs with respect to public health and safety		2		
4	Ability to use the knowledge obtained by research to analyze, interpret the data, synthesize the information to provide valid conclusions in real time.		2		
5	Ability to learn appropriate techniques and IT tools (outside the formal curriculum) required to solve real time problems	3			
6	Ability to assess societal, health, safety, legal and cultural issues	3			
7	Ability to work for the sustained development of society by providing professional engineering solution to the societal problems		2		
8	Ability to commit to professional ethics and responsibilities	3			
9	Ability to work individually as well as in groups in multidisciplinary environment.	3			
10	Ability to communicate effectively on complex engineering activities, comprehend, write effective reports and design documentation and make effective presentations and give and receive clear instructions.	3			
11	Ability to apply the knowledge of engineering and management principles learnt to the work as a member and leader in the team while managing projects.		2		
12	Ability to engage in independent and life-long learning in the context of technological change				

Figure. 3.3.1b Employer feedback format.

The process to compute PO attainment using employer feedback is

- Collect the feedback form from employers where students are placed.
- Compute PO attainment using the formula

$$PO \text{ attainment} = \frac{(3 * \text{no. of employers responded as "Highly satisfied"} + 2 * \text{no. of employers responded as "Moderately Satisfied"} + 1 * \text{no. of employers responded as "Satisfied"})}{3 * \text{total number of employers responded.}}$$

Corrective Measures:

Basis of Reward / Corrective Measures, if any:

- In the department faculty who get above 90% are favoured for their remarkable efforts and are duly recognized at the time of Semester value determinations.
- In the department faculty who get 60-89% are liked for their properly efforts and requested to improvise their darkish regions (if any).
- Feedback is taken from students about the effectiveness of curriculum to meet the course outcomes. These feedbacks are used during the curriculum revision.
- Feedback is taken from graduating students about the effectiveness of curriculum to meet the programme outcomes. These feedbacks are used during the curriculum revision.

Sample copy of corrective measures:

Date of Meeting: 23-11-2021

Department Assessment Committee

AGENDA: Discussion of faculty feedback provided by the students and through PO attainment

1. Dr. N. Vishal, HECED
2. Dr. M. Vijaya Kumar
3. Dr. P. Sujatha
4. Dr. R. Kishanraj

MINUTES:

1st Item: Meeting is conducted for 21/11/2021 for 1st Sem and 2nd Sem together

2nd Item: Dr. M. Rathiah and Sri. P.A. Raghavakumar, were called for meeting and various suggestions were given to improve their performance.

3rd Item: Dr. M. Rathiah, dealing II B.Tech I Sem is found to have issue with overall performance.

4th Item: Sri. S. Sridhar, Sri. M. Anka Rao were appreciated for their performance during the meeting.

5th Item: Dr. P.A. Raghavakumar, dealing II B.Tech II Sem is found to have an issue with overall performance.

Date: 18-5-2019

Name of the faculty: V. Nazhat Akhter

Topic: Fundamentals of sub programs, Syntax and semantics

Expectations:

1. Maintain clarity in speech
2. Make teaching innovative by technology.
3. Answer the questions properly.

HCSIED

1. [Signature]
2. [Signature]
3. [Signature]
4. [Signature]
5. [Signature]

9.3 Feedback on facilities (5)

Total Marks 5.00

9.3. Feedback on facilities

- Students give feedback and register their grievances with the mentors on regular basis.
- Mentors make sincere effort to resolve the grievances.
- Students give feedback through suggestions boxes.
- Students also give feedback about the Institute during the AT HOME

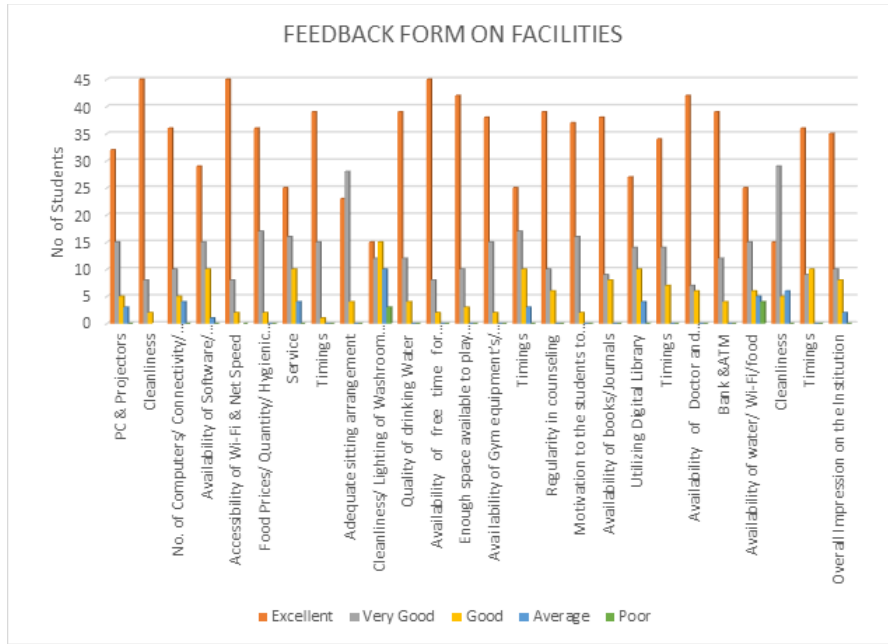
(Farewell to final year students) function.

Sample Copy of facility feedback:

DEPARTMENT FEEDBACK FORM		
Department : CSE Class : BTECH CSE I/ year II sem (2018-2019) CRC : Y.SAMREEN BEGUM		
S.No	Facility	Feedback
1	Class Room-PC & Projectors & Smart Boards	<input checked="" type="radio"/> Excellent <input type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
2	Class Room-Cleanliness	<input type="radio"/> Excellent <input checked="" type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
3	Computer Labs-Availability of Computers/ Connectivity/ Anti- Virus	<input type="radio"/> Excellent <input type="radio"/> Very Good <input checked="" type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
4	Computer Labs-Availability of Software/ Maintenance	<input checked="" type="radio"/> Excellent <input type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
5	Computer Labs-Separate Seminar hall setup with MIC	<input type="radio"/> Excellent <input checked="" type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
6	Wi-Fi and Internet Facility-Accessibility of Wi-Fi & Net Speed	<input type="radio"/> Excellent <input type="radio"/> Very Good <input checked="" type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
7	Wi-Fi and Internet Facility-High Speed Servers	<input checked="" type="radio"/> Excellent <input type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
8	RestRoom -Cleanliness/ Lighting of Washroom all the time	<input type="radio"/> Excellent <input type="radio"/> Very Good <input type="radio"/> Good <input checked="" type="radio"/> Average <input type="radio"/> Poor
9	Drinking water-Quality of drinking Water	<input type="radio"/> Excellent <input checked="" type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
10	Extra-Curricular activities-Separate Room for Icon	<input type="radio"/> Excellent <input type="radio"/> Very Good <input checked="" type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
11	Mentoring System-Regularity in counseling	<input checked="" type="radio"/> Excellent <input type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
12	Mentoring System-Motivation to the students to participate in Co-curricular and Extra- curricular activities	<input type="radio"/> Excellent <input checked="" type="radio"/> Very Good <input type="radio"/> Good <input type="radio"/> Average <input type="radio"/> Poor
13	Department Library-Availability of books/Journals	<input type="radio"/> Excellent <input type="radio"/> Very Good <input type="radio"/> Good <input checked="" type="radio"/> Average <input type="radio"/> Poor
14	Department Library-Books are issued according to Timings	<input type="radio"/> Excellent <input type="radio"/> Very Good <input type="radio"/> Good <input checked="" type="radio"/> Average <input type="radio"/> Poor
15	Overall Impression on the Department	<input type="text" value="good"/>

DEPARTMENT FEEDBACK REPORT		
Department : CSE Class : BTECH CSE I year II sem (2018-2019)		
S.No	Facility	Percentage(%)
1	Class Room-PC & Projectors & Smart Boards	93.33
2	Class Room-Cleanliness	93.33
3	Computer Labs-Availability of Computers/ Connectivity/ Anti-Virus	80
4	Computer Labs-Availability of Software/ Maintenance	93.33
5	Computer Labs-Separate Seminar hall setup with MIC	80
6	Wi-Fi and Internet Facility-Accessibility of Wi-Fi & Net Speed	80
7	Wi-Fi and Internet Facility-High Speed Servers	86.67
8	RestRoom -Cleanliness/ Lighting of Washroom all the time	73.33
9	Drinking water-Quality of drinking Water	80
10	Extra-Curricular activities-Separate Room for Icon	93.33
11	Mentoring System-Regularity in counseling	80
12	Mentoring System-Motivation to the students to participate in Co-curricular and Extra- curricular activities	93.33
13	Department Library-Availability of books/Journals	93.33
14	Department Library-Books are issued according to Timings	86.67

Analysis:



9.4 Self-Learning (5)

Total Marks 5.00

9.4. Self-learning

The college developed an academic system which presents a curriculum which is having flexibility without prejudice to the fundamentals of any subject which are required.

- The curriculum offers courses like Seminars, project work where the topics are self-selected or based on guide suggestion. The component of self-learning is evaluated in these courses.
- Every student has to submit a home assignment in all the courses as per teacher's requirement and some tasks are given beyond syllabus to encourage outstanding students to develop their self-learning capabilities.
- Online access to e-learning resources, NPTEL and MOOC courses.
- As per the academic regulations, it is mandatory for the students to perform at least one certification course through MOOC
- Students are engaged to enrol for NPTEL and MOOC programmes, during the previous academic year. Good number of students enrolled for many of the courses. Many students have received course completion certificates.
- Students are encouraged to present papers in International/ national conferences.
- Students also participate in professional society activities like ASME, IChE, IEEE, ISTE etc.,
- Every year the institution arranges Industrial visits for the students so that they can learn about the Industrial work environment and also can enhance their knowledge of their discipline.
- Expert lectures from Industry/outside resource person, quizzes, competitions, seminars and concessionary celebration.
- In the institution and hostels Wi-Fi facility is arranged to access learning content.
- Students are accessible to Digital library services also.

Some of the activities beyond the curriculum:

a) Webinars arranged:

S. No.	Activities of Professional Societies/Chapters	Date
1.	Invited talks by Mr. Ravindranadh Kacharam, Senior Manager, SciTech Patent Art Services Pvt Ltd, Hyderabad on Intellectual Property Rights and Patenting	26 th August, 2022
2.	Invited talks by Prof. Altaf Hussain, Director, Lord's Institute of Engineering, Hyderabad on Chemical Engineering Applications in Real life	27 th August, 2022
3.	2005 batch Alumni students interacted with current students in the department	06 th August, 2022
4.	Invited talks of Dr. Manohar Kakunuri on Recent Advances in Rechargeable Battery Technologies	23 rd July, 2022
5.	FUSION – 2K22	26 th April, 2022
6.	Dr. S Altaf Hussain, Hyderabad invited talks on VEDIC and Chemical Engineering Health Systems	26 th March 2022
7.	Industrial Visit to SRAAC (Sree Rayalseema Alkalies and Allied Chemicals Ltd)	19 th March, 2022
8.	Sri Kommineni Mallikarjuna invited talks on Importance of Process Simulation for Chemical Engineers	2 nd March 2022
9.	Dr. D K Panda Joint Director, National Council for Cement and Building Materials (NCB), Indian Cement Industry Scenario in Virtual mode	6 th April 2021
10.	Chemical Engineers' Meet To discuss Recent Innovations in Chemical Engineering Every 4 th Saturday (virtual mode)	27 th February 2021

11.	Chemical Engineers' Meet To discuss Recent Innovations in Chemical Engineering Every 4 th Saturday (virtual mode)	23 rd January 2021
12.	Dr. Prashanth Kumar Gupta, Asst Professor, IIT Jodhpur, Rajasthan, invited talks on Electrochemical Energy storage devices in Virtual mode	4 th January 2021

b) Workshops conducted:

S. No.	Name of the Programme	No. of participants	Date
1.	Diagonistic testing in a Post – COVID world enabled by microfluidic technologies	100	3 rd June, 2022
2.	Laboratory and Workshop learning Skills in conducting practical classes	50	15 th – 20 th Feb, 2021
3.	Mathematical Modelling and Simulation for Scientists & Engineers	275	24-02-2020 to 07-03-2020
4.	Materials for energy conversion & storage devices	150	27 th – 28 th December, 2019
5.	Two – Day Workshop on "Waste Management"	250	13 th – 14 th November, 2019
6.	Three Day National Workshop on "Electro – Ceramics: Synthesis: Characterization and Device Applications" under TEQIP – III	170	11 th – 13 th September, 2019
7.	FUSION 2K19	300	29 th March, 2019
8.	Three – Day Workshop on Experimental Approaches & Instrumental Aspects in Analytical Chemistry	150	6 th – 8 th February, 2019
9.	TECH FEST – 2018	300	27 th January, 2018
10.	Fundamentals and usage of X-Ray Diffraction (XRD)	150	2016-17
11.	One – Day Workshop on Self – Assembly of Soft Materials and Their Applications in Energy	150	01 st September, 2017

c) Industrial Visits:

S. No	Name of the Industry/R&D Organization	Date of visit	No of Participants	Year of Students
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1	JSW Steels, Bellary, Karnataka	9 th Feb 2018	56	III BTech
2	Amar Raja Batteries, Tirupati	2 nd Feb 2018	60	II BTech
3	Berger Paints, Hindupur	18-02-2018	46	IV BTech
4	Chocolate Factory, Munnar	21-02-2018	46	IV BTech
5	L & T Cement, Kochi	22-02-2018	46	IV BTech

d) List of students certified through MOOC:

S. No.	Course	Name	Admin. No.	%	Weeks	Subject
1	NPTEL	R Yuvaraj	18001A0802	70	4	Effective Writing
2	NPTEL	A Neelima	18001A0805	64	4	Mechanical Operation
3	NPTEL	G Naga Charan Sai Yadav	18001A0806	61	4	Effective Writing
4	NPTEL	SM Shameer Hussain	18001A0807	56	4	Mechanical Operation
5	NPTEL	M Naga Ganesh	18001A0809	83	4	Effective Writing
6	NPTEL	P Yamuna	18001A0811	72	4	Mechanical Operation
7	NPTEL	G Swetha	18001A0812	72	8	ecology & Environment
8	NPTEL	S Eswar Naik	18001A0814	57	4	Effective Writing
9	NPTEL	B Surya Kiran Kumar	18001A0816	63	4	Effective Writing
10	NPTEL	P Achish	18001A0819	65	4	Adiabatic two Phase Flow & Flow Boiling In Microchannel
11	NPTEL	M Divya Lakshmi Pravallika	18001A0820	51	8	Renewable Energy Engineering : solar, Wind And Biomass Energy System
12	NPTEL	D Yamuna Reddy	18001A0821	97	12	Mechanical Unit Operation
13	NPTEL	B Vijay Kumar	18001A0822	75	4	Mechanical Operation
14	NPTEL	B Chandrika	18001A0824	69	12	The joy of Computing Using Python
15	NPTEL	D Manoj Kumar	18001A0826	60	4	Mechanical Operation
16	NPTEL	D Dheeraj	18001A0829	68	4	Mechanical Operation

17	NPTEL	B Tejasri	18001A0835	56	4	Mechanical Operation
18	NPTEL	I Abhilash	18001A0836	62	4	Mechanical Operation
19	NPTEL	N Raghava Praveen	18001A0837	67	4	Mechanical Operation
20	NPTEL	C Karunakar	18001A0838	69	4	Mechanical Operation
21	NPTEL	M Srujana	18001A0839	72	4	Visual Communicatin Design For digital Media
22	NPTEL	A Devi	18001A0840	75	4	Mechanical Operation
23	NPTEL	M Thrisha	18001A0841	67	4	Mechanical Operation
24	NPTEL	N Ramya	18001A0842	68	4	Mechanical Operation
25	NPTEL	G V Sreevanya	18001A0843	68	4	Mechanical Operation
26	NPTEL	K Rishi Kumar	18001A0844	68	4	Effective Writing
27	NPTEL	G Sai Jyothi Jeythisha	18001A0845	57	4	Mechanical Operation
28	NPTEL	M Manjunath	18001A0846	62	4	Effective Writing
29	NPTEL	K Youmakeswara	18001A0848	62	4	Effective Writing
30	NPTEL	T Prudhvi Teja	18001A0849	71	4	Mechanical Operation
31	NPTEL	C Likitha	18001A0850	67	4	Mechanical Operation
32	NPTEL	G Sai Vara Prasad	18001A0851	65	4	Mechanical Operation
33	NPTEL	N Raaga Varshitha Reddy	18001A0855	69	4	Mechanical Operation
34	NPTEL	B Sumathi Reddy	18001A0857	51	4	Mechanical Operation
35	NPTEL	A Pradeep	19005A0801	53	4	Effective Writing
36	NPTEL	D Ramaya	19005A0803	78	4	Mechanical Operation
37	NPTEL	K Venugopal	19005A0804	55	4	Effective Writing
38	NPTEL	K Naveen	19005A0806	53	4	Effective Writing
39	NPTEL	N Naveen	19005A0807	54	4	Effective Writing
40	NPTEL	k Ravindra	19005A0809	55	4	Effective Writing

S. No.	Course	Name of the student	Admin. No.	Subject
1	COURSERA	T Sowmya	18001A0804	Oil & Gas Industry Operations and Markets
2	COURSERA	P Tharun	18001A0808	Programming Foundation With JavaScript, HTML and CSS
3	COURSERA	K Kavya	18001A0815	Oil & Gas Industry Operations and Markets
4	COURSERA	M Sai Upendra Reddy	18001A0825	Conflict Stress Management
5	COURSERA	P Ruchitha	18001A0854	Oil & Gas Industry Operations and Markets

6	COURSERA	Eshanka	18001A0861	Introduction to Petroleum Engineering
7	COURSERA	M Vidadhara Reddy	19005A0802	Conflict Stress Management

9.5 Career Guidance, Training, Placement (10)

Total Marks 10.00

9.5. Career Guidance, Training, Placement

A full- fledged Training and placement department was established in the year 1996 with an independent head.

The Placement Cell, J.N.T.U.A. College of Engineering, Ananthapuramu acts as an interface between industry and institution. It liaisons with various industrial establishments, corporate houses and culminates in to campus recruitment drives for the students.

The “TEAM PLACEMENTS” consists of a faculty representative for each department, one Student Placement Representative for each class, Staff coordinators led by placement Officer.

Details of Placement Officer:

Dr.J.Srinivasulu, Assistant Professor, Department of EEE.

Mobil Phone: 7382720327, Email Ids: placements.cea@jntua.ac.in ; placementjntucea@gmail.com

The main objectives of Placement and Training Cell are:

- To Provide Career Counselling and Guidance to the students.
- To identify the need of training to the students.
- To design and conduct training programs to the students.
- To establish relationship between industry and institution and to act an an interface between them.
- To organize guest lectures, awareness programs on latest technology being used at industry, through reputed industrialists and technocrats.
- To organize CRT programs and to contribute for skills development and personality development of the students.
- To invite industry and corporate recruiters and to co-ordinate and facilitate for the campus recruitment process.
- To communicate students regarding selection, serving offer letters and guiding the students in post selection activities reporting, joining, induction etc.,

The overall placement for the past FIVE years academic years is shown below in the table below.

S.No.	Particulars	Academic year				
		2019-20	2018-19	2017-18	2016-17	2015-16
1	Eligible Students	338	344	356	356	358
2	No. of Companies Visited	12	21	20	8	8
3	No. of Offers	163	176	195	249	226
4	No. of Students Placed	188	224	257	321	251
5	Percentage of Students Placed	56%	65%	72%	90%	70%

Training Programs organized:

S. No	Academic year	Organized through	Training Program/Title	Date
1	2015-16	TCS	Pre joining Session Program	22-05-15
2	2015-16	Infosys	Pre-Placement Training Program	21-07-15
3	2015-16	Career Path Solutions Pvt, Ltd	Soft Skill and Aptitude Campus Recruitment Training Program.	04-08-15 To 09-08-15
4	2015-16	NASSCOM	Awareness on IT/ITES Job Roles & Big Data Analytics.	20-08-15
5	2015-16	TCS	Employability skills and technology trends.	28-08-15
1	2016-17	ITEP	“Orientation programme on Awareness on ITEP” (International Test of English Proficiency)	19-02-16

2	2016-17	Speaker	Entrepreneurship Awareness Workshop	29-03-16
3	2016-17	College NTSA & NSS	Awareness on Oral hygiene and free Dental check up & free distribution of preventive medicine for sun stroke	13-04-16
4	2016-17	Infosys	Pre-Placement Talk	13-07-16
5	2016-17	Accenture Pvt, Ltd	Accenture Career Day	28-07-16
6				
	2016-17	Zestech Global Pvt, Ltd, Bangalore.	Soft Skill and Aptitude Campus Recruitment Training Program.	23-07-16 To 08-08-16
7	2016-17	Zestech Global Pvt, Ltd, Bangalore.	Mock Recruitment.	27-08-16
9	2016-17	Accenture Pvt, Ltd	Accenture Skill Building Training Program.	02-09-16
10	2016-17	Mount Point Technologies India Pvt, Ltd, Bangalore.	Awareness on IOT and M2M, Communications.	11-11-16
1	2017-18	APSSDC	IBM Registration Process for Certification Program.	04-03-17
2	2017-18	TCS	Interaction Session Program	08-03-17
3	2017-18	Accenture, Bangalore	MD Connect Program.	10-03-17
4	2017-18	Zestech Global Pvt, Ltd, Bangalore.	Soft Skill and Aptitude Campus Recruitment Training Program.	25-07-17 To 31-07-17
5	2017-18	IFIM	Interactive Session about Business Management	09-11-17
1	2018-19	TCS	TCS Post Offer Connect Session program.	03-04-18
2	2018-19	TCS	EngiNX Launch Event Program.	13-04-18
3	2017-18	TCS	TCS Enquode Code Vita 2018	17-05-18
4	2018-19	ABC Technology	Campus Placement Training Program	28-07-18
5	2018-19	TEQIP-III/NPIU	Basic Engineering & Life Skills.	08-08-18
6	2018-19	TEQIP-III/NPIU	Campus Placement Training Program	16-08-18 To 22-08-18
7	2018-19	REC	Webinar on Rural Electrification Corporation (REC) Innovation Platform.	02-11-18

8	2018-19	TEQIP-III/NPIU	Employability Skills Training Program	18-12-18 To 24-12-18
1	2019-20	TEQIP-III/NPIU	Guest Lecture on "Attitude for Business".	26-07-19
2	2019-20	TEQIP-III/NPIU	Guest Lecture on "Career Opportunities in Industries".	30-07-19
3	2019-20	Placement Cell	Guest Lecture on "Interview go: complied with live experiences".	21-08-19
4	2019-20	Cognizant Technologies	Interaction Session	09-01-20
5	2019-20	TEQIP-III/NPIU	Skill based Training.	20-01-20 to 14-03-20
6	2019-20	TEQIP-III/NPIU	Workshop on Artificial Intelligence and Data Science.	09-03-20 to 15-03-20
7	2020-21	Program Organized by Rubicon.	Online Training Program on "Employability Skills" under "Connect with Work" Program.	20-08-20 To 31-08-20
1	2021 - 22	International Campus Connect	Webinar on Higher Education in Abroad & Placement Assistance in USA	02-05-21
2	2021 - 22	Cognizant Technologies	Cognizant Alumni Connect Session Speaker : Mr. Kumara swamy (Director in Cognizant)	20-05-21
3	2021 - 22	Cognizant Technologies	Cognizant Leader Connect Session on Career Opportunities for IOT Skilled resources in the Healthcare space. Speaker : Mr. Raghavendra Kulkarni (Director Healthcare & Pharmacy Systems, Cognizant)	10-06-21
4	2021 - 22	ELEATION	Expert Lecture on Computer Aided Engineer. Speaker: Mr. Apoorv Bapat, (Founder & CEO, Eleation.)	22-06-21

Some of the Photographs related to Placement activities:**Internships attended by the students:**

S.No.	Name of the Student	Name of the Subject	Duration		Grade	Name of the Institute
			From	To		
1	GRIDDALURU SWETHA	Petroleum Refinery Engineering	12th may 2021	15th may 2021	A+	Indian Institute of Chemical Engineers
2	PULLOLLA YAMUNA	Chemical process technology	15th feb 2021	15 th april 2021	A	Indian Institute of Chemical Engineers
3	MOPURI NAGA GANESH	Six- sigma yellow belt	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers

4	PALEM THARUN	Computer Aided Engineering	31th may 2021	30th jun 2021	A	JNTUA College of Engineering
5	SHAIK MOHAMMED SHAMEER HUSSAIN	Six- sigma yellow belt	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
6	GALIBOYANA NAGA CHARAN SAI YADAV	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
7	A. NEELIMA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
8	THUMMALA SOWMYA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
9	RANGAPPA YUVARAJ	Petroleum Refinery Engineering	15th JULY 2021	30th aug 2021	A	JNTUA College of Engineering
10	K. MOKSHA SAI	MATLAB AND AUTOCAD 2D &3D	6th may 2021	26th jun 2021	A	JNTUA College of Engineering
11	K. MOKSHA SAI	MATLAB AND AUTOCAD 2D &3D	6th may 2021	26th jun 2021	A+	JNTUA College of Engineering
12	K. MOKSHA SAI	MATLAB AND AUTOCAD 2D &3D	26th jun 2021		A	JNTUA College of Engineering
13	CHEELA HAREESH	Chemical process technology	25th feb 2022	30th april 2022	A+	Indian Institute of Chemical Engineers
14	CHEELA HAREESH	SEO Foundations	Dec 31st 2020		A	LinkedIn Learning
15	CHEELA HAREESH	Online Marketing Foundations	dec 29th 2020		A	LinkedIn Learning
16	CHEELA HAREESH	Google Analytics Essential Training	dec 30 2020		A	LinkedIn Learning
17	Y. MITHIL KUMAR REDDY	Mechanical operations(NPTEL)	Feb-18	Mar-18	A	Indian Institute of Technology Roorkee
18	RUPA ARUNA	Mechanical operations(NPTEL)	Feb-18	Mar-18	A	Indian Institute of Technology Roorkee
19	KOTAKONDA MOKSHA SAI	Mechanical unit operations(NPTEL)	Jul-21	Oct-21	A	Indian Institute of Technology Guwahati
20	MANNURU SANDHYA	Mechanical unit operations(NPTEL)	Jul-21	Oct-21	A+	Indian Institute of Technology Guwahati
21	MANIGE KRISHNA KANKSHITH	Mechanical unit operations(NPTEL)	Jul-21	Oct-21	A+	Indian Institute of Chemical Engineers
22	SABHAVAT ESWAR NAIK	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
23	K.KAVYA	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
24	B.SURYA KIRAN KUMAR	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers

25	P.ACHISH	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
26	MALLELA DIVYA LAKSHMI PRAVALLIKA	Petroleum Refinery Engineering	8th May 2021	19th June 2021	A	Indian Institute of Chemical Engineers
27	DODDI YAMUNA REDDY	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	B+	Indian Institute of Chemical Engineers
28	BEERE VIJAY KUMAR	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
29	BALA CHANDRIKA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
30	M SAI UPENDRA REDDY	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	B+	Indian Institute of Chemical Engineers
31	DEVANA MANOJ KUMAR	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
32	DEVADASI DEERAJ	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
33	BHAOGARAJU TEJASRI	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
34	INAMADUGU ABHILASH	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
35	NELATURU RAGHAVA PRAVEEN	Petrochemical Engineering	8th May 2021	19th June 2021	A+	Indian Institute of Chemical Engineers
36	CHIRALA KARUNAKAR	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
37	MANDALA SRUJANA	BioChemical Engineering	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
38	DEVI	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
39	MUNGARA THRISHA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
40	NADIMINTI RAMYA	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
41	GV SREEVANYA	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
42	KUNAPA RISHI KUMAR RAJU	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
43	G. SAI JYOTHI JEYTHISHA	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
44	M.MANJUNATH	Petroleum Refinery Engineering	12th may 2021	15th July2021	A	Indian Institute of Chemical Engineers

45	KAREDDULA YOMAKESWARA	Computer Aided Engineering	31st may 2021	30th June 2021	A	JNTUA College of Engineering
46	THONDU PRUDHVITEJ	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
47	LIKITHA CHARUGUNDLA	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
48	GORANTLA SAI VARAPRASAD	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	B	Indian Institute of Chemical Engineers
49	P.RUCHITHA	BHARATHI CEMENT CORPORATION	5th April 2021	4 th May 2021		JNTUA College of Engineering
50	N. RAGAVARSHITHA REDDY	Chemical process technology	15th feb 2021	15th april 2021	A+	Indian Institute of Chemical Engineers
51	BUSIREDDY SUSMITHA REDDY	Chemical process technology	8th may 2021	15th June 2021	B+	Indian Institute of Chemical Engineers
52	ESHANKA WEERASINGHE	Computer Aided Engineering	31st may 2021	30th june 2021	A	Indian Institute of Chemical Engineers
53	ALLAMUDI PRADEEP	Chemical process technology	1st may 2021	30Ht may 2021	A	Indian Institute of Chemical Engineers
54	MURAM REDDY VIDYADHAR REDDY	Petroleum Refinery Engineering	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
55	DASARI RAMYA	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers
56	KARAMALA VENUGOPAL	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
57	KALIVELI NAVEEN	Petroleum Refinery Engineering	5th may 2021	30Ht may 2025	A	Indian Institute of Chemical Engineers
58	NARSING NAVEEN KUMAR	Chemical process technology	15th feb 2021	15th april 2021	A	Indian Institute of Chemical Engineers
59	KANDHALA RAVEENDRA	Petroleum Refinery Engineering	15th July 2021	30th Aug 2021	A	Indian Institute of Chemical Engineers

9.6 Entrepreneurship Cell

Total Marks 5.00

9.6. Entrepreneurship Cell

JNTUACEA has established an Entrepreneurship development cell in 2008. It is a non-profit organization established by the college that aims at manifesting the latent entrepreneurial spirit of the young students. E-Cell hosts various workshops, speaker sessions, innovative games, competitions for aspiring entrepreneurs and support them by providing necessary resources such as seed mentoring, consultancy and networking.

E-Cell Coordinator

Dr. B. Omprakash , Assistant professor in Mechanical Engg. Dept.

Mobile number: 9966562990, Email id: edpccell.cea@jntua.ac.in

Objectives:

- Since its inception the Cell has strived to imbibe the students with the skills and qualities required to become good entrepreneurs.
- The Cell has been encouraging the innovative ideas of students by providing technical support and introducing them to the appropriate change agents for further related interaction.

Functions:

- The Cell is an effective platform for the students to develop the entrepreneurial attitude as it arranges several Seminars and Workshops, some sponsored by DST, UCG etc., through which they provided with an opportunity to meet eminent Entrepreneurs and Government Officials
- Alumni, who have established their own Enterprise, are invited to share their experiences with the students regularly.
- Industrial visits are arranged for the Staff and Students.
- Faculty Development Programmes are organized for the College Staff to inspire the students to become the leaders in the society by inculcating the entrepreneurial spirit in them.

List of entrepreneurship programmes conducted:

S. No	Name of the Programme	Date	No. of Participants
1	Two-Days Workshop on "Design Thinking, Innovation & Startup"	14-10-2019 to 15-10-2019	120
2	One-Day Workshop on "Manthan - an Ideathon"	07-11-2019	50
3	Three Days Online FDP on "Entrepreneurship & Innovation"	20-01-2021 to 22-01-2021	70
4	Two Days workshop on "Agile Project Management: The journey for young corporates"	23-03-2021 to 24-03-2021	88
5	AVISHKAAR 2K22 & IBM Skills Build Job Readiness program	23 rd May 2022	150
6	An Innovation Journey: Idea to Business and Incubation Eco-system in India	14 th July 2022	200

List of Successful Entrepreneurs:

S. No.	Name of the Entrepreneur/Enterprise	Title of the Idea	Supported by	Date of registration at JNTUACEA
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1.	Jagaraspalli Aneesa Sultana	ASCRAFTSVILLA	JNTUA CEA	2016
2.	A. Sudheerkumar	https://jntucea.net/startup/ascraftsvilla/	JNTUA CEA	2017

Some of the Photographs:



9.7 Co-curricular and Extra-curricular Activities

Total Marks 10.00

9.7. Co-Curricular and Extra-Curricular Activities

Co-Curricular Activities:

A number of professional societies are functioning in the college which conducts regular programs. The list of student chapters of professional societies includes- IEEE, ISTE, IET, IChE. Students are encouraged and guided to participate in Quiz's at national and state level, symposiums and attending paper presentations conducted by other engineering colleges.

Extra-curricular activities:

Under Extra-curricular activities College have NSS and NCC units. The College has Three NSS units with 100 volunteers in each unit.

Recently One NSS unit of the College got State level best performance award for the year 2020-21 and National Award (Presidents award) for the year 2020-21.

NSS Program Officers:

Unit 1: Dr.K.Jitendra Gouwd, Assistant Professor, Electrical and Electronics Engineering, JNTUACE

Unit-II: Dr.M. Ramasekhar Reddy , Assistant Professor, Electrical and Electronics Engineering, JNTUACE

Unit-III: Mrs.D.Lalitha Kumari, Assistant Professor, Electronics and communication Engineering, JNTUACE

Programmes Organized under NSS:

S. No	Name of the event	Date	No of participants
1	Conducted "Telugu Day Celebrations" on the eve of Telugu Language Day.	29-08-2017	360
2.	Arranged a Lecture on "Importance of Yoga for the education", for the students of JNTUACEA	29-08-2017	360
3.	Conducted "Blood group checkup" camp in College dispensary, JNTUACE, Anantapur	31-08-2017	360
4	Arranged a Lecture on DIGILOCKER for the staff and students of JNTUACEA	01-09-2017	200
5	Conducted Personality Development Programme for the B.Tech Students	04-09-2017	1100 Approx
6	Arranged a Lecture on "Need for Good Governance and Growth of the Nation", for the students of JNTUACEA	06-09-2017	200
7	Arranged Seminar on the Occasion of International Day for Preservation of Ozone layer	16-09-2017	200
8	Blood Grouping Test	10-08-2017	360
9	National Unity Day (Rashtriya Ekta Diwas)	31-10-2017	350
10	Three day Workshop on Disaster Management and First Aid	09-01-2018 to 11-01-2018	45
11	Workshop on " Exams- Stress – Success	24-03-2018	200
12	World Health day	07-04-2018	50
13	Vana Mahothsavam	14-07-2018	1000
14	NSS Golden Jubilee year Celebrations	24-09-2018	350
15	Blood Donation Camp	05-12-2018	300
16	Special camp	02-03-2019 to 08-03-2019	50
17	Blood Donation Camp	28-03-2019	150
18	National Yoga Day	21-06-2019	200
19	World Environment Day	25-06-2019	100

20	Rally on "JAL SAKTHI ABHIYAN"	22-07-2019	100
21	Conducted "Organ Donation Day" on the eve of Telugu Language day.	13-08-2019	150
22	Rally on "FIT INDIA MOVEMENT"	29-08-2019	80
23	Conducted "Blood group checkup" camp for the first year students, JNTUACE, Anantapur	30-08-2019	360
24	Organized "Blood Donation Camp" in College dispensary, JNTUACE, Anantapur.	31-10-2019	120
25	Conducted "National Integration Day" at College Auditorium, JNTUACE, Anantapur	19-11-2019	300
26	Deputed students for National Integration Camp at Junagadh, Gujarat	06-01-2020 to 12-01-2020	12
27	Organized "Mega Health Camp" in College dispensary, JNTUACE, Anantapur	13-03-2020 & 14-03-2020	300
28	Arranged a lecture on "leadership and ethics"	24-09-2020	50
29	National Unity Day (Rashtriya Ekta Diwas)	31-10-2020	online
30	Organized District Youth Festival on behalf of ANSET, Anantapur	01-12-2020 to 05-12-2020	80
31	Organized National Youth Day	12-01-2021	15

S. No	Name of the Student	Roll No.	Date	Event and Place
1.	G.S. Nandini	18001A0204	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
2.	S. Sandhya	19005A0216	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
3.	M. Peddanna	18001A0244	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
4.	K. Jeswanth	19001A0244	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
5.	D. Vishnu Vardhan Reddy	19001A0243	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
6.	A. Sai Ushaswi	19001A0245	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
7.	D. Sai Bharath	19001A0204	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
8.	M. Jyosthna	20001A0225	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal

9.	Y. Mounika	20001A0248	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
10.	T. Charitha	20001A0215	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
11.	K. Ramya Sree	20001A0238	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
12.	E. Pooja Pranathi	20001A0221	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
13.	M. Geetha Anvitha	20001A0243	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
14.	KT. Bharath	20001A0226	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
15.	G. Archana	20001A0219	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
16.	P. Adharsh	20001A0262	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal
17.	R. Pravallika	20001A0211	24-03-22 to 30-03-22	Special Camp Prasannayapalli Village, RapthaduMandal

NCC Activities:

NCC Cell is very active in the college under the leadership of Lt. S. Sharada. 100 cadets are enrolled in the NCC group. Every year the cadets are involved in the major camps organized by the NCC authorities.

NCC Officer: Lt. Dr. S. Sharada, Associate Professor, Department of Chemical Engg, JNTUACEA.

S. No	Name of the Student	Roll No.	Date	Event and Place
1.	S. Sandhya	19005A0216	20-12-21 to 24-12-21	Annual Training Camp, Brahmanapalli, Anantapur
2.	M. Nithya Sree	19001A0237	03-01-22 to 06-01-22	First Place in Debate Competition, Brahmanapalli, Anantapur
3.	M. Nithya Sree	19001A0237	03-01-22 to 08-01-22	Third Place in SA Firing Competition, Brahmanapalli, Anantapur
4.	V. Divya Sri	20001A0201	05-07-22 to 14-07-22	Annual Training Camp, Brahmanapalli, Anantapur
5.	K. Ramya Sree	20001A0238	20-12-21 to 24-12-21	Annual Training Camp Brahmanapalli, Anantapur

6.	Adimulam Rohitha Yadav	20001A0236	20-12-21 to 24-12-21	Annual Training Camp Brahmanapalli, Anantapur
7.	M. Anjali	20001A0230	05-07-22 to 14-07-22	Annual Training Camp, Brahmanapalli, Anantapur
8.	M. Nithya Sree	19001A0237	05-10-2021	Training Camp, Kurnool
9.	D. Sai Priya	19001A0202	05-10-2021	Training Camp, Kurnool

Games & Sports Facilities:

- Dedicated Physical Education Department
- Inter departmental competitions during annual gathering
- Coaching facilities available for different games
- Regular participations in national and state level competitions
- Play ground with the area of 15 acres
- 12 station multi Gym for boys

Multi Gym for ladies

- One cricket pitch with proper boundaries
- One foot ball ground with goal posts and nets
- One ball badminton court
- Two volley ball courts
- 400 meters track with 6-lanes
- One kho-kho court
- One basket ball court with fiber glass boards
- 3 shuttle outdoor courts
- One throw ball court
- One tennicoit court and Synthetic Tennis court

INTER UNIVERSITY TOURNAMENTS:

2017 – 18

S.No	Name of the Player	Branch	Event	Org University
2017-18				
01	P. Vani	3 rd , B-Tech, EEE	Volley Ball (W)	Kannur Univ, Kannur 20 th to 25 th October – 2017

02	Y. Sreenivasulu	4 th , B-Tech, EEE	Kho – Kho (M)	University of Mysore, Mysore
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2018 -19

S.No	Name of the Player	Branch	Event	Org University
2017-18				
01	P. Navaneetha	2 nd , B-Tech, EEE	Volley Ball (W)	K.L. Univ, Guntur 27 th to 31 st October -2018
02	D. Supraja	2 nd , B-Tech, EEE	Basket Ball (W)	SRM Univ, Chennai 04 th to 08 th November-2018
03	J. Dhanunjaya Reddy	2 nd , B-Tech, EEE	Hockey (M)	Acharya Nagarujuna Uni, Guntur 10 th to 14 th November-2018
04	P. Vani	4 th , B-Tech, EEE	Ball Badminton (W)	Krishna Univ, Machilipatnam, 09 th to 13 th January -2019
05	G. Venkata Suvarna	1 st , M-Tech, EEE	Table Tennis (W)	SRM Univ, Chennai 12 th to 14 th February- 2019

2019-20

S.No	Name of the Player	Branch	Event	Org University
2017-18				
1	J. Dhanunjaya Reddy	3 rd , B-Tech, EEE	Hockey (Men)	Bengaluru Central University, Bengaluru
2	V. Giri Naik	3 rd , B-Tech, EEE	Hockey (Men)	11-10-2019 to 16-10-2019
3	G. Sagar	4 th , B-Tech, EEE	Kho – Kho (Men)	Kuvempu University, Shivamogga 23-12-2019 to 30-12-2019

INTER COLLEGIATE TOURNAMENTS:

Students of our college participated in many sports conducted in other colleges in the year 2017-18 and 2018-19 are listed below:

2017 -18

Audisankara College of Engineering and Technology, Gudur.

From 30-03-2018 to 01-04-2018

S. No	Name of the Player	Branch & Class	Admin Number
01	K.Tejaswini	3 rd , B-Tech, EEE	15001A0229
02	P.Vani	3 rd , B-Tech, EEE	15001A0218
03	P. Mounika	2 nd , B-Tech, EEE	16001A0233
04	Prabha Shriwas	2 nd , M-Tech, EEE	16001D2309
05	K. V. Sri Lekha	2 nd , M-Tech, EEE	16001D2116
06	P. Santhosh	4 th , B-Tech, EEE	14001A0220
07	S.Vigeitharan	3 rd , B-Tech, EEE	15001A0264
08	S. Srikanth	3 rd , B-Tech, EEE	15001A0213
09	G. Vinod Kumar	2 nd , B-Tech, EEE	17005A0210
10	Dhanujaya	1 st , B-Tech, EEE	17001A0228
11	K. Gnantheerth Chowdary	2 nd , B-Tech, EEE	16001A0209

2018 -19

Chatanya Bharathi Institute of Technology, Proddatur,Kadapa District.

From 15-03-2019 to 17-03-2019

S. No	Name of the Player	Branch & Class	Admin Number
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01	K.Tejaswini	4 th , B-Tech, EEE	15001A0229
02	P.Vani	4 th , B-Tech, EEE	15001A0218
03	P. Mounika	3 rd , B-Tech, EEE	16001A0233
04	D. Supraja	2 nd , B-Tech, EEE	17001A0244
05	N. Bharathi	2 nd , B-Tech, EEE	17001A0229
06	K. Arpitha	2 nd , B-Tech, EEE	17001A0226
07	P. Navaneetha	2 nd , B-Tech, EEE	17001A0209
08	C.J. Bhavitha	2 nd , B-Tech, EEE	17001A0238
09	G. Venkata Suvarna	1 st , M-Tech, EEE	18001D2304
10	M. Sai Lakshmi	2 nd , B-Tech, EEE	17001A0220
11	G. Vinod Kumar	3 rd , B-Tech, EEE	17005A0210
12	J. Dhanunjaya Reddy	2 nd , B-Tech, EEE	17001A0228
13	G. Prem Sagar	3 rd , B-Tech, EEE	16001A0204
14	M. Vishnu	2 nd , B-Tech, EEE	17001A0210
15	K. Gnantheerth Chowdary	3 rd , B-Tech, EEE	16001A0209
16	S. Vigei Tharan	4 th , B-Tech, EEE	15001A0264
17	L. Srinivas Rao	1 st , B-Tech, EEE	18001A0249

Students of our college participated in many sports conducted in our college in Academic Year 2020-2021

S. No	Name of the player	Ad. No	Branch	Place	Event / subject
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1	Muppala Madhuri	20001A0845	II B-Tech, Chemical	Participated	Essay writing
2	M.Swarna Sree	20001A0815	II B-Tech, Chemical	Participated	Paper presentation
3	Gopika Guduru	19001A0815	III B-Tech, Chemical	Participated	Web development.
4	Pathan Ayub Khan	20001A0850	II B-Tech, Chemical	Participated	Ethnic wear
5	Lobhisetti Karthik	21001A0856	I B-Tech, Chemical	Participated	Kho kho
6	Jangam Arun Kumar	20001A0847	II B-Tech, Chemical	Participated	Singing
7	Sunkara Sumanth	19001A0861	III B-Tech, Chemical	Participated	Career Edge - Knowdown to Lockdown

Students of our college participated in many sports conducted in our college in Academic Year 2021-2022:

S. No	Name of the player	Ad. No	Branch	Place	Event / subject
1	Eskala Lakshmi Prathyusha	20001A0851	II B-Tech, Chemical	1st Place	Essay writing
2	M.V.Renuka	20001A0831	II B-Tech, Chemical	1st Place	Essay writing
3	Kokkerapalli Sai Deeksha Reddy	20001A0814	II B-Tech, Chemical	1st place	Ethnic wear
4	Meduri Jahnavi	20001A0805	II B-Tech, Chemical	1st place	Short film
5	Meduri Jahnavi	20001A0805	II B-Tech, Chemical	1st Place	Dance
6	Meduri Jahnavi	20001A0805	II B-Tech, Chemical	1st Place	Ethnic wear
7	Meduri Jahnavi	20001A0805	II B-Tech, Chemical	2nd Place	Har Ghar Thiranga
8	A Uday Kiran Raju	20001A0832	II B-Tech, Chemical	2nd Place	Poetry
9	Eskala Lakshmi Prathyusha	20001A0851	II B-Tech, Chemical	2nd Place	Poster presentation on Innovaters Day
10	Akula Ameena Keshwar	20001A0829	II B-Tech, Chemical	2nd Place	Quiz

11	Meduri Jahnvi	20001A0805	II B-Tech, Chemical	3rd place	Singing
12	Kokkerapalli Sai Deeksha Reddy	20001A0814	II B-Tech, Chemical	B Certificate	Short film
13	Dandu Pavan Kumar	20001A0804	II B-Tech, Chemical	B Certificate	Short film
14	Kokkerapalli Sai Deeksha Reddy	20001A0814	II B-Tech, Chemical	B Certificate	Singing
15	M.V.Renuka	20001A0831	II B-Tech, Chemical	PLACE	Singing
16	M.Swarna Sree	20001A0815	II B-Tech, Chemical	Runners	Dance
17	G Saikeerthana	20001A0820	II B-Tech, Chemical	Runners	Short film
18	G Saikeerthana	20001A0820	II B-Tech, Chemical	Runners	Cricket
19	Majji Swarna	20005A0807	II B-Tech, Chemical	Winners	Introduction to thermodynamics
20	Majji Swarna	20005A0807	II B-Tech, Chemical	Participated	Introduction to virtual, augmented and mixed reality
21	lthigowni Yaswanthi	20001A0819	II B-Tech, Chemical	Participated	Essay writing
22	lthigowni Yaswanthi	20001A0819	II B-Tech, Chemical	Participated	Drawing
23	lthigowni Yaswanthi	20001A0819	II B-Tech, Chemical	Participated	Avishkaar 2022
24	Ravada Meenakshi	20001A0834	II B-Tech, Chemical	Participated	Singing
25	Sriram Harshitha	20001A0838	II B-Tech, Chemical	Participated	Singing
26	Kokkerapalli Sai Deeksha Reddy	20001A0814	II B-Tech, Chemical	Participated	Dance (solo)
27	Akula Aameena Keshwar	20001A0829	II B-Tech, Chemical	Participated	Debate
28	Tholla Panish Harsha Vardhan	20001A0810	II B-Tech, Chemical	Participated	Drawing
29	M.V.Renuka	20001A0831	II B-Tech, Chemical	Participated	Drawing

30	Jangam Arun Kumar	20001A0847	II B-Tech, Chemical	Participated	Drawing
31	Akula Ameena Keshwar	20001A0829	II B-Tech, Chemical	Participated	Elocution
32	Tholla Panish Harsha Vardhan	20001A0810	II B-Tech, Chemical	Participated	Elocution
33	Vadla.Jayasree	19001A0833	III B-Tech, Chemical	Participated	Inquizitive 2.o
34	Sunkara Sumanth	19001A0861	III B-Tech, Chemical	Participated	"iiche Regional Centre Dhanbad & ACS International Student Chapter Online Webinar Series"
35	Dacharla Sarayu	19001A0846	III B-Tech, Chemical	Participated	S a fishing competition
36	Vadla.Jayasree	19001A0833	III B-Tech, Chemical	Participated	Introduction to thermodynamics
37	Peyyala Mamatha	19001A0843	III B-Tech, Chemical	Participated	Cricket
38	Nandimandalam Mohith Reddy	19001A0863	III B-Tech, Chemical	Participated	Har Ghar Thiranga
39	Sunkara Sumanth	19001A0861	III B-Tech, Chemical	Participated	Har Ghar Tiranga
40	Uppara Kalyani	19001A0837	III B-Tech, Chemical	Participated	Python for Data Science, AI & Development
41	Peyyala Mamatha	19001A0843	III B-Tech, Chemical	Participated	Petrochemical engineering
42	Jangam Rocus Ratan	19001A0840	III B-Tech, Chemical	Participated	Petrochemical engineering
43	Kotha Uppara Shabareesh	19001A0805	III B-Tech, Chemical	Participated	Kho-kho
44	Kotha Uppara Shabareesh	19001A0805	III B-Tech, Chemical	Participated	Mimicry
45	Sunkara Sumanth	19001A0861	III B-Tech, Chemical	Participated	Biochemical process
46	Vadla.Jayasree	19001A0833	III B-Tech, Chemical	Participated	Introduction to virtual, augmented and mixed reality
47	Kotha Uppara Shabareesh	19001A0805	III B-Tech, Chemical	Participated	Singing

48	K Bharadwaj	19001A0807	III B-Tech, Chemical	Participated	Cricket
49	Kotha Uppara Shabareesh	19001A0805	III B-Tech, Chemical	Participated	Drawing
50	Kotha Uppara Shabareesh	19001A0805	III B-Tech, Chemical	Participated	Photography
51	Dacharla Sarayu	19001A0846	III B-Tech, Chemical	Participated	Introduction to thermodynamics
52	Dacharla Sarayu	19001A0846	III B-Tech, Chemical	Participated	Python basics
53	M.Sandhya	19001A0830	III B-Tech, Chemical	Participated	Mechanical unit operations
54	Sunkara Sumanth	19001A0861	III B-Tech, Chemical	Participated	The Joy of Computing using python
55	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Elocution competition
56	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Elocution competition
57	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Debate competition
58	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	District level Neighbourhood Youth parliment 2022
59	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Catch the Rain Phase-2 Knowledge vents
60	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Poster presentation on Innovaters Day
61	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Poetry
62	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	District level Declamation competition
63	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Quiz
64	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Elocution competition
65	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Quiz
66	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Organizing member

67	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Shield
68	Naragolla Yashwanthsai	19001A0836	III B-Tech, Chemical	Participated	Shield
69	Dacharla Sarayu	19001A0846	III B-Tech, Chemical	Participated	
70	Dacharla Sarayu	19001A0846	III B-Tech, Chemical	Participated	Combined annual training camp vi
71	Chakala Nagaveni	19001A0851	III B-Tech, Chemical	Participated	
72	Chakala Nagaveni	19001A0851	III B-Tech, Chemical	Participated	Combined annual training camp vi
73	B. Keerthi	19001A0852	III B-Tech, Chemical	Participated	
74	Uppara Kalyani	19001A0837	III B-Tech, Chemical	Participated	Petroleum refinery engineering
75	Dacharla Sarayu	19001A0846	III B-Tech, Chemical	Participated	Industrial environmental pollution management
76	R.Sahithi	19001A0834	III B-Tech, Chemical	Participated	Petrochemical engineering
77	K Deekshitha	19001A0839	III B-Tech, Chemical	Participated	Poster presentation on Innovaters Day
78	Peyyala Mamatha	19001A0843	III B-Tech, Chemical	Participated	Python Fundamentals for beginners
79	Peyyala Mamatha	19001A0843	III B-Tech, Chemical	Participated	Short put
80	Vepamani Harini	19001A0838	III B-Tech, Chemical	Participated	Singing
81	Thurram Kamal	21001A0802	I B-Tech, Chemical	Participated	Kho kho
82	Katravath Pavankumarnaik	21001A0866	I B-Tech, Chemical	Participated	Kho kho
83	G Mohan		III B-Tech, Chemical	3rd place	Soft ball (men)
84	G Mohan		III B-Tech, Chemical	Participated	Soft ball (men)
85	Nagasamudram Adharshini	19001A0822	III B-Tech, Chemical	Runners	Throw ball
86	Nagasamudram Adharshini	19001A0822	III B-Tech, Chemical	Runners	Throw ball

87	Sunkara Sumanth	19001A0861	III B-Tech, Chemical	1st	Quiz
88	Uppara Kalyani	19001A0837	III B-Tech, Chemical	Participated	32nd DAE All India Online Essay Contest on Nuclear Science and Technology
89	Muppala Madhuri	20001A0845	II B-Tech, Chemical	Participated	Poster presentation on Innovaters Day
90	M.Swarna Sree	20001A0815	II B-Tech, Chemical	Participated	Singing
91	Peyyala Mamatha	19001A0843	III B-Tech, Chemical	1st place	Discus throw
92	B. Keerthi	19001A0852	III B-Tech, Chemical	Runners	Throw ball
93	Muppala Madhuri	20001A0845	II B-Tech, Chemical	Participated	Fusion 2K22 Paper presentation
94	Jalagadugu Uma Chandrika	20001A0808	II B-Tech, Chemical	runners	Cricket
95	Pathan Ayub Khan	20001A0850	II B-Tech, Chemical	Participated	Essay writing
96	Peyyala Mamatha	19001A0843	II B-Tech, Chemical	Winners	Basket ball
97	B Mahesh Reddy	21001A0848	I B-Tech, Chemical	Participated	Kho kho

Students of our college participated in many sports conducted in our college in Academic Year 2022-2023

S. No	Name of the player	Ad. No	Branch	Place	Event / subject
1	Jangam Arun Kumar	20001A0847	3, B-Tech, Chemical	Participated	Singing
2	Sonti Teja	20001A0812	3, B-Tech, Chemical	Winners	Cricket
3	R. Keerthana	20001A0853	2, B-Tech, Chemical	Participated	Throw ball
4	Kolaneni Pavani	20001A0841	3, B-Tech, Chemical	Runners	Throw ball
5	Kolaneni Pavani	20001A0841	3, B-Tech, Chemical	Runners	Cricket
6	Sriram Jyothish	20001A0821	2, B-Tech, Chemical	Participated	Kho Kho

7	Koppakula Sumathi	20001A0813	2, B-Tech, Chemical	Participated	Throw ball
8	Y. Sai Navya Sree	20001A0807	2, B-Tech, Chemical	Participated	Essay writing
9	Y.Sai Navya Sree	20001A0807	2, B-Tech, Chemical	1st Place	Poster presentation
10	Golla Naga Pravallika Yadav	20001A0863	2, B-Tech, Chemical	Participated	Dance
11	Ramaji Spandana	21001A0808	1, B-Tech, Chemical	Participated	Throw ball
12	G.Pranathi Sai	21001A0831	1, B-Tech, Chemical	Participated	Throw ball
13	Ganganapalli Asha	21001A0840	1, B-Tech, Chemical	Participated	Throw ball
14	C.Priyanka	21005A0804	2, B-Tech, Chemical	Participated	Paper presentation
15	Lobhisetti Karthik	21001A0856	1, B-Tech, Chemical	Participated	Skit
16	Thurram Kamal	21001A0802	1, B-Tech, Chemical	Participated	Skit
17	Katravath Pavankumarnaik	21001A0866	1, B-Tech, Chemical	Participated	Skit
18	Kamatham Shanthi	21001A0839	1, B-Tech, Chemical	Participated	Throw ball
19	B Mahesh Reddy	21001A0848	1, B-Tech, Chemical	Participated	Kho Kho
20	Muppala Madhuri	20001A0845	II B-Tech, Chemical	Participated	Drawing
21	Muppala Madhuri	20001A0845	II B-Tech, Chemical	2nd Place	Essay writing
22	Jalagadugu Uma Chandrika	20001A0808	II B-Tech, Chemical	Winners	Basket ball
23	Muppala Madhuri	20001A0845	II B-Tech, Chemical	Runners	Throw ball
24	Muppala Madhuri	20001A0845	III B-Tech, Chemical	Runners	Throw ball
25	Gantepalli Chaitanya	19001A0857	III B-Tech, Chemical	winners	Cricket
26	Muppala Madhuri	20001A0845	II B-Tech, Chemical	Participated	Cricket

27	Nagasamudram Adharshini	19001A0822	III B-Tech, Chemical	Runners	Cricket
28	Nagasamudram Adharshini	19001A0822	III B-Tech, Chemical	Winners	Basket ball
29	Peyyala Mamatha	19001A0843	III B-Tech, Chemical	Runners	Throw ball
30	Peyyala Mamatha	19001A0843	III B-Tech, Chemical	Runners	Throw ball
31	Muppala Madhuri	20001A0845	II B-Tech, Chemical	Participated	Dance
32	Nagasamudram Adharshini	19001A0822	III B-Tech, Chemical	Participated	Singing



75 Years Celebrations of JNTUA CEA:

S. No	Name of the Student	Roll No.	Date	Participated/Prize
1.	M. Peddanna	18001A0244	16-12-21 to 18-12-21	Second Place in Elocution
2.	M. Peddanna	18001A0244	16-12-21 to 18-12-21	Second Place in Debate
3.	Kanipakam Jeswanth	19001A0244	16-12-21 to 18-12-21	Organizing Member

4.	D. Sai Bharath	19001A0204	16-12-21 to 18-12-21	Second Place in Dance Group
5.	A Sai Ushaswi	19001A0245	16-12-21 to 18-12-21	Second Place in Dance Group
6.	D. Vishnu Vardhan Reddy	19001A0243	16-12-21 to 18-12-21	Second Place in Dance Group

Other Certifications:

S. No	Name of the Student	Roll No.	Date	Event and Place
1.	K. Jeswanth	19001A0244	02-10-21	MAKEATHON 2.0, SKILL DEVELOPMENT AND INCUBATION CENTER, JNTUA CEA, Anantapur
2.	D. Vishnu	19001A0243	02-10-21	MAKEATHON 2.0, SKILL DEVELOPMENT AND INCUBATION CENTER, JNTUA CEA, Anantapur
3.	D. Sai Bharath	19001A0204	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur
4.	D. Vishnu Vardhan Reddy	19001A0243	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur
5.	Yaparala Sunil Kumar	21001A0262	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur
6.	K.N. Vamshi	21001A0237	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur
7.	Pagadala Bhanu Prakash	21001A0215	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur
8.	Gujjala Srikanth	21001A0224	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur
9.	Kalluri Prem Kumar	21001A0208	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur
10.	Beri Sugandhar Vara Prasad	21001A0259	14-06-22	Blood Donation Camp, IRCS Blood Donation CenterAnantapur

11.	G. Archana	20001A0219	15-08-22	Runners Position in Shuttle, Independence Day 2022, JNTUA CEA, Anantapur
12.	Bhavana Balapanur	20001A0234	11-02-22	Poster Presentation on the eve of Innovaters Day, JNTUA CEA, Anantapur

10 GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES (120)

Total Marks 120.00

10.1 Organization, Governance and Transparency (55)

Total Marks 55.00

10.1.1 State the Vision and Mission of the Institute (5)

Institute Marks : 5.00

10.1 Organization, Governance and Transparency

Jawaharlal Nehru Technological University College of Engineering Anantapur Jawaharlal Nehru Technological University, Anantapur (JNTUACE Anantapur) is a state university (https://en.wikipedia.org/wiki/State_university,_India) in Anantapur (<https://en.wikipedia.org/wiki/Anantapur>), Andhra Pradesh (https://en.wikipedia.org/wiki/Andhra_Pradesh), India (<https://en.wikipedia.org/wiki/India>). Founded in 1946, it has since 1972 been a constituent college of Jawaharlal Nehru Technological University (https://en.wikipedia.org/wiki/Jawaharlal_Nehru_Technological_University,_Hyderabad), as set by The Jawaharlal Nehru Technological University Act, 1972. An institution with academic and research-oriented courses, the B. Tech programs (undergraduate programs). Major branches among them are Computer science, Electrical, Mechanical, Electronics & Instrumentation Engineering, Chemical and Civil. Also, Master of Engineering and doctoral degree (Ph.D.) in all major disciplines. The College is equipped with world class infrastructure and highly qualified and experienced faculty members. The National Institutional Ranking Framework (https://en.wikipedia.org/wiki/National_Institutional_Ranking_Framework) (NIRF) ranked it 185th among engineering colleges in 2020.ISO certified. JNTUACEA focus on quality education and training has turned it into a premier technical institution ensuring 100% placements in a wide range of companies. In short, JNTUACEA stands tall as one of the best institutions for world class professional education in Andhra Pradesh.

10.1.1. State the Vision and Mission of the Institute**VISION**

- Committed to expanding the horizon and inspiring young minds towards academic excellence.
- Aims at scaling new heights through advanced research and innovative techniques to keep pace with the ever-changing need of industry and society at large.

MISSION

- To Identify and implement proven, Prevention-oriented, forward -looking solutions to Critical Scientific and technological problems.
- To make technological a principal instrument of economic development of the country and to improve the quality of life of the people through technological education, innovation, research, training and consultancy.

The statements are available on Institute website, every department, and Central facilities such as Library, Computer Centre, and Principal Chamber etc.

JNTUA College of Engineering, Anantapur is committed to:

§ Impart quality education by establishing effective learning-teaching-learning process to produce competent engineers with high professional ethics and societal responsibility.

§ Create congenial environment and provide state-of-the-art infrastructure.

§ Continually improve the effectiveness of the quality management system.

§ Satisfy all applicable requirements.

10.1.2 Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring (25)

Institute Marks : 25.00

10.1.2. Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring

Yes. An extensive SWOC Analysis of the institution has been carried out and the details of analysis are provided herewith. Resource centric approach is adopted for SWOC analysis (Strengths, Weaknesses, Opportunities, and Challenges) to evolve a comprehensive strategic plan for institutional development. The five resources are Human, Organizational, Technological & Infrastructural, Relational and Financial. Strengths and Weaknesses are considered as internal while Opportunities and Challenges as external.

SWOC Analysis**Strengths:**

- A very good image and has excellent brand value in the society for high quality teaching, laboratory based practical skills and knowledge development.
- Emphasis on co-curricular and value-added programs on Emerging Technologies.
- Beyond the syllabus Industry oriented curriculum to prepare the students ready for the fast-changing global scenario.
- Continuous mentoring, monitoring, and a good feedback system of students
- Employability skills by imparting technical training, soft skill, and Group Discussion and Aptitude classes on need basis.
- Constant encouragement of faculty and students for attending training programs / workshops / conferences for updating their knowledge.
- Academic achievements of student in university examination and other platforms.
- Achievements in placement by students in various reputed organizations and reputed companies
- A very good faculty retention and more than 50% of faculty with Ph.D
- Research and Entrepreneurship Hub to promote Research and Innovations amongst the Faculty and Students leading to Publications, Products, Innovations and Start-Ups.
- Availability of several technical, social, cultural and sports activity clubs for all round development of students.
- The students have an option to acquire Honors degree or Minor Engineering degree in addition to the regular degree.
- NPTEL Local Chapter to offer students MOOCs program
- A very good Alumni base across the world to support the institution in terms of scholarships, information sharing those results in better career opportunities.

Weaknesses:

- Very limited quarters for the faculty and staff.
- Research activities confined to few individuals.
- Limited Industrial consultancy.
- Placement of PG students is to be improved.
- Patent and IPR registration need to be improved.
- Limited Sponsored Projects from Government, Non-Government & External agencies

Opportunities:

- Scope to establish CoE (Centre of Excellence) in emerging fields with the collaboration of R&D Organization and industry.
- To organize number of training programs/workshops and international conferences
- Scope for Interdisciplinary Sponsored, Consultancy projects and Innovative programs
- Student-Faculty exchange program with reputed International Academic Institutions
- To offer training to students on Soft Skill, Aptitude, Group Discussion, GATE, MAT etc., Examinations on periodical basis.
- To encourage and facilitate the students in Internship programs at renowned corporate

Challenges:

- To attract the top-ranking students in view of recently established institutes like IITH, IIITH, BITS and foreign universities.
- To compete with renowned institutions such as IISC, IIT's and NIT's in academic excellence, Research and Innovation.
- To attract faculty who have excellent credentials in Research and Innovation.
- To motivate faculty for New Product Development/Research/R&D/Innovation etc.
- Herculean task to bring core companies to campus for bulk hiring.

Institutional Strategic Plan:

Strategic plan of the institute is developed based on the feedback from different stakeholders. After the NBA visit in 2015, few strategic areas were taken to improve the quality. They are as follows:

a) Perspective Plan of JNTUACEA 2021-2026**Teaching and Learning Plan:**

- Development of more smart class rooms with state- of- art facilities
- Use of more LCD and laptops in teaching and learning
- Implementation of CBCS in course curriculum
- Extensive use of online Teaching and Learning resources
- More MoUs for Student Exchange Programmes

Research and Development Plan:

- Educational linkages in terms of more MoU with premier institutions and take up collaborative research projects
- Promote participation of staff members in FDPs like refreshers and orientation programmes
- Promote inter-disciplinary research
- Set up separate research labs for other subjects of science/ commerce
- Promotion of publication in indexed research journals
- Promote faculty members to have at least one major/ minor project
- Conduct more International Level Conferences and Workshops
- Motivate faculty to apply for Patents
- Promote participation in international conferences/ seminars/workshops/symposium

Community Engagement Plan:

- Introduce community service into curriculum of UG programme with credits
- More tie-ups with NGOs
- Adoption of more Villages
- Assist government and local bodies in Community projects

Human Resource planning and Development Plan:

- Organize more faculty development programmes
- Motivate faculty members for research work
- Motivate and depute teachers to Orientation Courses and Refresher Courses
- Promote Faculty exchange Programmes
- Continuous training for technical and nonteaching staff

Industry Interaction Plan:

- Invite Industry experts for motivating students and provide practical knowledge
- Strengthen Campus placement and training facility by making more industry linkages
- Promote student to work on real projects for industries

b) Strategic Plan to improve research

Publications:

In 2017, it was decided to improve publications in Scopus indexed journals

Implementation

It was instructed that all Professors & Associate Professors have to publish minimum 3 articles in Scopus indexed journals and for Assistant Professors it was instructed as 1 per faculty

Monitoring

- Monthly reports are collected from all departments
- The number of articles published in Scopus indexed journals and UGC care Journals

Projects:

To improve the projects funding from external agencies

Implementation

1. Call for proposals
2. Evaluating & Selecting Proposals

3. Providing Seed Grants

Ph. D:

To improve the quantity & quality of Ph.D Scholars

Implementation

- Recruitment of Professors and Associate professors in every department to guide the scholars
- Internal faculty are motivated to register for Ph.D by being provided with 50% concession in the Ph.D Fee.
- Providing incentives for publications under TEQIP
- Turnitin license was purchased to improve the quality of research articles

Monitoring

- Every 6 months research scholars have to conduct meeting
- Every scholar is to provide a report on the work done in past 6 months
- In the year 2015, the acceptable level of Plagiarism was 30%

c) Strategic Plan to improve Teaching Learning Process

To create ICT enabled culture

Implementation

- All the classrooms were provided with LAN connection
- Projectors and Desktop systems were provided
- FDP on pedagogy is conducted at least once in a year

Monitoring

· Lesson plan is frequently checked and staffs were motivated to effectively use the ICT Facility

· NPTEL- Certification results

d) Strategic Plan towards Students Support Implementation

- Personality Development classes were regularly conducted
- Classes for GATE& other such competitive exams were conducted
- Conducting Entrepreneur training programs
- Motivating the students through Interactions with Alumni
- Constantly monitoring the impact of various activities

The detailed Strategic Plan of the Institute is available in the college website:

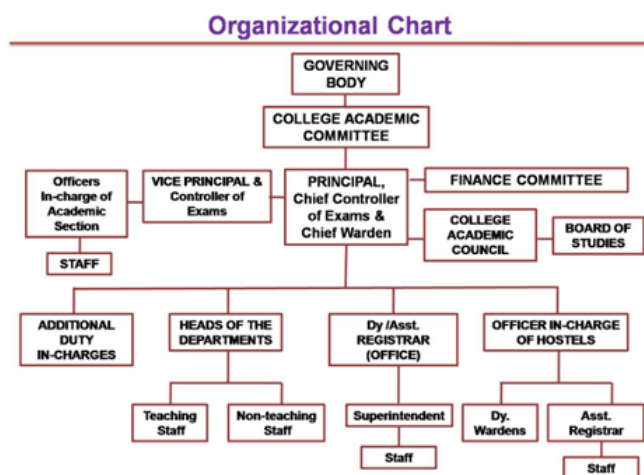
https://drive.google.com/drive/folders/1s1Oye_q2b3gZLXAYyuaoddbVrUREjSva (https://drive.google.com/drive/folders/1s1Oye_q2b3gZLXAYyuaoddbVrUREjSva)

10.1.3 Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10)

Institute Marks : 10.00

10.1.3. Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies

JNTUACEA has various committees under governing body, administrative setup. The information is described with the list of committees under statutory bodies, non-statutory and externally constituted committee and the functions of various bodies are also mentioned.



1. Governing Body:

Composition:

1. Principal (Member & Convenor)
2. University Nominee (Nominated by UGC)
3. State Government Nominee
4. Two Teachers of the College nominated by the principal
5. Three members – Educationist, Industrialist and Professional (Nominated by University)

Term: Two years, except for the UGC nominee whose term will be a full six years and shall meet at least twice a year.

Functions:

Subject to the existing provision in the bye-laws of respective college and rules laid down by the state government, the governing body* of the above colleges shall have powers to:

- Fix the fees and other charges payable by the students of the college on the recommendations of the Finance Committee.
- Institute scholarships, fellowships, studentships, medals, prizes and certificates on the recommendations of the Academic Council
- Approve institution of new programmes of study leading to degrees and/or diplomas.
- Perform such other functions and institute committees, as may be necessary and deemed fit for the proper development.

Governing body constitution:

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING (Autonomous)
ANANTHAPURAMU - 515 002, A.P.
PROCEEDINGS OF THE PRINCIPAL
 Present: Prof. P. Sujatha

Date: 03-01-2022

Sub: JNTUACEA – Constitution of Governing Body – Reg.

Ref: 1. Procs. No. DAAP/A2/ JNTUACEA – Autonomy/ Revised/ 2014, Dt: 29-09-2014.

2. Procs. No. DAAP/A2/ JNTUACEA (A)/Governing Body/ 2019, Dt: 08-05-2019.

Vide reference cited, Governing Body of the College is constituted with the following members:

S.No.	Category	Designation	Name & Address
1	Professional	Chairman	Dr. Y. Venkateswari Reddy Former Chairman, APSRC, Hyderabad Former Member, UPSC, New Delhi Former Vice-Chancellor, JNTU Hyderabad Mobile No. 9094177799
2	Professional	Member	Sri H. Hanumanth Rao CMD, APSRCEL, Thripudi Mobile No. 9440812222
3	Industry	Member	Dr. B. Anand Reddy Subbia Power Electronics Pvt. Ltd, D 849, Industrial Park Mouda Ali, Hyderabad - 500040 Mobile: 9291979765, Email: Dr. anand_b@yahoo.com
4	College Teacher	Member	Dr. B. Durga Prasad Professor of Mechanical Engineering Department & Vice Principal JNTUACE, Anantapuramu - 515002, A.P Mobile: +91-990051426, Email: Dr. vijayprasad.ora@jntua.ac.in
5	College Teacher	Member	Dr. L. S. Sharda Head Chemical Engineering Department JNTUACE, Anantapuramu - 515002, A.P Mobile: +91-9843813207, Email: Dr. lsharda@jntua.ac.in
6	University Nominee	Member	Dr. C. Shobha Rani Professor of CBE & Director, Research & Development JNTU, Anantapuramu - 515002, A.P Mobile: +91-8143280889, Email: Dr. shobharani.c@jntua.ac.in
7	State Government Nominee	Member	Dr. Rama Lakshmi Reddy Professor, Dept. of Applied Mechanics IIT Madras, Chennai Mobile: 9841110475, Email: Dr. ramalaxmi@iitm.ac.in
8	LAC Nominee	Member	Dr. Ravi Aravamudan 24-F, Pocket - 1, Shalibh Sura - 2, Phase-2, New Delhi - 110017. Mobile: +91-9891048329, 011-29250036 Email: Dr. ravis@iitd.ac.in
9	Principal of College	Member & Convener	Prof. P. Sujatha Principal JNTUACE College of Engineering (Autonomous), Anantapuramu - 515002, A.P Mobile: +91-990051427, Email: Dr. sujathapri@jntua.ac.in


PRINCIPAL
J.N.T.U.A College of Engineering
(Autonomous)
ANANTHAPURAMU-515002,
A.P, INDIA.

Governing body minutes:

JNTU.A. College of Engineering (Autonomous) – Anantapuramu

X Governing Body Meeting held at 04.00 P.M on 03-01-2022 in the Conference Hall of JNTU.A. College of Engineering, Anantapuramu

Members Present:

1	Dr. Y. Venkateswari Reddy	Chairman
2	Sri H. Hanumanth Rao	Member
3	Dr. B. Anand Reddy	Member
4	Dr. B. Durga Prasad	Member
5	Dr. L. S. Sharda	Member
6	Dr. C. Shobha Rani	Member
7	Dr. Rama Lakshmi Reddy	Member
8	Dr. P. Sujatha	Member & Convener

Members Absent:

1	Dr. Ravi Aravamudan	Member
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Minutes of the Meeting:**Item 1:** Dr. Y. Venkateswari Reddy, Chairman, has welcomed the new members of Governing Body.**Item 2:** The Governing Body has considered and approved the minutes of 18th Governing Body meeting held on 18-12-2019.**Item 3:** The Governing Body has considered and approved for constitution & nomination for Academic Council.**Item 4:** The Chairman informed to all the members regarding NBA Accreditation inspection scheduled on 7th, 8th & 9th January 2022.**Item 5:** The Governing Body has considered and approved the budget allocation for the year 2020-21 for various departments.**Item 6:**The Governing Body was informed about the 75 years celebrations of the college held during 16th to 18th December 2021.**Item 7:**

The Governing Body has considered and approved the result analysis of UG/PG programs of college for the Academic Years 2018-19, 2019-20 & 2020-21.

Item 8:

The Governing Body was informed about the Placement records for Academic Years 2018-19, 2019-20 & 2020-21. The governing body suggested for improvement in core placements.


PRINCIPAL
J.N.T.U.A College of Engineering
(Autonomous)
ANANTHAPURAMU-515002,
A.P, INDIA.

2. College Academic Council:**Composition:**

1. The principal (Chairman).
2. All the heads of department in the college.
3. Four teachers of the college representing different categories of teaching staff by rotation on the basis of seniority of service in the college.
4. Not less than four experts from outside the college representing such areas as Industry and Engineering etc., to be nominated by the Governing Body.
5. Three nominees of the university.

6. A faculty member nominated by the principal (member secretary).

Term: The term of the nominated members shall be two years and the Principal shall convene a meeting of the Academic Council at least once a year.

Functions:

- Without prejudice to the generality of functions mentioned, the Academic Council will have powers to:
- (a) Scrutinize and approve the proposals with or without modification of the Boards of Studies with regard to courses of study, academic regulations, curricula, syllabi and modifications thereof, instructional and evaluation arrangements, methods, procedures relevant thereto etc., provided that where the Academic Council differs on any proposal, it will have the right to return the matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so.
- (b) Make regulations regarding the admission of students to different programmes of study in the college.
- (c) Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels.
- (d) Recommend to the Governing Body proposals for institution of new programmes of study.
- (e) Advise the Governing Body on suggestions(s) pertaining to academic affairs made by it.
- (f) Perform such other functions as may be assigned by the Governing Body.

Academic Council Constitution:



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
PROCEEDINGS OF THE PRINCIPAL COLLEGE OF ENGINEERING (Autonomous)
ANANTHAPURAMU
PRESENT: Dr. P. Sujatha
PRINCIPAL.

Date: 03-01-2022


Sub: JNTUACEA – Constitution of Academic Council – Reg.,

In accordance with the guidelines of UGC for autonomous colleges the Academic Council is constituted with the following members.

S.No.	Category	Designation	Name & Address
1	Principal	Chairman	1. Dr. P. Sujatha Professor & Principal Department of Electrical Engineering, JNTUA College of Engineering (Autonomous) Ananthapuramu - 515002 Mobile: +91-9000551425(O), +91-9490121399(P) Email Id: principal.cea@jntua.ac.in
2	All the Heads of Departments in the College	Members	<p>1. Dr. R. Bhavani Professor & Head, Department of Civil Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720309(O), (P) +91-9490981954 Email Id: hod.civil.cea@jntua.ac.in</p> <p>2. Dr. N. Visali Professor & Head, Department of EEE JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720330(O), (P) +91-9440202996 Email Id: hod.eee.cea@jntua.ac.in</p> <p>3. Dr. B.Durga Prasad Professor & Head, Department of Mechanical Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720311(O), (P) +91-9441074399 Email Id: hod.me.cea@jntua.ac.in</p> <p>4. Dr. D. Vishnu Vardhan Assoc. Professor & Head, Department of ECE JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720312(O), (P) +91-9440221392 Email Id: hod.ece.cea@jntua.ac.in</p> <p>5. Dr. K. Madhavi Assoc. Professor & Head, Department of CSE JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720313(O), (P) +91-9440206501 Email Id: hod.cse.cea@jntua.ac.in</p> <p>6. Dr. L. S. Sharada Asst. Professor & Head i/c, Department of Chemical Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720314(O), (P)+9642853207 Email Id: hod.chem.cea@jntua.ac.in</p>

			<p>7. Dr. R. Ishwari Vijaya Professor & Head, Department of Mathematics JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720316(O), (P) +91-9440861244 Email Id: hod.maths.cea@jntua.ac.in</p> <p>8. Dr. R.Padma Suvama Professor & Head, Department of Physics JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720317(O), (P) +91-9441079332 Email Id: hod.physics.cea@jntua.ac.in</p> <p>9. Dr. R.Padma Suvama Professor & Head in, Department of Chemistry JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-7382720317(O), (P) +91-9441079332 Email Id: hod.chemistry.cea@jntua.ac.in</p> <p>10. Dr. V.B. Chitra Professor & Head, Department of Humanities JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-6301799895, +91-9441215579 Email Id: hod.hss.cea@jntua.ac.in</p>
3	College Teachers	Members	<p>1. Dr. Vaishali. G.Ghorpade Professor of Civil Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-9440497939 Email Id: ghorpade_vaishali@yahoo.co.in</p> <p>2. Dr. B. Omprakash Asst. Professor of Mechanical Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-9966562990 Email Id: omprakash1715.mech@jntua.ac.in</p> <p>3. Smt. B. Ajitha Asst. Professor of Civil Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-9533666677 Email Id: ajitha123.civil@jntua.ac.in</p> <p>4. Dr. K. Jitendra Gowd Asst. Professor of Electrical Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-9849603672 Email Id: indra.cee@jntua.ac.in</p>
4	Industry Education Engineering etc, nominated by Governing Body	Members	<p>1. Prof. D. Thakaram Department of Electrical Engineering Indian Institute of Science (IISc), Bangalore – 560012 Mobile: +91-8022932362, Email Id: dtram@ee.iisc.ernet.in</p> <p>2. Sri R.Siva Kumar Managing Director ZETATEK Tech, Plot #31, T.J.E., Balanagar, Hyderabad – 500037, Mobile: +91-9848091555 Email Id: rskumar@zetatektechnologies.com</p> <p>3. Dr. V.Ramachandra, Vice-President (Technical) Ultratech Cements Limited, 6th Floor, Industry house, Race course road, Bangalore – 560001 Mobile: +91-9743247985 Email Id: ramachandra.v@adityabirla.com</p>

			1. Sri Ramakanth Desai President & Co-CEO, IT Services, Happiest Minds Technologies Bangalore Mobile: +91-9900182555 Email id: ramdesai1063@gmail.com
5	University Nominees	Members	1. Prof. V. Sumalatha Director of Academic & Planning JNT University Anantapur, Ananthapuramu Mobile: +91-9000551418 Email id: dap@jntua.ac.in 2. Prof. E. Keshava Reddy Director of Evaluation JNT University Anantapur, Ananthapuramu Mobile: +91-9000551419, Email id: de@jntua.ac.in 3. Prof. K.Nagabhushan Raju Principal, SKU College of Engineering & Technology Ananthapuramu - 515003 Mobile: +91-9866590987 Email id: knrbhushan@yahoo.com
6	Faculty nominated by Principal	Member Secretary	Dr. B. Durga Prasad Professor & Vice Principal Department of Mechanical Engineering JNTUA College of Engineering (Autonomous) Ananthapuramu Mobile: +91-9000551426(O) Email Id: viceprincipal.ceo@jntua.ac.in


PRINCIPAL
PRINCIPAL
J.N.T.U.A College of Engineering
(Autonomous)
ANANTHAPURAMU-515002.
A.P. INDIA.

Minutes of the CAC:

J.N.T.U.A. COLLEGE OF ENGINEERING (AUTONOMOUS)
ANANTHAPURAMU-515002

Minutes of the IV Academic Council Meeting (Offline & Online) on 04.01.2022 at
12.30 P.M in the conference hall.

1. Prof. P. Sujatha, Principal & Chairman welcomed the members of Academic Council.
2. The Academic Council approved the Course Structure and Academic Regulations of R18 M.Tech (PG) programs for batches admitted from 2018-19 Academic Year.
3. The Academic Council approved the Course Structure and Academic Regulations (Revised) of R19 B.Tech (UG) programs applicable for batches admitted from 2019-20 Academic Year.
4. The Academic Council approved the Course Structure and Academic Regulations of R20 B.Tech (UG) programs applicable for batches admitted from 2020-21 Academic Year.
5. The Academic Council approved the Course Structure and Academic Regulations of R20 MCA (PG) programs applicable for batches admitted from 2020-21 Academic Year.
6. The Academic Council approved the Course Structure and Academic Regulations of R21 M.Tech (PG) programs applicable for batches admitted from 2021-22 Academic Year.


PRINCIPAL
J.N.T.U.A College of Engineering
(Autonomous)
ANANTHAPURAMU-515002.
A.P. INDIA.

Board of Studies:

Composition:

1. Head of the department concerned (Chairman).
2. The entire faculty of each specialisation.

3. Two experts in the subject from outside the college to be nominated by the Academic Council.
4. One expert to be nominated by the Vice Chancellor from a panel of six recommended by the Head of the Institution.
5. One representative from industry/corporate sector/allied area relating to placement.
6. One postgraduate meritorious alumnus to be nominated by the principal. The chairman, Board of Studies, may with the approval of the principal of the college, co-opt:
 - (a) Experts from outside the college whenever special courses of studies are to be formulated.
 - (b) Other members of staff of the same faculty.

Term: The term of the nominated members shall be two years and the Principal of the college shall draw the schedule for meeting of the Board of Studies for different departments. The meeting may be scheduled as and when necessary, but at least once a year.

Functions:

The Board of Studies of a department in the college shall:

- (a) Prepare syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders and national requirement for consideration and approval of the Academic Council;
- (b) Suggest methodologies for innovative teaching and evaluation techniques;
- (c) Suggest panel of names to the Academic Council for appointment of examiners; and
- (d) Coordinate research, teaching, extension and other academic activities in the department/college.

BOS Constitution:

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
PROCEEDINGS OF THE PRINCIPAL COLLEGE OF ENGINEERING (Autonomous),
ANANTAPUR
PRESENT: Dr. R.GOVINDA RAJULU
PRINCIPAL

Proc.No. JNTUACEA/Board of Studies/ 2020-21 Date: 27-07-2020
 Sub: JNTUACEA – Constitution of Board of Studies in Civil Engineering – Reg.

ORDER:

In accordance with the guidelines of UGC for autonomous college, the Principal is pleased to constitute the Board of Studies in the faculty of Civil Engineering with the following members.

S.No.	Name of the Member	Post
1	Prof. E. Aravamudan Professor & Head, Civil Engineering Department, JNTUA College of Engineering (Autonomous), Anantapuram Email: E.Aravamudan@jntua.ac.in, Mobile: 97-7782720369	Chairman
2	Dr. V. Bindu Lakshmi Professor of Civil Engineering, JNTUA College of Engineering (Autonomous), Anantapuram and Rector, JNTUA Anantapuram.	Member
3	Dr. H. Sudarana Rao Professor of Civil Engineering, JNTUACEA Anantapuram	Member
4	Dr. S. Krishnamoorthy Professor of Civil Engineering, JNTUA College of Engineering (Autonomous), Anantapuram	Member
5	Dr. P.R. Bharanidharan Professor of Civil Engineering & Director DAA, JNTUA, Anantapuram.	Member
6	Dr. C. Sankar Babu Professor of Civil Engineering & Director of Evaluation, JNTUA Anantapuram.	Member
7	Dr. Anandhi C. Gowda Professor of Civil Engineering, JNTUACEA, Anantapuram.	Member
8	Dr. R. Bharanidharan Professor of Civil Engineering, JNTUACEA, Anantapuram.	Member
9	Prof. D. Ramaswamy Professor, Civil Engineering Department, NT, Warangal, Email: ramabharan@ntu.ac.in Mob: 9847384397	Member
10	Prof. Srinivasa Rao Professor of Civil Engineering Department, JNTUH College of Engineering, Kukatpally, Hyderabad Email: srinivasa_rao@jntuh.ac.in, Mob: 9994948532	Member
11	Dr. B. Manoj Kumar Department of Civil Engineering, IIT Hyderabad Email: bmanoj@iitah.ac.in, Mob: 9847384397	Member
12	Dr. S.P. Anubhai Structural Engineer Anchor & Anchor, Architects, Industrial Designers Hyderabad. Email: sp.anubhai@gmail.com, Mob: 9924022197	Member
13	Prof. V. Vasanta Reddy, Professor of Civil Engineering Department, SV University, Tirupati Email: vasantareddy@svu.ac.in, Mob: 9946678038	Member

The terms of office of all the members of Board of Studies shall be for a period of two years with effect from the date of this order or till the new Board of Studies is constituted.

These orders shall come into force with immediate effect.

PRINCIPAL

Meeting:

principal cea is presenting

5.4 End Examination Evaluation:

i. End examination of theory subjects shall have the following pattern:

- There shall be 6 questions and all questions are compulsory.
- Question 1 shall contain 10 compulsory short answer questions for a total of 20 marks such that each question carries 2 marks. There shall be two short answer questions from each unit.
- In each of the questions from 2 to 11, there shall be either/or type questions of 10 marks each. Student shall answer any one of them.
- The questions from 2 to 11 shall be set by covering one question from each unit of the syllabus.

ii. End examination of theory subjects consisting of two parts of different subjects, for example:

Electrical & Mechanical Technology shall have the following pattern:

- Question paper shall be in two parts viz., Part A and Part B with equal weightage of 35 marks each.
- In each part, Question 1 shall contain 5 compulsory short answer questions for a total of 3 marks such that each question carries 1 mark.
- In each part, questions from 2 to 7, there shall be either/or type questions of 10 marks each. Student shall answer any one of them.

Note: The answers for Part A and Part B shall be written in two separate answer books.

Common BOS Meeting

People (11)

DEVA KUMAR M.L.S.

dtaa dtaa

Dr. Vaishali Ghorpade

Dr. O. Prasadhi Jitua

Dr. K. Madhavi Jitua

Dr. S.P. Anchari

Dr. C. Shoba Bindhu

Dr. R. Bala Venkata Subra...

Gajula UmaMaheswar

Guru Siddappa

Common B...

18:14 06-12-20

Finance Committee:

Composition:

- The principal (Chairman).
- One person to be nominated by the Governing Body of the college for a period of two years.
- One senior-most teacher of the college to be nominated in rotation by the principal for two years.

Term: The term of the nominated members shall be two years and shall meet at least twice a year.

Functions:

Finance Committee will be an advisory body to the Governing Body, and has to consider:

- Budget estimates relating to the grant received/receivable from UGC, and income from fees, etc. collected for the activities to undertake the scheme of autonomy and
- Audited accounts for the above.

Finance Committee Constitution:

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
 COLLEGE OF ENGINEERING (Autonomous): ANANTHAPURAMU
 PROCEEDINGS OF THE PRINCIPAL
 PRESENT: Dr. P. SUJATHA

Procs.No.CI/Estt/JNTUA CEA/2021-22

Dated: 04-05-2021

Sub: JNTUA - CEA - Constitution of Finance Committee - Orders - Issued.

Ref: UGC - Guidelines for Autonomous colleges during the XII plan period.

-o0o-

ORDER

With reference to the UGC Guidelines cited above, the Principal is pleased to constitute the Finance Committee with the following staff members of this college.

- | | |
|---|------------|
| 1) Dr. P. Sujatha, Prof. & Principal, | - Chairman |
| 2) Dr. H. Sudarsana Rao, Prof. of Civil Engg., Dept., | - Member |
| 3) Sri. S. Ranga Naik, Deputy Registrar | - Member |

The term of this committee shall be two years from the date of appointment.

The committee will be an advisory body to the Governing body to consider:

- Budget estimates relating to the grants received from the UGC and Income from fee etc.,
- Audited Accounts for the above.

P. Sujatha
 PRINCIPAL
 SA

To

All the above mentioned officials of JNTUA College of Engineering, Ananthapuramu.
 Copy to File.

Table.10.1. the following table gives brief account of the academic and administrative bodies operational in the institute.

Academic and Administrative bodies	Composition	Function and responsibilities	Frequency of meetings
Governing Body	Chairman: External University nominee, Senior faculty members and External experts from various other organizations	Responsible for overall general and academic administration of the institute	Once a year

Academic Council	Chairman: Principal Members: DAP, DE from University, Other senior faculty members of the college and Heads of the departments	Approval of academic regulations, improvement of curriculum and other learning activities	Every year
Board of Studies	Chairman: HoD Members from other reputed institutions, Industry and Alumni	Preparation of Scheme of study and syllabus.	Once a year
College Academic Committee	Chairman: Principal Department Heads, Professors, Special Invitees	Regular monitoring of academic activities	As per the requirement
Finance Committee	Chairman: Principal Members: Deputy Registrar, Head of the departments	Budgeting, Cost control and Auditing	As per the requirement
Purchase Committee	Chairman: Principal Members: Deputy Registrar, Members assigned by the Principal based on the procurement	Evaluation of the comparative statement and finalizing/approving the vendor for supply of items.	As per the requirement
Internal Quality Assurance cell	Coordinator, Heads of the departments, Department coordinators	Development and application of quality benchmarks for various academic and administrative activities. To develop a system for conscious, consistent and catalytic action to improve the academic and administrative performance of the Institution. To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices	Every Six months

Department academic affairs Committee	Chairman: HoD	Formulation of programme curriculum.	Every semester
	Member secretary: Senior Professor		
	Members: 02 faculty		

Service rules, procedures, recruitment and promotional policies:

(G.O.Ms.No. 14 Higher Education (UE.II) Dept.dt.20-2-2010)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY
ANANTHAPURAM
ANDHRA PRADESH



ORDINANCES
(U's 21 ACT 30 / 2008)

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY
ANANTHAPURAM
ANDHRA PRADESH



STATUTES
(U's 21 ACT 30 / 2008)

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QUALIFICATIONS, EMOLUMENTS AND NUMBER OF UNIVERSITY TEACHERS:

In exercise of the powers conferred under sub-section (1) (h) of Section 28 of JNT University Act 30 of 2008, the Executive Council hereby makes this Ordinance in respect of qualifications, emoluments and number of teachers of the University.

1. The qualification, experience, requirements, conditions etc. for direct recruitment of teachers and for promotion under CAS shall be as per the guidelines of the University Grants Commission and the Government Order/s that are issued from time to time.
2. The Executive Council is the competent authority to award additional increments, if any, in a particular band/grade and/or pay protection to a teacher on appointment, based on the recommendations of the Selection Committee and in accordance with the guidelines issued, from time to time, by the UGC/State Government.
3. (a) i) The UGC Scales of Pay and allowances inclusive of DA, HRA, CCA., Conveyance allowance etc. to teachers shall be as per Government Order (s) and adopted by the Executive Council.
ii) **Increments:**
 - a. Each annual increment shall be equivalent to 3% of the sum total of pay in the relevant Pay Band.
 - b. In respect of the date of annual increment, in all cases, it will be the first of July. Employees completing six months and above in the scale as on July 1st will be eligible.
- (b) In respect of those posts for which the University Grants Commission did not recommend the scales of pay, the Executive Council shall prescribe them from time to time with the approval of the State Government.

CODE OF CONDUCT RULES FOR NON-TEACHING AND CODE OF PROFESSIONAL ETHICS FOR TEACHERS OF THE UNIVERSITY:**1. TITLE AND APPLICATION:**

- a. These rules may be called "JNT University-Ananthapuram
i) Code of Conduct Rules for Non-Teaching Staff".
ii) Code of Professional ethics for the Teachers of the University.

2. GENERAL:

- a. Every University employee shall be sincere, devoted to duty, and shall maintain integrity, discipline, impartiality and sense of propriety. Every employee shall always endeavor to maintain good relations with colleagues and students.
- b. No University employee shall behave in a manner, which is unbecoming of such employee or which is derogatory to the image, prestige, decency and decorum of the University.
- c. No University employee shall behave in a manner that places his / her position and / or the University in any kind of embarrassment.

Code of Conduct Rules for Non-Teaching Staff**3. GIFTS:**

No University employee shall accept, receive or permit any member of his/her family to accept, receive any gift from any person, which places the employee in any form of official obligation or embarrassment.

4. SUBSCRIPTIONS:

No University employee shall, without obtaining prior sanction of the competent authority in the University, ask for or accept or receive or participate in the raising of any subscription or other pecuniary assistance in pursuance of any objective whatsoever except for farewell and felicitation functions connected with the University.

5. PRIVATE EMPLOYMENT OR WORK NOT CONNECTED WITH THE UNIVERSITY:

- a. No University employee shall undertake any employment or accept remunerative or honorary work not connected with the University, without the permission of the competent authority in the University,
- b. The University employee may accept membership of bodies like Academic Senate, Executive Council, professional academic bodies, Governing Body / Executive Committee of an educational institution or any organization connected with literary / scientific activities, or may undertake honorary position/work of a cultural / charitable / artistic nature, by intimating the competent authority in the University provided that such membership do not interfere with his/her official duty. However, he/she shall not undertake or shall discontinue such work, if so directed by the Vice-Chancellor, and the decisions of the University thereon shall be final.

6. PRIVATE TRADE, BUSINESS OR INVESTMENT:

- a. No University employee shall, except with the previous sanction of the Vice-Chancellor, engage directly or indirectly in any trade, business and money lending.
- (b) Canvassing by a University employee in support of the business of Insurance agency, Commission agency and the like owned or managed by his wife or any other member of his family or relative or friend shall be deemed to be breach of this sub-rule.

7. COMMUNICATION OF OFFICIAL DOCUMENTS OR INFORMATION:

It shall be the duty of every employee of the University to honour the confidence reposed in him/her by the University. The employee should not divulge any information, known to him/her during the course of his/her official duties, to any unauthorized person or to make any improper use thereof.

8. DISCUSSION ON UNIVERSITY POLICIES:

University employees shall not indulge in any utterance or public criticism, written or otherwise, of the University administration as is repugnant to the dignity of the University employee, and cause or is likely to cause embarrassment to the administration in its relations with its staff or the students of the University or the Government or any other agency.

9. TAKING PART IN POLITICS:

No University employee shall, while being on duty, take active part in politics which includes holding elective or nominated positions in any political party, to contest in elections to the State Legislature or the Parliament or take part in any other election. Provided that a University teacher may contest elections from the Graduates or Teachers constituency by taking leave on loss of pay for the entire period of his/her election campaign and also, if he is elected, for the entire period for which he/she is elected.

10. VINDICATION OF ACTS AND CHARACTER OF THE UNIVERSITY EMPLOYEES:

A University employee shall not, without the previous sanction of the Vice-Chancellor, have recourse to any court or to the press for vindication of his/her public acts or character from defamatory attacks. Nothing in this rule will limit or otherwise affect the right of any University employee to vindicate his/her private acts or character.

11. BIGAMOUS MARRIAGE:

No University employee who has a surviving spouse shall contract another marriage, notwithstanding that such subsequent marriage is permissible under the personal law applicable to him/her for the time being.

12. INFLUENCING SUPERIOR AUTHORITIES FOR FURTHERANCE OF INTEREST:

No University employee shall bring or attempt to bring any kind of influence to bear up on any superior officer or a member of any University authority for the furtherance of his / her interests in respect of matters pertaining to his/her service in the University.

13. ANY ACTION OF CRIMINAL NATURE:

No University employee shall involve in corruption / misappropriation / embezzlement of University funds and other fraudulent actions and / or any action of criminal nature, which is punishable under the general or special laws.

14. DEVOTION TO DUTY:

Every University employee holding a supervisory post shall take all necessary and possible steps to ensure the integrity and devotion to duty of all University employees under his control and authority.

A University employee who habitually fails to perform the task assigned to him within the time set for the purpose and with the quality of performance expected of him, shall be deemed to be lacking in devotion to duty and is liable for punishment.

15. JOINING OF ASSOCIATIONS BY UNIVERSITY EMPLOYEES:

No University employee shall join or continue to be a member of an association the object or activities of which are prejudicial to the interests of the sovereignty and integrity of India or public order or the University.

16. PROMPTNESS AND COURTESY:

No University employee shall, in the performance of his official duties, act in a discourteous manner in his official dealings with the public or otherwise adopt dilatory tactics or wilfully cause delay in disposal of the work assigned to him.

17. PROHIBITION OF SEXUAL HARASSMENT OF WOMEN AT WORK PLACE:

No University employee shall, in the performance of his official duties, act in a discourteous and discriminating manner with any working women or indulge in sexual harassment either directly or by implication.

For the purpose of this rule, Sexual Harassment includes such unwelcome activities either directly or by implication as,-

- a) physical contact and advances;
- b) a demand or request for sexual favours;
- c) sexually coloured remarks;
- d) showing pornography;
- e) making indecent gestures, showing indecent signals and symbols, etc.,
- f) any other unwelcome physical, verbal or non-verbal conduct of sexual nature etc.,

Such conduct amounts to a specific offence under the Indian Penal Code, 1860, the Sexual Harassment of Women at Work Place (prevention, prohibition and redressal) Rules 2013, and Supreme Court Orders, or under any other Law for the time being in force.

18. STRIKES:

No University employee shall participate in any strike or similar activities or incitement thereto.

The expression "Similar activities" shall be deemed to include-

- (i) absence from duty or work without permission.
- (ii) neglect of duty with the object of compelling any superior officer or the University to take or omit to take any official action;
- (iii) any demonstrative fast, like Hunger Strike with the object mentioned in item (ii); or
- (iv) concerted or organized refusal on the part of University employees to receive their pay.

19. DEMONSTRATIONS:

No University employee shall participate in any demonstration which is against the interests of the sovereignty and integrity of India or Public order or the University.

20. FOREIGN CURRENCY AND GOODS:

Every University employee shall intimate to the Competent Authority within fifteen days from the date of receipt of any foreign currency or foreign goods of the value of more than Rs. 1,00,000/- from any person by him / her or by any person of his / her family or by any person on their behalf.

21. PROMOTIONS AND MANAGEMENT OF COMPANIES IN PRIVATE CAPACITY:

No University employee shall in his private capacity, except with the previous sanction of University, take part in the promotion, registration or management of any bank or other company registered under the relevant law for the time being in force.

Provided that a University employee may, in accordance with the provisions of any general or special order of the University, take part in the promotion, registration or management of a Co-operative Society registered under any law relating to Co-operative Societies for the time being in force in the State;

Provided further that no University employee shall, without the previous sanction of the University except in the discharge of his official duties, take part in promotion, registration or management of any Co-operative Society for commercial purpose.

22. PUBLICATIONS OF BOOKS:

No University employee shall, without the previous permission of the University, publish any book, which is not purely of a literary artistic or scientific character. While applying for permission to publish a book, he shall submit to the University a manuscript copy thereof.

23. PARTICIPATION IN RADIO / TV BROADCAST / CONTRIBUTION TO NEWS PAPERS AND PERIODICALS:

No University employee shall, except with the previous sanction of the University or any authority empowered by the University in this behalf or in the course of discharge of his official duties, participate in a Radio broadcast or Drama or Tele-serial or Feature Film or contribute any article or write any letter in his own name or anonymously, pseudonymously or in the name of any other person to a newspaper or periodical;

Provided that no such sanction is necessary if such broadcast or Drama or Tele-serial or Feature Film or article or letter is of a purely literary, artistic or scientific character, or if such broadcast relates to a talk arranged under the general or special order of Government / University; and the University employee may accept the remuneration prescribed for such broadcasts, Dramas or Tele-serials or Feature Films or articles or letters.

24. EVIDENCE BEFORE ANY COMMITTEE, COMMISSION OR OTHER AUTHORITY:

i. No University employee shall give evidence in connection with any inquiry conducted by any Committee, Commission or other Authority:-

a. In India, except with the previous permission of Government / University;

- b. Outside India, except with the previous sanction of Central Government / University;
- ii. Where any sanction is accorded under sub-rule (i), no University employee giving such evidence shall criticise the policy of the Central Government or of a State Government / University.
- iii. Nothing in sub-rule (i) shall apply to –
 - a. evidence given before a statutory Committee, Commission or other Authority which has power to compel attendance and the giving of answers;
 - b. evidence given in judicial inquiries;
 - c. evidence given at any departmental inquiry ordered by the Government / University.

25. NO MEMBERSHIP IN ANY POLITICAL PARTY:

No University employee shall be a member of, or be otherwise associated with, any political party or any organisation in respect of which there is slightest reason to think that the organisation has a political aspect and takes part in politics; nor shall he participate in, subscribe in aid of, or assist in any other manner, any political movement or activity.

26. WORKING WITH OR UNDER, NEAR RELATIVES IN THE UNIVERSITY SERVICE:

Every member of a University Service shall inform his immediate official superior if a member of a University Service, who is his near relative is to work under him.

27. UNIVERSITY EMPLOYEE NOT TO DEAL IN HIS OFFICIAL CAPACITY WITH MATTERS CONCERNING HIMSELF, HIS RELATIVES OR DEPENDENTS:

No University employee shall deal, in his official capacity, with any matter which directly or indirectly concerns himself or any of his relatives or dependents.

28. PROHIBITION OF SENDING REPRESENTATIONS DIRECTLY:

It will be improper for a University employee who makes any representation to the competent authority through the proper channel, to bother the higher authorities with advance copies thereof.

Provided that a University employee may send a copy of any representation made to the competent authority through the proper channel, direct to the higher authorities if the representation is made after exhausting such of the statutory remedies as were open to him and after receiving intimation that his representation has been withheld.

29. DOWRY:

No University employee shall—

- i. give or take or abet in giving or taking of dowry; or
- ii. demand, directly or indirectly, from the parents or guardian of a bride or bridegroom as the case may be; any dowry at or before or any time after the marriage in connection with the marriage of said parties, except in the cases where personal law applies

Explanation:- For the purpose of this rule, the word “dowry” has the same meaning as in the Dowry Prohibition Act, 1961.

30. DRINKING AND SMOKING:

Notwithstanding anything contained in the provisions of any Law relating to intoxicating drinks or drugs and smoking for the time being in force in any area, no University employee shall:

1. while on duty, be under the influence of such drinks or drugs, smoking to such an extent as to render him incapable of discharging his duty properly and efficiently; or
2. appear in a public place in a state of intoxication; or

31. In addition to the above, the following lapses shall constitute improper conduct on the part of University teachers and in a case where the Executive Council is satisfied that the continuance of a teacher in service jeopardizes the smooth and efficient functioning of the University, drastic measures shall be taken against such a teacher.

- i. Failure to perform academic duties, such as preparation for lectures, demonstration, assessment, guidance, invigilation, *etc.*
- ii. Gross partiality in the assessment of students, deliberately over-marking / under-marking or attempting victimization on any ground.
- iii. Inciting students against other students, colleagues or the administration.
- iv. Raising questions of caste, creed, religion, race, sex or region in his relationship with his colleagues and trying to use the above considerations for the improvement of his prospects and for depriving the prospects of others.
- v. Refusal to carry out the decisions by appropriate administrative and academic bodies and /or functionaries of the University.

32. The Vice-Chancellor shall decide the cases of infringement of the above rules, after giving the employee concerned, a reasonable opportunity to explain his/her case.

33. In addition to and independent of the rules mentioned above, and wherever necessary, the provisions of Andhra Pradesh Civil Services (Conduct) Rules, 1964, along with the Government Orders and Amendments issued thereon from time to time, shall apply.

Code of professional ethics for the Teachers of the University

I. A teacher, conscious of his responsibilities and the trust placed in him/her to mould the character of the youth and to advance knowledge, intellectual freedom and social progress, is expected to realise that he/she can provide moral leadership more by example than by precept through a spirit of dedication, moral integrity, and purity in thought, word and deed, now, therefore, in keeping with the dignity in his

calling. This code of ethics for the teachers of the Jawaharlal Nehru Technological University is laid down to be truly and faithfully observed both in private and public conduct.

II. Misconduct or Improper Conduct:

The following acts shall constitute improper conduct on the part of a teacher of the Jawaharlal Nehru Technological University :-

1. Failure to perform academic duties such as preparation, lectures, demonstration, assessment, guidance, invigilation and all other work connected with examinations.
2. Gross partiality or carelessness in assessment of students, deliberately over-marking/under-marking or attempts at victimization on any ground;
3. Undue and inexcusable delay in evaluation;
4. Inciting students against other students, colleagues, University administration, or the State;
5. Raising questions of nationality, caste, creed, religion, race, sex, political affiliation or region in his relationship with his/her colleagues, and trying to use the above considerations for improvement of his prospects and depriving the prospects of others.
6. Refusal to carry out the decisions by appropriate administrative and academic bodies and/or functionaries of the University.
7. Violation of canons of intellectual honesty, such as intentional misappropriation of the writings, research, and findings of others, in short plagiarism.
8. Any other act which is not conducive to smooth and well functioning of the University.

III. Maintenance of Integrity, Devotion to Duty and General Discipline :

1. Every teacher shall at all times maintain absolute integrity and devotion to duty and also be strictly honest and impartial in his official dealings.
2. The teacher shall, at all times, be courteous in his/her dealings with other members of staff, students and members of public.
3. Every teacher shall set an example to his colleagues and students.
4. Every teacher of the University, except part-time teachers, is a whole-time employee of the University, and may be called upon to perform such duties as may be assigned to him/her by the competent authority, beyond scheduled working hours and on closed holidays, Sundays and vacation. These duties shall, inter alia, include attendance at meetings of committees to which he may be appointed by the University.

5. The teacher of the University shall be required to observe the Schedule hours of work, during which he must be present at the place of his duty.
6. Except for valid reasons and/or unforeseen contingencies, no teacher shall be absent from duty without prior permission.
7. No teacher shall leave station except with the previous permission of the proper authority even during leave or vacation.
8. Whenever leaving the station, the teacher shall inform the Head of the Department concerned or the Dean or the Principal, if he/she is himself the Head of the Department, the address where he/she would be available during the period of his absence from station for purpose of correspondence and communication from the University.
9. Every teacher at all times conduct himself in accordance with the orders regulating behaviour and conduct which may be in force in the University.
10. No teacher shall discriminate on grounds of caste, creed, sect/religion, sex, nationality, language, political affiliation. He shall also discourage such tendencies among his colleagues and students.
11. Every teacher shall devote himself diligently to his work and utilise his time to the service of the University and to the cause of education and give full co-operation in all academic programmes and other activities conducive to the welfare of the student community.

12. The teacher shall not resort to arbitrary denial of access to instruction, or persistent intrusion of material unrelated to the course.

13. Relationship between the teacher and the taught :

The teacher –

- (i) respects the dignity, beliefs and rights of students and the right to privacy and confidentiality;
- (ii) acknowledges the individuality and needs of each student, and guides and encourages them to reach their potential;
- (iii) does his best to infuse students with human values and the basic human rights enshrined in the Constitution;
- (iv) is authoritative but compassionate;
- (v) does neither humiliate students, nor have sexual relationships with them;
- (vi) does not harass students, sexually or physically;
- (vii) uses respectable language and behaviour, and acts in a way that will earn respect from students;

(viii) takes reasonable steps to ensure the safety of students; and

(ix) does not abuse his position for financial, political or personal gain.

14. Relationship between the teacher and the community :

The teacher recognises that his University or institution serves the community, and accepts different customs, codes and beliefs within the community.

15. Relationship between the teacher and the profession :

The teacher -

(i) acknowledges that his duties require co-operation with and the support of colleagues;

(ii) keeps abreast of educational trends and developments;

(iii) promotes the ongoing development of teaching and research as a profession; and

(iv) accepts that he has a professional obligation towards education and to strive for achieving excellence in his profession.

16. Relationship between the teacher and colleagues :

The teacher -

(i) does not undermine the status and authority of colleagues;

(ii) does not sexually harass colleagues;

(iii) respects the responsibilities and authority of colleagues; and

(iv) uses proper procedures in cases of professional incompetence or misbehaviour.

IV. Taking part in Politics and Elections :

(1) No teacher shall be a member of, or be otherwise associated with any political party or take active part in politics nor shall he in any manner associate himself with any movement or organisation which is or leads directly or indirectly to be subversive of law and order or the interest of the University.

(2) He shall not subscribe to aid or assist in any manner any political movement or organization.

(3) No teacher shall canvass or otherwise interfere or use his influence in connection with or take part in any election to a legislative body or local authority;

Provided that a teacher qualified to vote at such election may exercise his right to vote, but when he does so, he shall give no indication of the manner in which he proposes to vote or has voted.

(4) Any employee who intends to contest in the Elections to any Local Bodies, Legislature of the State or Parliament shall abide by the relevant Act/rules and conditions laid down by the Election Commission/Authority.

V. Demonstrations and Strikes :

1. No teacher shall engage himself or participate in any demonstration or strike or incite students to demonstrate, or strike, which is prejudicial to the interest of the University or to the interest of public order, decency or morality.

2. He shall not cause or incite students to cause, intentional disruption of functions or activities sponsored or authorised by the University or disrupt, interfere, or intimidate in a class room.

VI. Connection with Press or Radio :

1. No teacher of the University shall, except with the previous sanction of the Vice-Chancellor/Registrar/Principal as they case may be, own wholly or in part, or conduct, or participate in the editing or managing of any newspaper or other periodical publications

2. No teacher of the University shall, except with the previous sanction of the Vice-Chancellor/Registrar/Principal as they case may be, or any other authority empowered by it in this behalf, or in the bonafide discharge of his duties, participate in a radio broadcast or contribute any article or write any letter either anonymously or in his own name or in the name of any other person to any newspaper or periodical :

Provided that no such sanction shall be required if such broadcast or contribution is of purely literary, artistic, academic or a scientific character.

Note : Subject to the restrictions noted below, members of the teaching staff are at liberty, without any sanction as contemplated in paragraph 2 above, to publish their original scientific works in journals of repute in India and abroad or to serve on the editorial board of any purely scientific and academic journal. If, however, they wish to indicate their official designations in the articles they want to publish, previous sanction of the Executive Council shall be necessary.

Such articles must be strictly confined to purely scientific subjects and shall not touch upon administrative matters. They shall be free from all political tinge.

Publication of articles relating to India's boundary areas and the tribal population in such areas without previous permission of the Vice-Chancellor/Registrar/Principal as they case may be is prohibited

VII. Joining of Association by teachers :

No teacher shall join or continue to be a member of an association, the objects and activities of which are prejudicial to the interest of the University or the sovereignty and integrity of India or Public order or morality;

Provided that a teacher may become a member of the Association of teachers as may be approved by the University according to ordinance and can participate in Dharnas/protests/strikes as per call given by the Association of the Teachers.

VIII. Criticism of the University or Government :

No teacher shall in any radio broadcast or in any document publish anonymously or in his own name or in the name of any other person or in any communication to the press or any public utterance make any statement or express an opinion,

(i) which has the effect of an adverse criticism of any current or recent policy or action of the University; or

(ii) which is in the nature of character assassination, reflection on the personal life of his superiors; or

(iii) which is in the nature of criticism of individual as distinct from policy decision; or

(iv) which is capable of embarrassing the relations between the University and the Central Government or any State Government or any other Institution or organisation or members of the public:

Provided that nothing in this Law shall apply to any statement made or views expressed by a teacher in his official capacity or in the due performance of the duties assigned to him.

IX. Evidence before Committee or any other Authority :

1. Save as provided in sub-paragraph (3) below, no teacher shall, except with the previous sanction of the Vice-Chancellor, give evidence in connection with any inquiry conducted by any person, committee or authority.

2. Where any sanction has been accorded under sub-paragraph (1) above, no employee giving such evidence shall criticise the policy or any action of the University or the Central Government or any State Government.

3. Nothing in this paragraph shall apply to –

(a) evidence given at any inquiry before any authority appointed by the University, by Parliament or by a State Legislature; or

(b) evidence given in any judicial inquiry; or

(c) evidence given at any departmental inquiry ordered by the University Authorities.

X. Unauthorised Communication of Information :

1. No teacher shall, except in accordance with any general or special order of the competent authority, or in the performance, in good faith, of the duties assigned to him, communicate, directly or indirectly, any official document or information to any person to whom he is not authorised to communicate such document or information.

2. No teacher shall enter into any pecuniary arrangement with any other teacher or student of the University so as to afford any kind of advantage to either or both of them in any unauthorised manner or

against the specific or implied provisions of any Law for the time being in force.

XI. Gifts :

No teacher shall, except with the previous sanction of the competent authority, accept or permit his/her spouse or any other member of his family to accept, from any person any gift of more than trifling value. The interpretation of the term "trifling value" shall be the same as laid down in the Laws.

XII. Private Trade or Employment or Tuition :

1. No teacher shall, except with the previous permission of the Executive Council, engage, directly or indirectly, in any trade or business or any private tuition or undertake any employment outside his official Assignments :

Provided that the above restrictions shall not apply to academic work and consultative practice undertaken with the prior permission of the Executive Council which may be given subject to such conditions as regards the acceptance of remuneration as may be laid down by the Executive Council.

2. No teacher shall borrow money from his subordinates or students.

XIII. Prohibition of canvassing in service matters :

No teacher shall bring or attempt any influence to bear upon any question in respect of matters pertaining to his service.

XIV. Misuse or Improper use of Official amenities :

No teacher shall unauthorisedly or carelessly use, for personal, commercial, political or religious purposes, resources, facilities and amenities provided to him by the University for the discharge of his official duties.

XV. Insolvency, Habitual Indebtedness and Criminal Proceedings :

1. The teacher shall so manage his private affairs as to avoid habitual indebtedness or insolvency. When the teacher is found liable to arrest from debt or has recourse to insolvency or when it is found that a moiety of his salary is continuously being attached, he may be liable to dismissal. A teacher who becomes the subject of legal proceedings for insolvency shall forthwith report full facts to the University .

2. The teacher who gets involved in some criminal proceedings shall immediately inform the Executive Council through the Head of the Department to which he is attached, irrespective of the fact whether he has been released on bail or not.

3. The teacher who is detained in police custody, whether on criminal charge or otherwise, for a period longer than forty-eight hours is liable for suspension and consequently shall not be permitted to join his duties in the University.

XVI. Vindication of Acts and Character of teachers:

No teacher shall, except with the previous sanction of the Executive Council, have recourse to any Court of Law or the press for the vindication of any official act which has been the subject matter of adverse criticism or an attack of defamatory character :

Provided nothing in this Law shall be deemed to prohibit a teacher from vindicating his private character or any act done by him in his private capacity.

XVII. Marriages, etc. :

A teacher intending to marry a person who holds a citizenship of another foreign country shall seek prior permission of the Executive Council.

No teacher who has a legally wedded wife/husband living, shall contract another marriage and any violation in this regard, the teacher is liable for immediate dismissal from the University service.

XIIIIV. Representations :

(a) Whenever a teacher wishes to put forth any claim, or seeks redress of any grievance or of any wrong done to him, he must forward his case through proper channel, and shall not forward advance copies of his application to any higher authority, unless the lower authority has rejected the claim, or refused relief, or the disposal of the matter is delayed by more than three months.

GENERAL SERVICE CONDITIONS OF SERVICE FOR EMPLOYEES:**GENERAL SERVICECONDITIONS OF SERVICE OF EMPLOYEEES**

(1) The general service conditions shall be applicable to all the University employees;

(2) The following rules shall, to the extent necessary and if not repugnant to any other rules be applicable to the employees of the University.

3. In these rules, unless the context otherwise requires, the following terms or expressions are used in the sense explained against each : -

(a) *'Appointed to a post'* : A person is said to be "*appointed to a post*" when, in accordance with these laws or laws applicable for the time being, he discharges for the first time the duties of the post or commences the probation, instruction or training prescribed therefor.

Explanation : The appointment of a person holding one post to hold additional charge of another post or to discharge the current duties thereof does not amount to appointment to the later post.

(b) *'Approved Probationer'* in a service, class or category means a member of that service, class or category who has satisfactorily completed his probation in such service, class or category.

(3) *'Average Pay'* means the average monthly pay earned during the ten completed months immediately preceding the month in which the event occurs which necessitates the calculation of average pay.

(4) 'Backward Classes' means the communities as notified by the Government.

(5) 'Cadre' means the strength of a service or a part of service sanctioned as a separate unit.

(6) 'Compensatory Allowance' means an allowance granted to meet personal expenditure necessitated by the special circumstances in which duty is performed. It includes traveling allowance.

(7) 'Competent Authority' in respect of any officer is, in so far as any power delegated under these rules is concerned, the authority to which such power has been delegated, and, where no such specific delegation has been made, the competent authority is unless otherwise stated, the authority in whom the power to appoint such officer has been, or is, vested from time to time by the Executive Council.

(8) 'Confirmed member' means a member of a service who has been confirmed in a service of the University in accordance with the provisions of the Laws.

(9) 'Date of regular appointment' means the date of commencement of probation, i.e. the date from which the service rendered by the person after appointment to a service, class or category counts for probation.

(10) 'Day' means a calendar day beginning at midnight. But an absence from headquarters which does not exceed 24 hours is reckoned as one day whatever hours the absence begins and ends.

(11) 'Direct recruitment' : A candidate is said to be recruited direct to a post in case his/her appointment thereto is made otherwise than the following methods :

- (a) by promotion,
- (b) by transfer,
- (c) by re-employment,
- (d) by special agreement or contract.

(12) 'Discharge of a probationer' means in case the probationer is a full member of another post, reverting him/her to such post (original) and in any other case, dispensing with his service.

(13) 'Duty' : A person is said to be "on duty"-

(a) when he/she is performing the duties of a post to which he is appointed or undergoing the probation, instruction or training prescribed for such post, provided that the performance of such duties is followed by confirmation; or

(b) when he/she is absent from duty on authorised holidays or on casual leave taken in accordance with instructions regulating such leave issued by the Executive Council, having been on duty immediately before and immediately after such absence; or

(c) when he/she is being a teacher, absent during vacation; or

(d) when he/she is attending Conferences of learned societies on deputation by the University; or

(e) when he/she is on joining time; or

(f) when he/she is absent from headquarters or from his routine work attending to other University work not connected with his usual routine to which he/she has been specifically deputed in his official capacity either by the Vice-Chancellor or by the Executive Council; or

(g) when he/she is absent from headquarters or from his routine work in connection with University duties *either remunerative or non-remunerative*, provided the duties have been assigned by the Vice-Chancellor or by the Executive Council; or

(h) any other period not listed above, which the Executive Council decides to be treated as 'On Duty'.

(14) 'Employee' means a University employee.

(15) "Ex-service men" means such of the persons as notified by the Government

(16) 'Family', in relation to Government includes the following if they are residing with the employee and are wholly dependent on him/her : -

(a) Wife/husband, as the case may be; includes Wife/Husband respectively

judicially separated wife/husband

(b) Children including step children;

(c) Adopted child, if such adoption is legally recognized as conferring the status of a natural child under the personal law applicable to the employee;

(d) Married daughter till she is placed under her husband's protection;

(e) Widowed daughter; and

(f) Father and Mother.

(17) 'Foreign Service' means the service in which an employee receives his/her substantive pay with the sanction of the University from a source other than the funds of the University.

(18) 'Full Member of the University Staff' means a person who has been appointed substantively to a permanent post in the University.

(19) 'Honorarium' means a recurring or non-recurring payment granted to an employee from the funds of the University as remuneration for special or professional work of an occasional or intermittent nature.

(20) 'Joining time' means the time allowed to an employee to enable him to join a new post at a different station to which he/she is posted while on duty in his old post.

(21) (a) "Last Grade Service" includes all services in posts listed below as well as services in any other post which is declared to be such by the Executive Council.

Office Subordinates (Attenders), Cleaner, Sweepers, Store-cum-cleaner, Gardner, Watchman, Scavengers, Water boy, Workshop Cleaner, Male Nursing Orderly (MNO) Female Nursing Orderly (FNO); and such other posts as may, from time to time, be decided by the Executive Council;

(b) The Subordinate service (Technical) which consists of the following categories

Research Officer, Chemical Engineer, Senior Scientific Assistants, Senior Chemical Engineer, Junior Research Assistants, Junior Scientific Assistants, Works Inspector, Mechanical Foreman, Workshop Instructor, Foreman Fitter, Foremen Carpentry, Welder, Pilot Plant Supervisor, Pilot Plant Mechanic, Glass Blower, Maistry, Mechanics, Instrument Repairer, Lineman & Electricians, Engine Driver, Armature Winder, Pharmacist, Pump house operator, Telecom Mechanic, Workshop Artisan, Workshop Helper, Gas Man, Carpenters, Fitter, Turner, Foundry smith, Hammerman, Blacksmith, Store Luskar, Fitter-cum-welder, Lab Assistants, Boiler Attendants, and such other posts as may, from time to time, be decided by the Executive Council;

a. The Subordinate service (non-technical) which consists of the following categories;

Bus Driver/ Truck Driver/Car Driver, Head Cook, Asst. Cook, Stewards, Record Assistants, Servers, Masalchi, and such other posts as may, from time to time, be decided by the Executive Council

(d) All other service is deemed to be '*Superior Service*'.

(22) '*Leave Salary*' means the monthly amount paid by the University to its employee who is on leave.

(23) '*Lien*' means the title of an employee to hold substantively, either immediately or on the termination of a period or periods of absence, a permanent post including a tenure post to which he has been appointed substantively.

(24) '*Member of the Non-Teaching Staff*' means a person, other than a teacher, who has been appointed by the University and is in service.

(25) '*Member of the Ministerial Staff*' means an employee whose duties are entirely clerical in nature and any other class of employees specially defined as such by the Executive Council.

(26) '*Member of the University service*' means a person who has been appointed to that service and who has not retired or resigned, or who has not been removed or dismissed, or substantively transferred or reduced to another service, or who has not been discharged otherwise than for want of a vacancy. He may be a probationer, an approved probationer or confirmed member of that service.

(27) '*Month*' means a calendar month. In calculating a period expressed in terms of months and days, complete calendar months, irrespective of the number of days in each month, should first be calculated and the add number of days calculated subsequently.

Calculation of a period expressed in terms of months and days

a. To calculate a period of three months and 20 days on and from 25th January, 2009, the following method should be adopted :-

	Y	M	D
25 th January to 31 st January	0	0	7

February to April	0	3	0
1st May to 13 th May	0	0	13
	0	3	20

(b) The period commencing on 30th January and ending with 2nd March, should be deemed as one month and 4 days as indicated below : -

	Y	M	D
30 th January to 31 st January	0	0	2
February	0	1	0
1st March and 2 nd March	0	0	2
	0	1	4

(c) A period of one month and 29 days commencing from the first January will expire, in an ordinary year (in which February is a month of 28 days), on the last day of February, because a period of 29 days cannot obviously mean to exceed a period of full calendar month; and leave for two months from 1st January would end on the last day of February. The same would be the case, if February were a month of 29 days or if the broken period were 28 days (in an ordinary year).

(28) '*Officiate*' An employee officiates in a post when he/she performs the duties of a post on which another person holds a lien. The Executive Council may, if it thinks fit, appoint an employee to officiate in a vacant post on which no other person holds a lien.

(29) '*Out-sourcing of Service*' means that, in terms of a contract between the University and a private Agency, the University for specified works utilises the services of persons placed at its disposal by the Agency and pays remuneration to the Agency at the agreed rates for the services received through its persons, the tacit understanding being that the Agency pays the remuneration to the persons who have rendered the services, and in addition to the remuneration, the Agency receives from the University an extra commission agreed upon. While rendering the required services, the persons of the Agency shall follow all instructions and discipline laid down by the University/relevant G.Os.

(30) '*Panel*' means the authoritative list of candidates approved for regular appointment to any service, class or category drawn up by the University or by Selection Committee or by the appointing authority concerned, but does not include the panel or list prepared for temporary appointment by the appointing authority pending preparation of a panel for regular appointment in accordance with the rules.

(31) '*Pay*' means the amount drawn monthly by an employee as : -

(a) the pay other than special pay granted in view of his personal qualifications, which has been sanctioned for a post held by him substantively or in an officiating capacity or to which he is entitled by reason of his position in a cadre,

(b) special pay and personal pay, and

(c) any other emoluments which may be specially classed as pay by the Executive Council.

(32) '*Period of Probation*' means the period of probation prescribed by the rules or in the order of appointment.

(33) '*Permanent Employee*' means, an employee who holds substantively a post in Superior or Last Grade Service or who holds a lien on such post or would hold such a lien had it not been suspended.

(34) '*Permanent Post*' means a post carrying a definite rate of pay sanctioned without limit of time and included in the cadre of sanctioned posts.

(35) '*Personal Pay*' means additional pay granted to an employee.

(a) to save him from a loss of substantive pay in respect of a permanent post, other than a tenure post, due to a revision of pay or to any reduction of such substantive pay, otherwise than as a disciplinary measure; or

b. in exceptional circumstances, on other personal considerations.

(36) "Physically handicapped person" means a person who is blind, deaf or orthopaedically handicapped as notified by the Government.

(37) '*Presumptive Pay*' of a post, when used with reference to any particular employee means the pay to which he would be entitled if he had held the post substantively and had been performing its duties; but it does not include special pay unless the employee performs or discharges the work or responsibility, in consideration of which the special pay was sanctioned.

(38) '*Probation*' means the period during which a fresh entrant to a service or a person appointed to a higher post for the first time by promotion within the service or by transfer from any other service is put on test for determining his fitness to hold the post.

(39) '*Probationer*' means an employee who has not completed the period of probation.

(40) '*Promotion*' means the appointment of an employee to a higher post.

(41) "*Schedule caste*" means the communities notified by the Government.

(42) "*Schedule Tribe*" means the communities notified by the Government

(43) '*Service of Notice*' by the University to an employee shall be deemed to be sufficient if signed by the Registrar or any other Officer or employee authorised by the Executive Council and delivered at his address recorded in the University records in the manner prescribed.

(44) '*Special Pay*' means any addition to the emoluments of a post of an employee granted in consideration of,-

(a) the specially arduous nature of the duties; or

(b) a specific addition to the work or responsibility.

(45) "Subsistence Allowance" means a monthly grant made to an employee who is under suspension as per Fundamental Rules and not in receipt of a pay or leave salary;

(46) '*Substantive Pay*' means pay, other than special pay, or personal pay or any other emoluments classified as pay to which an employee is entitled to on account of a post to which he has been appointed substantively.

(47) '*Superior Service*' means, service other than Last Grade Service

(48) '*Temporary Employee*' means, an employee in a temporary post or an employee who is not a permanent employee or a probationer or an approved probationer.

(49) '*Temporary Post*' means a post carrying a definite rate of pay sanctioned for a limited time.

(50) 'Tenure Post' means a post for which sanction has been given for a limited period.

(51) (a) 'Time Scale of Pay' means pay which, subject to any conditions prescribed in these and other rules, rises by periodical increments from a minimum to a maximum.

(b) 'Time Scales' are said to be identical if the minimum, the maximum, the period of increment and the rate of increment of the time scales are identical.

(52) "Traveling allowance" means all allowances granted to an employee to cover the expenses which he incurs in traveling in the interests of the University or on University business.

(53) 'Vacation' means any period of recess which exceeds fifteen days in duration.

(54) 'Vacation Department' means a department or part of a department, to which regular vacations are allowed during which the staff serving in the department are permitted to be absent from duty.

4. (a) Appointment to posts shall be by one or more modes indicated below as may be specified by the Executive Council-

(i) Direct recruitment.

(ii) Promotion

(iii) Transfer

(iv) Compassionate appointment as per Govt. Orders

(v) Special Contract/Agreement/Re-employment

(b) If more modes than one listed above have to be followed the Executive Council shall decide about :

(1) the percentage of vacancies to be earmarked for each mode, and

(2) the cycle or order in which vacancies shall be filled in by such different modes.

5. The age, academic and other qualifications, experience, if any, required for appointment to the posts, shall be as laid down by the Executive Council from time to time and the University shall follow such cadre rules for appointment/promotion of Non-teaching employees as mentioned in Annexure-A

6. While making the appointments, the appointing authority shall follow the rules of the State Government regarding reservation of posts to candidates belonging to S.C., S.T., Backward Classes, Women and Physically handicapped and other categories as approved by the Executive Council.

7. All vacancies of posts to be filled in by direct recruitment shall be notified. The guidelines and the mode of notification shall be decided by the Vice-Chancellor with the approval of the Executive Council.

8. a) All appointments to posts shall be made by the appointing authority on the recommendations of the Selection Committee, constituted and in accordance with the guidelines laid down by the Executive Council.

b) The appointing authority shall verify the genuineness of all the certificates produced by selected candidate/employee in support of his claim with the concerned institution/ organization within one month from the date of his appointment and pass orders to make payment of salary.

9. No person shall be appointed to any post unless the appointing authority is satisfied that :

- a. he/she is of sound health, active habits and free from any bodily defect or infirmity rendering him/her unfit for the post;
- b. his/her character and antecedents are such as to qualify him for such service;
- c. he/she possess the academic and other qualifications prescribed for the post;
- d. if he is not less than the minimum age of 18 years or more than the maximum age prescribed by the Government as per relevant G.Os issued from to time.

10. (a) A candidate shall be disqualified for appointment if he/she himself or through relations or friends or any others has canvassed or endeavored to enlist for his/her candidature extraneous support whether from official or non-official sources for any appointment.

(b) No person who has spouse living marries in any case, in which such marriage is void by reason of its taking place during the life time of such spouse, shall be eligible for appointment by direct recruitment.

(c) No woman whose marriage is void by reason of the husband having a wife living at the time of such marriage or who has married a person who has a wife living at the time of such marriage shall be eligible for appointment by direct recruitment.

(d) No person who has been dismissed from a State or Central Government service or from the service of Central or State Government undertaking or local or other authorities or who has been convicted by a court of law for an offence involving moral turpitude shall be eligible for appointment.

11. The candidates selected for appointment by direct recruitment shall join duty within date specified in the appointment order failing which their names shall be deemed to have been removed from the list of selected candidates, unless the Vice-Chancellor considers that there are valid reasons for the delay for joining duty.

12. An employee of the University who is appointed to a post either on promotion to any higher category or to a post on recruitment by transfer shall join within the date specified in the order. Where any employee fails to join, or evades joining by applying for leave or otherwise, the new post to which he/she is so appointed, within the said time, he/she shall forfeit all his rights for the present and future for such post.

13. Employees shall pass such departmental conducted by the APPSC to become eligible for further promotions in the ministerial services and also to become eligibility for acquiring 12/18/24 years scales as per G.Os that are issued from to time.

14. a) A Service Register in the prescribed proforma, preferably in Fundamental Rules Form "10" shall be opened for every employee of the University within one month from the date of his first entry into the University service. In the Service Register, every step in a University employee's official life, including date of birth, temporary and officiating appointments and promotions of all kinds, the date on which the probation is satisfactorily completed, transfers, leave of absence taken (except casual leave), Scale of Pay, Pay, increments, acquisitions of qualifications and all other events in the service of the University employee shall be regularly and concurrently recorded. Each entry shall be duly verified with reference to the University orders, pay bills, leave statement etc., attested by the officer maintaining the Service Book after due verification.

b) The Service Register in every office shall be verified in the month of March of every year and attested by the competent authority after satisfying himself that the services of the University employee concerned relating to the period are carefully recorded in the Service Register.

c) The Service Register shall be made available to the employee for verification of the entries recorded in the Service Register. If any discrepancy is found the same shall be brought to the notice of the University.

15. Every person, other than the Vice-Chancellor or a military pensioner or a retired employee appointed in the University on a contract on his first appointment to a post in the University shall produce at the time of joining in the prescribed format a medical fitness certificate from the University Medical Officer, or a Medical Officer not below the rank of Civil Assistant Surgeon.

16. An employee appointed by direct recruitment shall make a declaration of age to the appointing authority at the time of his/her entry into the service of the University based on his Secondary School Certificate or such other documentary proof as may be applicable upon which his/her age will be admitted. After the declaration of age and acceptance of the same by the appointing authority it shall be entered in the Service Register and is binding on the employee and no alteration of such age shall be allowed to be made at a later date during his/her service in the University for any purpose or reason what so ever.

17. Unless in any case it be otherwise distinctly provided, the whole time of an employee is at the disposal of the University which pays him/her and he/she, without claim for additional remuneration, may be employed in any manner required by proper authority, if necessary, beyond scheduled working hours and on closed holidays and Sundays.

18. (a) Two or more employees cannot be appointed substantively to the same permanent post at the same time.
- (b) An employee cannot be appointed substantively to two or more permanent posts at the same time.
- (c) An employee cannot be appointed substantively to a post in which another employee holds a lien.

JOINING TIME

19. Joining time:

(1) Joining time may be granted to a University employee to enable him,--

- a) to join a new post to which he is appointed while on duty in his old post; or
- b) to join a new post—

(i) on return from leave on average pay of not more than four months duration; or

(ii) when he has not had sufficient notice of the appointment to the new post, on return from leave other than that specified in sub-clause (i)

(2) (a) Not more than one day is allowed to a University employee in order to join a new post when the appointment to such post does not necessarily involve a change of residence from one station to another.

(b) In cases involving a change of station, the joining time allowed to a University employee is subject to a maximum of 30 days, 6 days are allowed for preparation and in addition, a period to cover the actual journey.

(c) When holiday(s) follows (s) joining time, the normal joining time may be deemed to have been extended to cover such holiday (s);

(d) A Sunday does not account as a day for the purpose of calculation in this rule, but Sundays are included in the maximum period of 30 days.

(e) The authority sanctioning the transfer, may in special circumstances reduce the period of joining time admissible under sub-rule 2 above.

(f) A Holiday or Sunday counts as a day for the purpose of this rule. No joining time is admissible in cases when the change of post does not involve an actual change of office. Transfers which do not involve change of building should not be treated as change of office for the purpose of this rule and no joining time is admissible in such case.

(3) By whatever route the University employee actually travels, his joining time shall, unless the Vice-Chancellor for special reasons otherwise orders, be calculated by the route which travelers ordinarily use.

(4) Within the maximum of 30 days, the Vice-Chancellor may under special circumstances recorded in writing, extend the joining time admissible by rule.

(5) When a University employee eligible to avail vacation is transferred during the vacation, he may be permitted to join after expiry of the vacation although the usual joining time is thereby exceeded.

(6) A University employee transferred at his own request may be allowed joining time subject to the conditions that the authority sanctioning the transfer may reduce the period of joining time admissible, to the extent necessary in the interest of the University.

(7) The joining time shall commence from the date of relinquishment of charge of the old post, if the charge is made over in the forenoon or the following date if the charge is made over in the afternoon.

(8) During the joining time a University employee shall be regarded as on duty during and shall be entitled to be paid joining time pay, equal to the pay which was drawn before relinquishment of charge in the old post, He will also be entitled to dearness allowances, if any, appropriate to the joining time pay. In addition, he can also draw compensatory allowances like city compensatory allowances, house rent allowance as applicable to the old station from which he was transferred. He shall not be allowed conveyance allowance.

(9) In cases where the charge transferred consists of several stores and /or scattered work which the relieving and relieved University employees are required to inspect together before the transfer of charge is completed, the relieving University employee shall be treated as on "duty" if the period spent on carrying out these inspections or physical handing over charge of stores etc., is not considered excessive by the Vice-Chancellor based on the certificate given by the head of the office concerned.

While so taking over, the relieving officer will draw:-

i. If he is transferred from a post which he held substantively his presumptive pay in that post; or

ii. If he is transferred from a post which he held in on officiating capacity, the officiating pay admissible in that post, or the pay he would draw after the transfer is complete, whichever is less.

While so taking over, the relieving officer will draw city compensatory allowance and house rent allowance as admissible at the new station on the basis of pay drawn as at (i) or (ii) above as the case may be.

(10) A University employee who does not join in his post within his joining time is entitled to no pay or leave salary after the end of the joining time. Willful absence from duty after the expiry of the joining time will be treated as misconduct resulting in disciplinary action.

(11) Traveling allowance etc. shall be paid to the employees on transfer from one station to another as admissible and at the rates prescribed and traveling allowance is not admissible in the case of request transfers from one station to another.

20. In cases where the passing of an examination or test confers on an employee the title to any right, benefit or concession, such title shall be deemed to have accrued on the day following the last day of examination or test which he/she passed. In cases where the examination or test can be passed in installments, the title to the right, benefit or concession shall be deemed to have accrued on the day following the last day of examination in the subject or subjects in which he/she has passed.

Pay

21. a) The scale of pay for each post or category of posts of the non-teaching staff shall be as fixed by the Executive Council from time to time.

b) A University employee shall begin to draw pay and allowances to the post to which he is appointed with effect from the date when he assumes duties of his/her post and shall cease to draw them as soon as he/she ceases to discharge his duties. For the purpose of this rule assumption of duties when taken in the afternoon of any day shall be deemed to have taken place in the forenoon of the following day for the purpose of calculation of pay and allowances.

c) Pay in respect of any month shall become payable on or after the first working day of the following month.

22. The initial substantive pay of a University employee who is appointed substantively to a post on a time scale is regulated as follows:

(i) If he holds a lien on a permanent post:

a) When an appointment to the new post involves the assumption of duties or responsibilities of greater importance than those attaching to such permanent post, he will draw as initial pay the stage of the time-scale next above the substantive pay in respect of the old post.

b) When appointment to a new post does not involve such assumption, he will draw as initial pay the stage of the time-scale which is equal to his substantive pay in respect of the old post, or if there is no such stage the stage next below that pay, plus personal pay equal to the difference. In either case he will continue to draw that pay until such time as he would have received an increment in the time-scale of the old post, or for the period after which the increment is earned in the time-scale of the new post, whichever is earlier. But if the minimum pay of the time scale in the new post is higher than his substantive pay in respect of the old post, he will draw that amount as initial pay;

c) The pay of a regular University employee when appointed directly to another post under the University on selection shall be fixed in the new post at a stage which is not lower than the pay drawn by him in the earlier post;

ii) If the conditions laid down in sub-clause (i) are not applicable he will draw as initial pay the minimum of the time-scale.

iii) Notwithstanding anything contained in these laws, where a University employee holding a post in a substantive, officiating or temporary capacity is promoted or appointed in a substantive, officiating or temporary capacity to another post carrying duties and responsibilities of greater importance than those attached to the post held by him, his initial pay in the time scale of the higher post shall be fixed at the stage next above the pay notionally arrived at, by increasing his pay in respect of the lower post, by one increment at the stage at which such pay has occurred.

iv) The pay of a University employee who is appointed to an officiating post shall be determined by the Executive Council from time to time. A University employee who is appointed to officiate in a post shall not draw pay higher than his substantive pay in respect of a permanent post unless the officiating appointment involves the assumption of duties and responsibilities of greater importance than those attached to the post on which he holds a lien. The officiating appointment shall not be deemed to involve the assumption of duties and responsibilities of greater importance if the post to which it is made is on the same time-scale of pay as the permanent post on which he holds a lien or on a scale of pay identical therewith.

v) a) Subject to the above provisions, a University employee who is appointed to officiate in a post will draw the presumptive pay of that post.

b) On an enhancement in the substantive pay, as a result of increment or otherwise the pay of such University employee shall be refixed under sub-clause (a) above from the date of such enhancement as if he was appointed to officiate in that post on that date, where such refixation is to his advantage.

vi) A probationer shall draw the minimum of pay in the time-scale of pay applicable to the post for which he is appointed;

vii) It shall be competent for the Executive Council for adequate reasons to be recorded in writing to place a University employee at any stage in the time scale.

viii) The holder of a post, the pay of which is changed shall be treated as if he were transferred to a new post on the new pay. Provided that he may at his option retain his old pay until the date on which he has earned his next or any subsequent increment in the old scale, or until he vacates his post or ceases to draw pay in that time scale. The option once exercised is final.

ix) If a University employee is appointed to hold full charge of a post in addition to his own as a temporary measure, the additional pay which may be granted to him/her shall not exceed one-fifth of his pay in respect of the additional post held by him for a period exceeding fifteen days in addition to his/her own. The additional pay shall be payable at the rate of 1/5th of the basic pay for the first three months and 1/10th of the basic for the next three months. The claims shall be preferred as per Combination of appointment/relevant Fundamental Rules). No additional pay is admissible beyond six months.

23. In addition to pay, the Executive Council may sanction to the employees such allowances (Dearness Allowance, House Rent Allowance, City Compensatory Allowance and any other Allowances) applicable as per G.O.s issued from time to time by the Government.

Increments

24.a) All duty in a post on a time scale counts for increments in that time scale.

b) Service in another post, whether in a substantive or officiating capacity, service on deputation and leave other than extraordinary leave, count for increments in the time scale applicable to the post.

Provided, however that the Executive Council shall have the power to direct that extraordinary leave shall be counted for purposes of increment, if it is satisfied that such leave was taken on account of illness or for any other cause beyond the control of the employee concerned.

c) An increment shall ordinarily be drawn as a matter of course unless it has been withheld. No employee shall be given his increment unless the head of his office signs a certificate in the prescribed form to the effect that the work and conduct of the employee in question during the period, which counts for increment, have been such as to justify the grant of the increment and the said certificate is attached to the pay bill.

d) The Registrar shall be the authority competent to sanction annual increments to all employees except the teachers and Salaried Officers. The Vice-Chancellor shall be the competent authority to sanction annual increments to teachers and Salaried Officers.

e) An increment may be withheld from an employee if his conduct has not been good and his work has not been satisfactory or for reasons to be recorded in writing.

The authority competent to appoint an employee is empowered to withhold increment from him. In ordering the withholding of an increment, the withholding authority shall state the period for which it has to be withheld and whether the postponement shall have the effect of postponing future increments.

Note: (1) The order withholding an ordinary increment in a time-scale shall specify the period for which it has to be withheld if the order is to be operative. Should the order not state that the withholding of the increment shall have the effect of postponing future increments, it shall be assumed that the employee's pay has been restored to what it would have been had his increment not been withheld, from the next natural date from which he would have drawn an increment.

The effect of such an order withholding a particular increment will be that the employee shall remain on the same pay without any increment for the period for which that order withholds the increment.

(2) (a) Where it has been proposed to withhold an increment in an employee's pay as a punishment, the authority inflicting the punishment, shall, before the order is actually passed, consider whether it will effect the employee's pension, if any, and if so, to what extent, and shall it be decided finally to withhold the increment, it shall be made clear in the order " that the effect of the punishment on the pension has been considered and that the order is intended to have this effect".

(b) The above Laws are not applicable to stoppages at an efficiency bar.

(3) Should an employee be suspended for misconduct, neither the period of suspension nor any period of service preceding the suspension shall be allowed to count towards the period necessary to earn an increment.

(4) In cases of suspension on account of imprisonment for debt or for reasons other than misconduct, the period of service preceding the suspension may be allowed to count for increments but not the actual period of suspension.

f) In case of probationers, the employee is, subject to other conditions, eligible to draw the first annual grade increment on completing 12 months of service. However, he is eligible to draw the subsequent increment only after declaration of probation even though he has put in a service of 12 months.

g) Service, as laid down in the following clauses and in such other manner as the Executive Council may determine from time to time, counts for increments in a time-scale.

i) All duty in a post on a time-scale counts for increment in that time-scale.

ii) Service in another post, whether in a substantive or officiating capacity, service on deputation and leave other than extraordinary leave, count for increments in the time-scale applicable to the post on which the employee holds a lien, provided that the Executive Council shall have power in any case in which it is satisfied to direct that extraordinary leave shall be counted for increment under this clause.

iii) Should an employee while officiating in a post or holding a temporary post on a time-scale of pay, be appointed to officiate in a higher post or to hold a higher temporary post, his officiating or temporary service in the higher post shall, if he is reappointed to the lower post, count for increment in the time-scale applicable to such lower post.

iv) All leave other than extraordinary leave and the period of deputation shall count for increment in the time-scale applicable to a post in which an employee was officiating at the time he proceeded on leave or deputation and would have continued to officiate but for his proceeding on leave or deputation, provided that the Executive Council shall have power in any case in which it is satisfied, to direct the extraordinary leave shall be counted for increment under this clause.

Note: (1) A period of overstay of leave does not count for increments.

(2) Whenever increments are drawn for officiating employees in respect of the posts in which they officiate, a note should invariably be made in the increment certificate whether there was any period of deputation or leave during the period of approved service for which the increment has been claimed and whether they would have continued to officiate but for their proceeding on leave or deputation.

(3) Officiating service in a lower time-scale will not count for increment in the substantive post on a higher scale without the specific sanction of the Executive Council in each case.

h) If the annual increment of an employee falls due on any date other than 1st of a month, the increment shall be granted on the 1st of that month. However this provision cannot be applied in the case of employee whose annual increment was postponed as a penalty.

25. If a University employee, while officiating in a post or holding a temporary post on a time scale of pay, is appointed to officiate in a higher post or to hold a higher temporary post; his officiating or temporary service in the higher post shall if he is reappointed to the lower post, count for increment in the time scale applicable to such lower post.

26. The authority competent to appoint a person shall have the power to withhold his increment. In ordering the withholding of an increment, the withholding authority shall state the period for which it is withheld and whether the postponement shall have the effect of postponing future increments. It shall further state in the order that the period for which the increment has been stopped will be exclusive of any interval spent on the leave before the period is completed.

27. The Executive Council when ordering the transfer of a University employee as a penalty from a higher to a lower grade or post may allow him to draw any pay not exceeding the maximum of the lower grade or post which it may think proper.

If a University employee is on account of gross misconduct or inefficiency reduced to a lower grade or post or to a lower stage in his time scale, the Executive Council when ordering such reduction, shall state the period for which it shall be effective and whether, on restoration, it shall operate to postpone the future increments and if so, to what extent.

Note: The authority ordering the temporary reduction of a University employee should expressly state in the order that the period for which the reduction has been ordered will be exclusively of any interval spent on leave before that period is completed.

28. An officiating University employee who has no substantive appointment cannot count non-continuous officiating service for increments in a time scale.

29. If the annual grade increment of an employee other than Teacher falls due on any date other than 1st of a month, the increment shall be granted on the 1st of that month. However this provision cannot be applied in the case of employee whose annual increment was postponed as a penalty.

Probation and Confirmation

30. Every person appointed to a permanent post either in Superior Service or Last Grade Service, whether by promotion or by direct recruitment, shall be on probation in such a post for a period of two years on duty.

31. A person appointed either by direct recruitment or promotion shall commence his probation from the date of joining duty or from such other date as the appointing authority may decide.

32. (a) If a person, having been appointed temporarily to a post, is subsequently appointed to the post, he shall commence his probation from the date of such subsequent appointment or from such earlier date as the appointing authority may determine. But in the absence of any such specific order the probation shall be deemed to commence from the earlier date of his temporary appointment, provided the service is continued without a break and shall not adversely affect any person appointed already to a post in similar category.

(b) A probationer, in any post, shall be eligible to count for probation his service in any higher post in the same category during the period of probation.

33. (i) If within the period of probation a probationer fails to acquire the special qualifications or to pass the special tests, if any, prescribed in the rules or in the order of appointment or serve the period of probation satisfactorily, the appointing authority shall, by order, discharge him from service unless the period of probation is extended by the appointing authority which in any case shall not exceed two years, extension being granted for one year at a time.

(ii) Any delay in the issue of an order discharging a probationer under clause (i) above shall not entitle him to be deemed to have satisfactorily completed his probation.

34. Notwithstanding any thing contained in the above rule, the services of an employee on probation are terminable with one month notice on either side but the University may pay one month salary in lieu of such notice on account of unsatisfactory performance of duties or conduct or for any other sufficient reason to be recorded in writing.

35. The appointing authority, may, at any time, before the expiry of the prescribed period of probation, suspend the probation of a probationer and discharge him from service for want of vacancy.

36. (a) At the end of the prescribed or extended period of probation, as the case may be, the appointing authority shall consider the probationer's suitability for full membership of the staff for which he was selected.

(b) If the appointing authority decides that a probationer is suitable for such membership, it shall, as soon as possible, issue an order declaring the probationer to have satisfactorily completed his probation. On the issue of such order, probationer

shall be deemed to have satisfactorily completed his probation on the date of the expiry of the prescribed or extended period of probation.

(c) If the appointing authority decides that the probationer is not suitable for such membership, it shall, by order, discharge him.

37. A probationer may be appointed to officiate in a higher permanent or temporary post and may be granted the emoluments attached to that post.

38. As soon as a person initially appointed to a post is declared to have satisfactorily completed his/her period of probation, he/she shall be confirmed in that post by the appointing authority by which he becomes a full member of the staff and a permanent employee.

Leave

39. The employees shall be governed by such rules relating to grant of all kinds of leave viz., debitible and non-debitible as per A.P.Leave Rules, 1933 and also as per Fundamental Rules and G.Os which are issued from time to time.

40. After 5 years of continuous absence from duty, either with or without leave, an employee shall cease to be in the University employment. The relevant Fundamental Rules/ G.Os are made applicable to the all categories of the University employees.

41. When an employee does not resume duty after remaining on leave for a continuous period of three years, or whether an employee after the expiry of his leave remains absent from duty, otherwise than on foreign service, or on account of suspension, for any period which together with the period of leave granted to him exceeds three years, his lien shall, unless the Executive Council in view of exceptional circumstances of the case otherwise determines, be deemed to have been terminated and he/she shall cease to be in the University service.

42. The absence of an employee from duty for a period not exceeding two years, whether on leave or on foreign service, or on deputation or for any approved reason shall not, if he is otherwise fit, render him/her ineligible on his return, -

(a) for re-appointment to a substantive or officiating vacancy in the grade or post in which he may be a probationer; or

(b) for promotion from a lower to a higher post in the same category;

or

(c) for appointment to any substantive or officiating vacancy in another post for which he may be qualified as the case may be, in the same manner, as if he had not been absent. He shall be entitled to all the privileges in respect of appointment, seniority, probation and confirmation which he would have enjoyed but for his absence subject to his completing satisfactorily the period of probation, if any, on his return.

43. In all cases of unauthorised absence from duty continuously for a period exceeding one year, the penalty of removal from service shall be imposed on an employee duly following the prescribed procedure as per G.Os.

Seniority

44. (a) The seniority of an employee in a grade, unless he has been reduced to a lower rank as a punishment, be determined by the date of his first appointment to such grade. If any portion of the service of such person does not count towards probation under these rules, his seniority shall be determined by the date of commencement of his service which counts towards probation.

(b) The appointing authority may, at the time of passing an order appointing two or more persons simultaneously to a grade, fix the order of preference among them; and where such order has been fixed, seniority shall be determined in accordance with it, unless it has been subsequently altered by competent authority for reasons recorded in writing.

(c) When the holder of any post in a grade is reduced to a lower grade, he shall be placed at the top of the latter unless the authority ordering such reduction directs that he shall take rank in such lower grade next below any specified member thereof.

Promotion

45. (a) No member of the University service shall be eligible for promotion from the post to which he/she was appointed unless he/she has satisfactorily completed his/her probation in that post.

(b) All promotions shall be made on grounds of merit and record of service, seniority being considered only where the merit and record of service are approximately equal.

Reduction

46.(a) The competent authority may reduce on account of misconduct or inefficiency of an employee to a lower grade or post, or to a lower stage on his time scale for a temporary period or permanently and if temporary such order shall specify the period for which it shall be effective.

(b) If the full member of the University service in a grade is substantially reduced to a lower grade, he shall be deemed to be a full member of the latter and the permanent cadre thereof shall, if there is no vacancy in which he could be absorbed, be deemed to be increased by one. Such addition shall be absorbed in the next vacancy that subsequently arises in the lower grade.

Resignation and Consequences of Resignation

47. An employee may resign his appointment and the acceptance of his resignation by the appointing authority or by an Officer authorised by it shall take effect :

(i) In case he is on duty, from the date on which he is relieved of his duties in pursuance of such acceptance;

(ii) In case he is on leave, from the date of communication of such acceptance to the employee, or if the said authority so directs, from the date of expiry of leave.

Note : The resignation of an employee under suspension or deemed to have been placed under suspension shall not be accepted.

48. A member of the University Staff shall, if he resigns his appointment, forfeit not only the service rendered by him in the particular post held by him at the time of resignation but all his previous service under the University. A person who has once tendered his resignation is not entitled to withdraw it unless permitted to do so for satisfactory reasons by the Executive Council.

49. The reappointment of such person to any post shall be treated as a fresh appointment to such post by direct recruitment and all rules governing such appointment shall equally apply; and on such reappointment, he shall not be entitled to count any portion of his previous service for any benefit or concession admissible under any Law or order, unless the Executive Council orders otherwise.

Termination of Service

50. (a) The Executive Council shall have power to terminate, without assigning any reasons, the services of a temporary employee without any notice and the services of a permanent employee at any time after giving him three months notice or three months salary in lieu of such notice.

However, the Executive Council may relieve an employee from his duties with shorter notice or without demanding notice.

(b) An employee who is given notice of termination as above, may be granted, during the period of notice, such earned leave, as may be admissible to him, and where the leave so admissible and granted is more than three months, his services shall be terminated on the expiry of such leave.

51. It shall be competent for the Executive Council to terminate the services of an employee if it is satisfied on the report of a Medical Board appointed by it for the purpose, that the employee is incapacitated or has become insane and is likely to

continue permanently incapable of discharging his duties by reason of ill health. The decision of the Executive Council shall be final and conclusive.

Dismissal and Suspension

52. The pay and allowances of an employee who has been dismissed or removed from service shall cease from the date of such dismissal or removal.

53. (1) A person under suspension pending enquiry shall not draw his pay and allowances during the period of suspension but he is entitled to a subsistence allowance at such rate as per rules, but not exceeding one-half of the pay which is admissible to him/her before commencement of the suspension and dearness allowance based on the subsistence allowance, –

Provided where the period of suspension exceeds three months, it shall be competent for the Executive Council to vary the amount of subsistence allowance for any period subsequent to the period of the first three months as follows: -

(i) the amount of subsistence allowance may be increased by a suitable amount not exceeding 50% of the subsistence allowance admissible during the period of the first three months, if, in the opinion of the Executive Council, the period of suspension has been prolonged for reasons, to be recorded in writing, not directly attributable to the employee.

(ii) the amount of subsistence allowance may be reduced by a suitable amount, not exceeding 50% of the subsistence allowance admissible during the period of the first three months, if, in the opinion of the Executive Council the period of suspension has been prolonged due to reasons, to be recorded in writing, directly attributable to the employee.

(iii) the rate of dearness allowance will be based on the increased, or decreased amount of subsistence allowance as the case may be, admissible under clause (i) or (ii) above.

(2) Payment under (1) above shall be made only when the employee furnishes a declaration that he is not engaged in any other employment, business, profession or vocation.

(3) The following deductions, if any, shall be made from the subsistence allowance: -

- i. Income Tax and surcharge, provided the employee's yearly income calculated with reference to subsistence allowance is taxable.
- ii. House Rent and allied charges, i.e., electricity, water, furniture etc.,
- iii. Repayment of loans and advances other than from Provident Fund taken from the University at such rates as the Vice-Chancellor may decide;
- iv. Subscription to Group Insurance Scheme.
- v. Recovery of over-payments made to the employee, however, limiting it to 1/3 of the subsistence allowance.
- vi. The other deductions normally made, may be made with the written consent of the employee.

54. (1) When the suspension of an employee has been held to have been unjustifiable or not wholly justifiable, or when an employee who has been dismissed or removed or suspended has been reinstated, the Executive Council may grant him for the period of his absence from duty,

(a) should he be honourably acquitted the full pay to which he would have been entitled if he had not been dismissed or removed or suspended, and, by an order to be separately recorded, any allowance of which he was in receipt prior to his dismissal or removal or suspension; or

(b) if found guilty or if his conduct was not wholly justifiable, such proportion of such pay and allowances as the Executive Council may fix.

(2) In cases falling under sub-clause (a) above, the period of absence from duty shall be treated as a period spent on duty and in cases falling under sub-clause (b) above it will not be treated as a period spent on duty unless the Executive Council so directs.

(3) (a) An employee who has been committed to prison either for debt or on criminal charge shall be considered as under suspension from the date of his arrest, and therefore, entitled only to subsistence allowance until the termination proceedings issued against him, when, would he be not dismissed, and adjustment of his pay and allowance shall be made according to the conditions and terms prescribed, the full amount being given only in the event of the employee being considered to be acquitted of blame or (if the imprisonment was for debt), of its being proved that the employee's liability arose from circumstances beyond his control.

(b) The amount of subsistence allowance, if any, already drawn shall be deducted from the pay and allowances or proportion of them which may be granted to him.

(c) The grant of pay and allowances or a proportion of them does not cancel any officiating arrangements that may have been in force while the employee was under suspension or dismissal.

(d) In deciding whether any pay and allowances should be granted to an employee in temporary service, the period for which the temporary post has been sanctioned shall be taken into consideration.

55. Leave shall not be granted to an employee under suspension.

56. Where an employee has been dismissed, removed or reduced from any cadre in the service, no vacancy caused thereby or arising subsequently in such cadre in the service shall be substantively filled to the prejudice of such a person until the time allowed for preferring an appeal against such dismissal or reduction has expired or the appeal preferred by him is decided and except in conformity with such decision, as the case may be.

Retirement

57. (1) The date of compulsory retirement for Teaching staff employees shall be age of 62 years and 60 years in respect of N.T. Staff employees, but however the age of superannuation as per G.O. that are issued from time to time shall made applicable.

Note :(i) If the said date falls on any date other than the last day of that month, he shall retire from service on the last date of that month.

(ii) If the said date of retirement is first day of the month, he shall retire on the last day of the immediate previous month.

58. Fundamental Rules.

a. The employees shall be governed by all Fundamental Rules in respect of service matters/grant of leave/dismissal or removal etc. shall apply mutatis and mutandis to the all categories of employees of the University.

APPOINTMENT, DUTIES AND POWERS OF PRINCIPAL OF A COLLEGE:

1. APPOINTMENT:

a. The Vice-Chancellor is the competent authority to appoint the Principal of any of the University Colleges / Constituent Colleges

b. The Principal shall be appointed from amongst the permanent and senior Professors of the University and / or the college concerned by rotation having 05 years service as Professor in JNTUA.

c. The term of appointment of the Principal shall be initially for a period of two years and is extendable for one more term.

d. The Principal of the University College / Constituent College shall be paid an additional allowance, besides salary drawn by him / her as Professor, as may be fixed by the Executive Council.

e. The workload of a Principal in teaching and research shall be as per the guidelines prescribed by the UGC / University.

2. DUTIES OF THE PRINCIPAL:

The Principal shall be the administrative Head of the College and shall perform the following duties:

a. Conduct admission of students to the various programmes, in the Depts./ Centres within the jurisdiction of the college;

b. Take all necessary steps to prevent ragging and take appropriate disciplinary action on complaints of ragging;

(c) Assist the University authorities in matters of student counseling and discipline within the College;

(d) Maintain general supervision and control over the teaching and non-teaching staff of the College, and be responsible for maintaining discipline among the staff and students of the college;

(e) Arrange safe and proper maintenance of the buildings / laboratories / libraries / hostels / stores/ play grounds and other properties of the college;

c. Prepare the academic schedule each year for the College in consultation with the Heads of the Department concerned, and co-ordinate the teaching programmes in all the teaching departments of the College.

d. Monitor the maintenance of –

i. Attendance registers and progress reports of the students;

ii. Regular display of students' attendance particulars on the notice boards and the website of the College / Departments;

iii. Records of equipments, books, stores and the like in the prescribed format;

e. Call for periodical reports from any Head of the Department in the College regarding:

i. Attendance and Progress reports of the students;

ii. Equipment registers and all other stores particulars;

iii. Expenditure incurred on budgeted items;

f. Constitute internal Committees as specified below for various activities in the College, and preside over their meetings, record the minutes, circulate them among the members and implement the recommendations of the Committees.

- i. Library Committee
- ii. Sports Committee
- iii. Purchase Committee
- iv. Committee of Student Counselors
- v. Anti-Ragging Committee
- vi. Any other Committee concerning the College matters

g. Administer the recurring and non-recurring funds of the College, and properly maintain the accounts books

POWERS:

The Principal shall exercise the following powers without prejudice to any rule / regulation of the University in vogue:

- a. To condone, on medical grounds, the attendance requirement of students to the extent permitted by the relevant rules of the University;
 - b. To fine / suspend a student of the College for any proven misconduct. The Principal may, with the prior approval of the Vice-Chancellor, rusticate any student for proven misconduct in the College or outside as per “code of conduct and discipline for students”
 - c. To sanction different types of leave, as prescribed by the University following the procedure laid down from time to time, to the teaching and non-teaching staff working in the College;
 - d. To recommend in-charge arrangements for non-teaching staff vacancies in the Principal’s Office as per University rules;
 - e. To recommend proportionate reservation of leave to staff entitled to vacation who are assigned official duty without remuneration, by the University, during the period of vacation;
 - f. To correspond with the authorities concerned, both in the University and Government, for the grant of various scholarships (SC/ST, BC, EPP, PH etc.) to eligible boarders in the university hostels, and initiate steps to receive the same;
 - g. To maintain an office with necessary sections as may be earmarked by the Registrar and maintain all accounts, stores, and records relevant to the College.
 - h. To announce the last date for payment of tuition fees and any other fees for various courses as per the regulations of the University;
 - i. To let out, with the prior approval of the Vice-Chancellor, the College premises to outside agencies for a brief and limited period of time, but without disturbance and / or detriment to the College assets and its normal functioning;
 - j. To approve quotations for purchase of materials for the College, provided the cost of the materials does not exceed an amount prescribed by the University;
 - k. To approve the recommendations of the College Purchase Committee on purchase of materials worth up to an amount prescribed by the University;
- To utilize the unspent balance of non-University fund for improving facilities in the College, subject to rules framed in this regard.

m. Based on the annual stock verification report, the Principal may

- i. Write off unserviceable articles worth up to an amount prescribed by the University;
- ii. Auction unserviceable articles worth up to an amount prescribed by the University.

▪ The Principal is authorized to accord Administrative approval and Financial

Approval for all works up to Rs.3.00 lakhs.

○ Tenders – The Principal is empowered to accept the tenders for the works up to Rs.3.00 lakhs. Revised Estimates –they are empowered to approve the revised Estimates, Work-slip of original works up to 10% excess

p. Sanctions, Remission and the writing off of irrecoverable losses and damages of stores, equipment and other property of the University – on recommendation of the University Committee appointed by the Vice-Chancellor up to Rs. 50,000/- (Previously not mentioned).

q. The process of remission, writing off of irrecoverable losses and damages of stores, equipment shall be followed as per the University standard procedure and report to the Vice-Chancellor for information.

r. Sanction, purchase of machinery, equipment, apparatus, furniture and other stores of non-recurring nature, the cost of which at any one time up to Rs. 3.00 lakhs for article or more articles of the same kind of the clause – the procurement of machinery, equipment on other sources shall be followed as per standard procedure of the University.

s. Sanction, purchase of stores, apparatus raw materials of a recurring nature the cost of each individual article or more than on article of the same class or kind at any one time up to Rs.3.00 lakhs.

t. Write off irrecoverable revenue up to Rs. 50,000/- in each individual case.

u. The purchase of stationery, books, periodicals and journals and printing works – up to Rs. 3.00 lakhs

3. OTHER DUTIES AND POWERS:

a. The Principal shall perform such other duties as may be entrusted to him / her by the Vice-Chancellor and may exercise such other powers, which may be conferred on him / her by the Executive Council from time to time.

b. The Vice-Principal, if need be, shall be appointed by the Vice-Chancellor to assist the Principal in the day-to-day administration of the College.

c. The Principal may, with the approval of the Vice-Chancellor, delegate such powers as are deemed necessary and relevant to the Vice-Principal(s) of the College.

d. The Dy. Warden (s) shall work under the direction of the Principal and shall report to him on the day-to-day functioning of the Hostels.

e. Recommend to the Registrar, deputation of teachers, to approve for conferences, seminars, workshop etc;

f. The Principal shall issue notification for initial appointment up to the cadre of Junior Assistant/Mechanic and issue appointment orders by following due process of appointment. The Principal shall also has power to issue promotions up to these cadres

INSTITUTION AND CLASSIFICATION OF TEACHING POSTS - METHOD OF APPOINTMENT AND DUTIES OF TEACHERS:

In exercise of the powers conferred under sub-section 1 (q) of Section 25 read with (ix) of sub-Section (2) of Section 4, Clause (ii) of sub-section (1) of Section 12, clause 7 (d) (ii) of Schedule II (I) of JNT University Act 30 of 2008, the Executive Council hereby makes this Statute in respect of Institution and Classification of Teaching Posts - Method of Appointment and Duties of Teachers, and thereof.

1. The Executive Council shall have the power to determine, from time to time, the subjects for which teaching posts (Professor / Associate Professor / Assistant Professor) are required, and to institute them;
2. The University teachers shall be of the following three categories, and / or any other category approved by the UGC / State Government / Executive Council:
 - a. Professor;
 - b. Associate Professor; and
 - c. Assistant Professor.
3. The vacant posts of teachers, and their equivalent categories, if any, in the University shall be filled with prior approval of draft notification by the Executive Council, fixation of roster points, and method of recruitment as per Government Orders/Act provisions. The notification of approved posts of teachers shall be advertised on all India basis in national level newspapers and in the university website;
4. The qualifications and selection criteria prescribed by the Government Orders that are issued from time to time shall be followed in the recruitment / CAS promotion of University teachers.
5. University teachers, viz., Professors, Associate Professors, Assistant Professors, and such other category of posts declared equivalent to teachers by the Government/Executive Council, should be appointed on the recommendations of a Selection Committee constituted as per the provisions of the Act and the guidelines / regulations of the State Government / University Grants Commission that are issued from time to time.
6. The teaching faculty members shall eligible for all kinds of leave rules as per the Government Orders and the Fundamental Rules.
7. Teaching faculty can avail surrender of earned leave, as existed in JNTU ACT, 1972 (Act No.16 of 1972), by meeting the expenditure from internal resources of the University/ the Government funds as may be feasible. All the employees of JNTUA shall get all benefits on par with the AP State Government employees as was extended in JNTU Act 1972.
8. The duties of a Professor, Associate Professor and Assistant Professor shall be to:
 - a. teach, train, and guide the students and research scholars in their subjects of study, and support them academically in their progress;
 - b. engage in research and publish in accredited and refereed journals
 - c. involve in extension activities, approved by the University;.
 - d. carry out such other academic, examination process etc. and / or University administrative work as may be assigned by the Head of the Department / Principal / Registrar / Vice-Chancellor and shall exempt 4 hours of teaching work load per week for discharging administrative posts.
 - e. It shall be a duty of every teacher to disseminate the knowledge he/she has acquired in his subjects to all his students. He should keep abreast of the latest books, learned articles in journals, etc., in his subject, digest the information therein, and use it in the class either for lecturing or tutorials or discussions or seminar sessions.
 - f. A teacher should carefully prepare himself for his daily work in the class and the laboratory and employ suitable techniques for teaching. He should provide an outline of his lecture along with reading material to the students. It should be his constant endeavor to continuously acquire new knowledge which alone will make him through and through a specialist in field, *i.e.*, he should be a life-long student.
 - g. It shall also be a teacher's duty to discover new knowledge, for which he must constantly engage himself in research. He should encourage his research students to do research and guide them to properly use new techniques and suitable methodology.

10.1.4 Decentralization in working and grievance redressal mechanism (5)

Institute Marks : 5.00

10.1.4. Decentralization in working and grievance redressal mechanism

List the names of the faculty members who have been delegated powers for taking administrative decisions. Mention details in respect of decentralization in working. Specify the mechanism and composition of grievance redressal cell including Anti Ragging Committee & Sexual Harassment Committee.

Principal:

Principal is overall in-charge of the various wings of the institute like Departments, Library, Sports, Establishment, Accounts, Examination Section, general administration, admission process, preparation of budget, correspondence with the government, AICTE, UGC, etc., Chairman of the Hostel Committee, Chairman of the Finance Committee, Convener of Purchase Committee, Convenor of the Recruitment Committee etc. He/she is the implementing authority of all the policy decisions taken by the Governing Council and Academic council.

Vice Principal:

Controller of Examinations Responsible for all matters pertaining to smooth conduct of examinations, evaluation and grading, publication of results and printing of grade cards, provisional degree certificates and transcripts. and also he/she is the in charge of central library.

Heads of Departments:

HoDs will be overall in-charge of the department. HoD's in consultation with the faculty prepares budget, academic planning for the year, list out the equipment's to be procured, preparing of comparative statements for submission to the Principal for procurement. Decentralises the functioning of the department by distributing the work among the faculty members. HoD nominates senior faculty as Laboratory In-charge for each of the laboratories who in turn will prepare the list of consumables and equipment required for the Lab. Also, the Lab in-charge will look after the upkeep of the equipment and maintenance of Lab. HoD's chair the BoS and faculty meeting, submit the proceedings to the Principal. HoDs furnish all the information and data required to be submitted to AICTE, UGC, and such other higher bodies.

Training & Placement:

The roles and responsibility of the Department of Training & Placement is as here under:

- Developing the students' technical knowledge and soft skills to meet the corporate recruitment process by offering various employability training programmes.
- To motivate students to develop their overall personality in terms of career planning, goal setting and reskilling which will stand them in good stead even after getting the job.
- Responsible for all the activities relating to the students' placement.
- Connecting with the corporates for inviting them to the campus for fresher hiring
- Interface with the industry for enhancing the Industry Academia Interaction.

Warden:

Hostels Warden is the executive of the hostels and is assisted by the Hostel manager and the deputy wardens. The Warden, hostel manager and deputy wardens are responsible for maintaining discipline in the hostels, procuring food items and arranging to serve quality food. They are also responsible for maintenance of hygiene in the kitchen, dining hall and in the entire hostel. The functioning of the hostels is monitored by a committee headed by the principal with representation from the faculty and student representatives.

Grievance redressal system:

Grievances of students, parents, faculty and staff members are addressed as follows.

- There is a grievance redressal cell in the institute with Dean (Students Welfare) as Chairman. All deans, Estate Officer, Chief Warden, Office Superintendent and Accounts Officer as its members.
- Students and parents approach the faculties, HoDs, Deans, Principal and Director directly and express their grievances and these are attended to immediately
- Anti-ragging committee is constituted with Principal as chairman and Deans, Chief Warden, HoDs, Sub-Inspector of nearest police station, Alumni and students as members.
- Anti-ragging committee is very vigilant and prevents any type of ragging on the campus. Members of the committee also visit the hostel blocks and nearby students' flats.
- Anti-ragging Monitoring Cells and Anti- ragging squad is also constituted to ensure no incidents of ragging happen.
- Anti-sexual harassment committee is in place.
- Anti-sexual harassment committee organizes programme to create awareness against any kind of sexual abuse. Any complaints received are attended to immediately.

Women Protection Cell:

The Women Protection Cell functions with the following purposes:

- To make the Girl students and women faculty aware of their rights,
- To help them in knowing the importance of good health and nutrition and facilities available for them, • to help them in developing decision making abilities and be self-dependent,
- To help them in raising their voice against all kinds of discrimination,
- To help them in changing their mind setup, and
- To assist them in overall development of their personality.

SC/ST Cell:

The University Grants Commission (UGC) has given priority to the downtrodden students and staffs during IX plan period and given direction to all the universities to establish SC/ST Cell. It specifically concentrated on the welfare of the SC/ST students and staffs.

Anti ragging Committee:

Institution constituted anti ragging committee which is having Principal as the chairman and Vice-Principal, Heads of the departments, Senior faculty members, Hostel manager and Deputy wardens, Students from each year as members. Principal also constituted Special committee for daily rounds in hostels. All the issues reported by the students will be addressed by the Principal.

10.1.5 Delegation of financial powers (5)

Institute Marks : 5.00

10.1.5. Delegation of financial powers

S.No	Particulars	functionaries	Financial powers
1	All kind of expenditure under plan and non-plan budget	Registrar with approval from executive committee	Above 5 Lakhs
2	All kinds of expenditure under plan and non-plan budget	Registrar	Upto 5 lakhs
3	All kinds of expenditure under plan and non-plan budget	principal	Upto 1 lakh

Every financial year, the finance committee and Governing body approves the budget proposals received from various departments and some of the proposals submitted to the university (beyond limits) for approval. Other than the budget allocations, if any requirement submitted by the concerned heads or officers will be allocated based on the priority.

10.1.6 Transparency and availability of correct/unambiguous information in public domain (5)

Institute Marks : 5.00

10.1.6. Transparency and availability of correct/unambiguous information in public domain (5)

- Information on policies, rules, processes and dissemination of this information to stakeholders is made available on the Institute's web site.
- Information on rules and regulations of academic program is provided to all the students and their parents on the day of inauguration of first year classes. Comprehensive and elaborative details of the rules and regulations of academic programmes are uploaded in the college website. Also students are educated about the system by their respective HODs and mentors.
- Policies and rules of the institute with respect to employees are made known through internal circulation. A copy of Service Rules is available with Heads of the Departments and the same is uploaded in the institution website. Any changes in Service Rules are communicated to all the employees through office circulars. Employees seeking clarification can approach the establishment section in the principal's office.
- Institute also uploads the mandatory disclosures as mandated by AICTE.
- Audited Income and Expenditure statement and Balance sheet for three years is made available in the institute office/website.

All relevant information is made available through website. Information is made available through emails and circulars.

The RTI Cell is constituted in accordance with the provisions of Right to Information Act, 2005 as follows-

- Public Information Officer -- Dr. P.Sujatha, Principal
 First Appellate Authority -- Dr. M.Vijaya Kumar, Rector
 Second Appellate Authority -- Dr. C.Sashidhar, Registrar

10.2 Budget Allocation, Utilization, and Public Accounting at Institute level (15)

Total Marks 15.00

:

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3

CFY : (Current Financial Year),

CFYm1 : (Current Financial Year minus 1),

CFYm2 : (Current Financial Year minus 2) and

CFYm3 : (Current Financial Year minus 3)

Table 1 - CFY 2021-2022

Total Income 168633317				Actual expenditure(till...): 146252000			Total No. Of Students 2441
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student
40909000	0	122161000	5563317	3619000	142633000	0	59914.79

Table 2 - CFYm1 2020-2021

Total Income 168633317				Actual expenditure(till...): 146252000			Total No. Of Students 2430
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student
40909000	0	122161000	5563317	3619000	142633000	0	60186.01

Table 3 - CFYm2 2019-2020

Total Income 325209615				Actual expenditure(till...): 297626000			Total No. Of Students 2389
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student
29914000	0	271156000	24139615	3739000	293887000	0	124581.83

Table 4 - CFYm3 2018-2019

Total Income 348193674				Actual expenditure(till...): 332861000			Total No. Of Students 2471
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student
31399000	0	306547000	10247674	4175000	328686000	0	134707.00

Items	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till	Budgeted in 2020-2021	Actual Expenses in 2020-2021 till	Budgeted in 2019-2020	Actual Expenses in 2019-2020 till	Budgeted in 2018-2019	Actual Expenses in 2018-2019 till
Infrastructure Built-Up	4200000	3333312	3700000	5091443	3233200	4024543	2752500	1804434
Library	1000000	769167	1024380	83503	1111241	141600	1017874	1494941
Laboratory equipment	1330000	1428866	368900	550529	1410647	1723748	1606075	1939182
Laboratory consumables	2384000	2066638	1682622	1115468	1221787	1150241	1050212	1681590
Teaching and non-teaching staff	3000000	2946899	2800000	2837919	2650000	2654677	2550000	2475155
Maintenance and spares	1235000	724597	1418490	432170	1818742	984956	1744341	1181072
R&D	100000	0	50000	0	10000	0	16832	6683
Training and Travel	65000	0	105000	0	192480	132967	252000	246510
Miscellaneous Expenses*	1098000	1383076	821230	378175	790053	1103184	921216	509474
Others, specify	1000000	7250665	9473500	6797708	8973500	9393661	9166613	8655982
Total	321412000	311646264	298644122	298240981	283761650	284122684	273527663	265035396

10.2.1 Adequacy of budget allocation (5)

Institute Marks : 5.00

10.2.1. Adequacy of budget allocation

(The institution needs to justify that the budget allocated over the years was adequate)

Being Constituent unit of the JNT University, Anantapur, the College receives grant-in-aid from university, which in turn gets the budget amount from the State Government based on the budget proposal submitted by the University. Every year enough funds are made available by the State Government for the Plan and Non-Plan activities. Infrastructure facilities are created on priority basis based on the availability of the funds.

The College also receives part of the budget amount from the Tuition Fee collected from the students.

Table.10.1. Adequacy of Budget allocation

S.No.	Assessment Year	Budget Allocated in Lakhs (Rs.)	Actual Expenditure in Lakhs(Rs.)	Adequate/ in Adequate
1	2018-19	2735.3	2650.4	Adequate
2	2019-20	2837.6	2841.3	Adequate
3	2020-21	2986.4	2982.4	Adequate
4	2021-22	3214.1	3116.4	Adequate

10.2.2 Utilization of allocated funds (5)

Institute Marks : 5.00

10.2.2. Utilization of allocated funds

(The institution needs to state how the budget was utilized during the last three years)

Table.10.2. Utilization of allocated funds

S.No.	Assessment Year	Budget Allocated	Actual	Percentage of
		in Lakhs (Rs.)	Expenditure in Lakhs (Rs)	Utilization
1	2018-19	2735.3	2650.4	96.89%
2	2019-20	2837.6	2841.3	-3.7%
3	2020-21	2986.4	2982.4	99.86%
4	2021-22	3214.1	3116.4	96.96%

10.2.3 Availability of the audited statements on the institute's website (5)

Institute Marks : 5.00

10.2.3. Availability of the audited statements on the institute's website

(The institution needs to make audited statements available on its website)

The audited statements of accounts for the past three financial years is available on the institute's website

10.3 Program Specific Budget Allocation, Utilization (30)

Total Marks 30.00

:

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3

CFY: (Current Financial Year),

CFYm1 : (Current Financial Year minus 1),

CFYm2 : (Current Financial Year minus 2) and

CFYm3 : (Current Financial Year minus 3)

Table 1 :: CFY 2021-2022

Total Budget 630000		Actual expenditure (till...): 592870		Total No. Of Students 340
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
560000	70000	586870	6000	1743.74

Table 2 :: CFYm1 2020-2021

Total Budget 242421		Actual expenditure (till...): 241782		Total No. Of Students 340
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
223421	19000	223421	18361	711.12

Table 3 :: CFYm2 2019-2020

Total Budget 473354		Actual expenditure (till...): 473354		Total No. Of Students 340
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
425814	47540	408323	65031	1392.22

Table 4 :: CFYm3 2018-2019

Total Budget 408658		Actual expenditure (till...): 192516		Total No. Of Students 340
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
330107	78551	175984	16532	566.22

Items	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till	Budgeted in 2020-2021	Actual Expenses in 2020-2021 till	Budgeted in 2019-2020	Actual Expenses in 2019-2020 till	Budgeted in 2018-2019	Actual Expenses in 2018-2019 till
Laboratory equipment	200000	148939	0	0	317447	99452	320775	71351
Software	200000	412221	0	0	0	0	0	0
Laboratory consumable	50000	16110	223421	223421	20991	221495	0	104633
Maintenance and spares	0	0	0	0	36700	9000	73251	0

R & D	10000	0	0	0	0	0	6832	0
Training and Travel	20000	0	0	0	0	0	0	0
Miscellaneous Expenses*	50000	600	19000	19361	10840	64131	5300	16532
Total	530000	577870	242421	242782	385978	394078	406158	192516

10.3.1 Adequacy of budget allocation (10)

Institute Marks : 10.00

10.3.1. Adequacy of budget allocation

(Institution needs to justify that the budget allocated over the assessment years was adequate for the program)

The Department receives the budget amount from the College based on the budget proposal submitted by the Department for both the Plan and Non-Plan activities. Infrastructure facilities are created on priority basis based on the availability of the funds.

The Department also received funds from UGC XI plan and XII plan.

Table.10.3. Adequacy of Budget allocation

S.No.	Assessment Year	Budget Allocated in Lakhs (Rs.)	Actual Expenditure in Lakhs(Rs.)	Adeuate/ in Adequate
1	2018-19	4.06	1.92	Adequate
2	2019-20	3.85	3.94	In Adequate
3	2020-21	2.42	2.42	Adequate
4	2021-22	5.30	5.77	In Adequate

10.3.2 Utilization of allocated funds (20)

Institute Marks : 20.00

10.3.2. Utilization of allocated funds

(Institution needs to state how the budget was utilized during the last three assessment years)

Table.10.2. Utilization of allocated funds

Assessment Year	Budget Allocated in Lakhs (Rs.)	Actual Expenditure in Lakhs (Rs)	Percentage of Utilization
2018-19	4.06	1.92	47.29%
2019-20	3.85	3.94	-2.33%
2020-21	2.42	2.42	100%
2021-22	5.30	5.77	-8.86%

10.4 Library and Internet (20)

Total Marks 20.00

10.4.1 Quality of learning resources (hard/soft) (10)

Institute Marks : 10.00

10.4. Library and Internet

(Indicate whether zero deficiency report was received by the Institution for all the assessment years. Effective availability/purchase records and utilization of facilities/equipment etc. to be documented and demonstrated)

The Central Library at JNTUA CEA is one of the central support services of JNTUA College of Engineering that are stocked with more than 58 thousand books, reference books, periodicals, national and international journals ,conversing all aspects of academic studies and research materials. The Library has online journals and access to e journals databases etc. It is provided through Internet Bandwidth 1 Gbps. All e resources are accessible in Digital library. Central library volumes are 58367 and titles are 14253 are available.

Under-Graduate & Post-Graduate students, faculty members are making use of the Library facilities. The mission of the Central Library is to provide Digital e-resources, information services and access to bibliographical and printed resources to support the scholarly and informational needs of the University user community. Central Library caters to the needs of all the departments of JNTU College of Engineering, Ananthapur viz, Civil, Mechanical, Electrical, Electronics, Computer Science, Chemical, Physics, Chemistry, Mathematics, English & Management. At present catalogue cards are arranged in catalogue cabins are available for searching data.

Reading room Area:

Total Area	3345 Sq.M
Issue section seating capacity	50
Reference section seating capacity	100
Reading room seating capacity	12
Magazine section seating capacity	12
Total:	174

The library is kept open from 9-00 A.M to 8-00 P.M. (In Two shifts) on all working days and from 9-00. A.M. to 4-00 P.M. on Saturdays and Sundays.

Monday-Thursday: 9-00.A.M - 8-00.P.M

Friday : Weekly Holiday

Saturday-Sunday: 9-00.A.M - 4-00.P.M

Library In charge: – Dr. R. Bhavani - Professor& Vice Principal.

Library Co-ordinator: - S. Sridhar – Assistant professor, EEE Dept.

- KOHA SOFT WARE INSTALLATION IS COMPLETED AND SERVER IS READY AND WE UPOADED ALL THE BOOKS DATA AND STUDENT DATA IS UPLOADING.

LIBRARY COLLECTION:

BOOKS Central Library

SL.NO	BOOKS	TOTAL
1	No. of Volumes	59067
2	No. of Titles	14253

10.4.1. Quality of learning resources (hard/soft)

Availability of relevant learning resources including e-resources and Digital Library: Yes

Accessibility to students : : Yes

JOURNALS, e- JOURNALS , NEWS PAPERS & MAGAZINES

S.No.	JOURNALS& NEWS PAPERS	TOTAL
1	Print Journals – National & International	21

2	E-Journal Packages	7
3	News papers	10
4	Reading Room Magazines	22

Central Library: National printed journals

S.No.	Journal Name	
1	BULLETIN OF THE MARATHWADA MATHEMATICAL SOCIETY	National journal
2	ICJ THE INDIAN CONCRETE JOURNAL	National journal
3	EVERYMANS SCIENCE	National journal
4	INDIAN JOURNAL OF CHEMISTRY AND CHEMICAL SCIENCES	National journal
5	THE INDIAN JOURNAL OF TECHNICAL EDUCATION	National journal
6	CIVIL ENGINEERING & CONSTRUCTION REVIEW	National journal
7	I-MANAGER'S JOURNAL ON ELECTRICAL ENGINEERING	National journal
8	I-MANAGERS JOURNAL ON SOFTWARE ENGINEERING	National journal
9	JOURNAL OF CPRI	National journal
10	SADHANA JOURNAL	National journal
11	PRAMANA JOURNAL OF PHISICS	National journal

Central Library: International printed journals

S.No	Journal Name	
1	ASIAN JOURNAL OF MICROBIOLOGY BIOTECHNOLOGY &ENVIRONMENTAL SCIENCES	International journal

2	IETE JOURNAL OF RESEARCH	International journal
3	JOURNAL OF PURE AND APPLIED INDUSTRIAL PHYSICS	International journal
4	JOURNAL OF ENVIRONMENTAL SCIENCE & ENGINEERING	International journal
5	TERI	International journal
6	IUP JOURNAL OF COMPUTER SCIENCE	International journal
7	IUP JOURNAL OF ELECTRICAL & ELECTRONICS ENGINEERING	International journal
8	IUP JOURNAL OF ENGLISH STUDIES	International journal
9	IUP JOURNAL OF MECHANICAL ENGINEERING	International journal
10	IETE JOURNAL OF EDUCATION	International journal

- **Available e-learning resources:** DELNET,J-GATE,NPTEL VIDEOS,IEI,NDL,INFLIBNET SODHSINDHU,WEB OF SCIENCE.
- **Accessibility to students:** All the e-learning resources are accessible to the students across the campus through LAN. Accessibility is also provided in digital library with 30 computers.
- **Support to students for self learning activities:**

NPTEL videos are made accessible across the LAN, The students are making use of the facility by taking online courses and get certifications from various topics.

Library encourages the students to register the other self learning resources namely: SWYAM, MIT open course ware, edx, Coursera.

- Orientation programmes conducted to train about e journal packages: DELNET (Date: 8-5-2019); J-Gate (15-12-2016 & 29-1-2018); SCOPUS (3-11-2016); IEEE (4-8-2018); Web of Science (8-7-2021)
- Central library have UPS 3 KVA capacity with half an hour backup
- Central library Conducted Book Exhibition on 30-1-2019 & 31-1-2019
- Organized book talks with: Bookionics, Hyderabad, ELL ENN Books Bangalore, Shah books, Hyderabad, VKR Publishers,Chennai, Vishalandhra Book house,Ananthapur and S.Chand, Prajashakthi publishers.
- Fire safety measures are available
- DDC classification Library and Cataloguing in standard classification format are available
- Reprography and Scanner facility are available.

10.4.2 Internet (10)

Institute Marks : 10.00

10.4.2. Internet

- Name of the Internet provider: BSNL
- Available bandwidth: 1Gbps leased line.
- Wi Fi availability: Offered in all academic buildings and Hostels.
- Internet access in labs, classrooms, library and offices of all Departments: All the systems in the campus have been connected through LAN using optical fibre.
- Security arrangements: Incorporated using Unified Thread Management (UTM)

Annexure I
(A) PROGRAM OUTCOME (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 OUTCOME (PSOs)
Program should specify 2-4 program specific outcomes.

PSO1	Ability to model, simulate and optimize chemical engineering problems
PSO2	Capability to design or develop effective and efficient chemical processes incorporating economic, environmental, social, health, safety and sustainability aspects
PSO3	Competence to practice or apply chemical engineering principles, communication and otherskills in a wide range of industrial, academic and professional employment areas

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 institutes 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, postvisit and subsequent to grant of accreditation.

Head of the Institute

Name : Prof.P.Sujatha

Designation : Principal

Signature :



Seal of The Institution :



Place : Ananthapuramu

Date : 26-09-2022 20:05:29