

JNTUA COLLEGE OF ENGINEERING ANANTAPUR
(AUTONOMOUS):ANANTHAPURAMU
EXTERNAL ACADEMIC AUDIT FOR ACADEMIC YEAR 2019-2020

PART-A General Information

1.Name of the Department: Chemical Engineering

2.Year of establishment: 1989

3.Programs offered (approved by AICTE)

a.UG Programmes: B.Tech Chemical Engineering

b.PG Programmes: M.Tech (Nanotechnology, Environmental Engineering)

4.Accreditation status: 2019-2022

5.Details of the faculty:

S.No	Name	Qualification	Designation	Specialization	Experience (in years)
1.	Dr. D. Subba Rao	PhD	Professor	Biochemical Engineering, Reaction Engineering	26
2.	Dr. S.V Satyanarayana	PhD	Professor	Membrane separations, Pervaporation	26
3.	Dr. T. Balanarsaiiah	PhD	Professor	Fluidization	15
4.	Mr. M. Kalyan Kumar	M.Tech	Assistant Professor	Environmental Engineering	20
5.	Dr. S Sharada	PhD	Associate Professor	Microreactors	17
6.	Dr. B. Dilip Kumar	PhD	Associate Professor	Nanotechnology, Electrochemistry	15
7.	Mrs. A. Meenakshi	M.Tech			15
8.	Mr .K Subba Rao	M.Tech	Assistant Professor (Ad - hoc)	Environmental Engineering	15
9.	Dr. P. Uma Maheshwari	PhD	Assistant Professor (Ad - hoc)	Membrane separations, Pervaporation	10
10.	Mr. M. Murali Naik	M.Tech	Assistant Professor (Ad - hoc)	Adsorption	11
11.	Mr. A. Raja Sekhar Babu	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	8

12.	Mr. K. Peddintaiah	M.Tech	Assistant Professor (Ad - hoc)	Micro Reactors	6
13.	Ms.G. Neha Mallika	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	3
14.	Ms. D. Sowjanya	M.Tech	Assistant Professor (Ad - hoc)	Reaction Engineering	4
15.	Mr. V. Ramanjaneyulu	M.Tech	Assistant Professor (Ad - hoc)	Environmental engineering	3
16.	H. Rehana Anjum	M.Tech	Assistant Professor (Ad - hoc)	Membrane separations, waste water treatment	1
17.	Ms. Ch Maneesha	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	1

6. Details of non- teaching staff:

S.No	Name	Qualification	Designation
1	Mr. P. Gangadhar Reddy	X Class	Record Assistant
2	Mrs. K. Jayamma	5 th class	Gardener
3	Mr. B. Md Ansar	X Class	Junior Lab Assistant
4	Mr. A. Sunil Kumar	X Class	Record Assistant
5	Mr. S. Sreenivasulu	ITI	Senior Instructor
6	Mrs. G. Parvathi	X Class	Record Assistant
7	Mr. M. Nagaraju	8 th Class	Junior Instructor
8	Mrs Saritha	UG	Record Assistant
9	Mr. K Narendra	12 th Class	Attender

7. Admission status: no.of students admitted

Programme	Sanctioned	Admitted
UG(B.Tech - CHEM)	60	58
PG	25	18

8.Physical resources available:

S.No	Particulars	
1	Number of classrooms	04
2	Number of faculty rooms	14
3	Number of staff rooms	02
4	Available ICT tools in classrooms	02

v) Number of laboratories

S.No	Name of the Laboratory	Equipment Available
1	Chemical Engineering Workshop	<ol style="list-style-type: none"> 1. Flow meters: Rotameter, Venturi meter, Orifice meter 2. Thermocouple 3. pH, conductivity and dissolved oxygen 4. Gas Chromatography 5. Spectrophotometer (UV-VIS) 6. X-Ray Diffractometer 7. Heat exchanger 8. Dryer 9. Distillation PID Controller (Level/Flow control)
2	Basic Thermodynamics Lab	<ol style="list-style-type: none"> 1. Simple dilation unit 2. VLE unit 3. LLE unit
3	Mechanical Operations Lab	<ol style="list-style-type: none"> 1. Jaw Crusher 2. Disc Grinder 3. Roll Crusher 4. Hammer Mill 5. Ball Mill 6. Sieve shaker 7. Cyclone Separator 8. Vibrating Screens 9. Ribbon Blender 10. Rotary Drum Filter Press 11. Plate and Frame Filter Press Sedimentation apparatus
4	Momentum Transfer Lab	<ol style="list-style-type: none"> 1. Reynolds Apparatus 2. Centrifugal Pump Test Rig 3. Orifice and Mouthpiece Apparatus 4. Fluidized Bed 5. Drag Studies Apparatus 6. Flow Through Annulus 7. Bernoulli's Theorem Apparatus 8. Pitot Tube Apparatus 9. Discharge Over Notches Apparatus Orifice, Venturi & Rotameter Trainer
5	Energy & Environmental engineering Lab	<ol style="list-style-type: none"> 1. pH meter 2. Colorimeter 3. TDS meter, Aerobic 4. Anaerobic reactor 25L capacity 5. BOD incubator 6. High accuracy analytical balance (5 digit) 7. Desiccators

		8. RO system with domestic 2''x12'' Membrane module 9. UV-Vis spectrophotometer 10. High volume air sampler 11. Bomb calorimeter 12. Fuel cell test kit 13. Microscope Flash Point/Fire Point
6	Chemical Technology Lab	1. Viscometer 2. pH meter 3. Heating Mantle Electrical Weighing balance
7	Process Heat Transfer Lab	1. Heat Transfer through composite Wall 2. Thermal conductivity of Metal Rod 3. Heat Transfer in Natural Convection 4. Heat Transfer in Forced Convection 5. Shell and Tube Heat Exchanger 6. Double Pipe Heat Exchanger 7. Heat Transfer through Helical Coils 8. Stefan Boltzmann Apparatus 9. Single Effect Evaporator 10. Critical Heat Flux Apparatus
8	Mass Transfer Lab	1. Simple Distillation Unit 2. Vacuum Oven 3. Forced Draft Tray Dryer 4. Solid -Air diffusion Apparatus 5. Packed Bed Distillation Unit 6. Packed Bed Absorber 7. VLE Unit 8. Steam Distillation Unit 9. Surface evaporation Apparatus 10. Stefan's tube apparatus
9	Chemical Reaction Engineering Lab	1. Batch Reactor 2. Tubular Reactor 3. Photochemical Reactor 4. Plug flow Reactor 5. Stirred Tank Reactor 6. Hot air Oven 7. Combined Reactor 8. RTD Studies in Packed Bed Reactor 9. Cascade CSTR Apparatus Plug Flow Reactor

10	Instrumentation and Process Control Lab	<ol style="list-style-type: none"> 1. PID Controller 2. U-Tube manometer 3. Single tank system 4. Two tank interacting system 5. Two tank non-interacting system 6. Bimetallic thermometer 7. Measurement of level by Air Purge method 8. Measurement of level by Capacitance method 9. First order system (Mercury in Glass thermometer) <p>Second order system (Mercury thermometer in thermal well)</p>
11	Process Simulation Lab	50 Computers with MATLAB and Turbo C Software
12	Research Laboratory	UV- Spectrophotometer, Micro-oven, Sonicator, Wet mixer and Grinder, Fume Hood, BOD analyzer, Water Sampler Kit, Air Samplers, Muffle furnace, Orbital shaker, Gas Chromatography, <i>Atomic Absorption spectrometry, High Performance Liquid Chromatography, Potentiostat, Centrifuge, UV-Laminar Chamber, Microwave oven, Hot air oven</i>

vi) Department library:

S.No	Particulars	Quantity
1	Number of Titles	558
2	Number of volumes	723

Part-B

1. Curriculam:

Is the curriculum updated(yes/no) :YES

2. teaching and learning process during academic year from 2019-20:

a. Student to Faculty Ratio(SFR):

	2019-20
Sanctioned intake B.Tech	180
Sanctioned intake lateral entry B.Tech	18
Sanctioned intake M.Tech (EE + NT)	50
Total number of students	298
Total number of faculty	15
SFR	19.86

b. Percentage of faculty using ICT for effective teaching and learning mechanism year wise:

No. of faculty on rolls	Number faculty using ICT tools	Available ICT tools and resources	Number of ICT enabled rooms	e-resources and techniques used
15	15	PC with internet, LCD Projector, Access to e-resources	03	NPTEL video courses, MIT Open courseware, IUCEE video lectures

C. Students' academic performance(outgoing batch result analysis):

Total no of Students	No. of students cleared the program without backlogs in stipulated period of study	No. of students cleared the program with backlogs in stipulated period of study
61	28	56

d. status of student mentoring system and action taken:

Mentoring system is available to monitor the academic and personal activities of the students

e. achievement of students:

Name of the Student	Achievements and Recognitions
Boddandi Chandaneshwar Kumar(15001A0839)	Gold Medal

Achievements in co-curriculum activities

S.No	Student Name	Roll No	Event Name	Participation
1	Sai Jyothi	18001A0845	Chemosphere – Vajra, SVUCE, Tirupathi	Participated
2	Achish	18001A0819	Chemosphere – Vajra, SVUCE, Tirupathi	Participated
3	D Yamuna Reddy	18001A0821	Chemosphere – Vajra, SVUCE, Tirupathi	Participated
4	M Thrisha Reddy	18001A0841	Chemosphere – Vajra, SVUCE, Tirupathi	Participated
5	Neelima Aare	18001A0805	Chemosphere – Vajra, SVUCE, Tirupathi	Participated
6	Vidyadhar Reddy	19005A0802	Chemosphere – Vajra, SVUCE, Tirupathi	Participated

g. student remedial classes for slow learners and GATE/CAT, etc classes for advanced learners:

GATE classes were conducted for about 240 hrs with TEQIP funds

h. are the faculty members maintaining the course files?(course files shall consists of class timetable copy, syllabus copy along with outcomes, lesson plan, sessional and end examination question papers, assignments, quiz, sessional marks, result analysis, CO attainment, mapping of CO and PO, class notes, hard copies PPTs): YES

i. Company wise details of the students placed (on-campus and off-campus) and details of the students qualified in various competitive examination (attach proofs)

placement details

S. No	Name of the Student Placed	Roll No	Year of passing	REFERENCE NUMBER	Name of the Employer
1	Hemasree C G	16001A0805	2020	Cognizant/2020/01	Cognizant
2	G.Sai Raj Gupta	16001A0835	2020	Cognizant/2020/02	Cognizant
3	Chandra Sharathkrishna	16001A0839	2020	Cognizant/2020/03	Cognizant

4	P Vamsi Krishna	16001A0859	2020	Divi/2020/01	Divi's Laboratories Ltd
5	C Pavani	16001A0844	2020	Divi/2020/02	Divi's Laboratories Ltd
6	Y Prashanthi	16001A0813	2020	Divi/2020/03	Divi's Laboratories Ltd
7	K.Subramanya m	16001A0808	2020	Divi/2020/04	Divi's Laboratories Ltd
8	Y.Jayashankar Varma	16001A0812	2020	Divi/2020/05	Divi's Laboratories Ltd
9	G Harika	16001A0814	2020	Divi/2020/06	Divi's Laboratories Ltd
10	C.Madesh	16001A0823	2020	Divi/2020/07	Divi's Laboratories Ltd
11	M.Ravindra Reddy	16001A0827	2020	Virchow022022	Virchow Laboratories Ltd
12	Gundala Sreekanth	16001A0831	2020	Divi/2020/08	Divi's Laboratories Ltd
13	Gundlapalli Adithya Chandahas	16001A0832	2020	Divi/2020/09	Divi's Laboratories Ltd
14	K Priyanka	16001A0811	2020	Divi/2020/10	Divi's Laboratories Ltd
15	R Likitha	16001A0818	2020	Divi/2020/11	Divi's Laboratories Ltd
16	Palegar Raghavendra	16001A0840	2020	Divi/2020/12	Divi's Laboratories Ltd

17	Janapathi Yamuna	16001A0830	2020	Divi/2020/13	Divi's Laboratories Ltd
18	P.Narendra Babu	16001A0853	2020	Divi/2020/14	Divi's Laboratories Ltd
19	S Jayasree	16001A0825	2020	Divi/2020/15	Divi's Laboratories Ltd
20	R S Sowmya	16001A0826	2020	Divi/2020/16	Divi's Laboratories Ltd
21	Yerragudi Mithil Kumar Reddy	17005A0801	2020	Divi/2020/17	Divi's Laboratories Ltd
22	P Anil Kumar	17005A0828	2020	Divi/2020/18	Divi's Laboratories Ltd
23	Venugopal Reddy Sanagala	17005A0804	2020	Divi/2020/19	Divi's Laboratories Ltd
24	Aggidi Ashok	17005A0806	2020	Divi/2020/20	Divi's Laboratories Ltd
25	Kamala Ushashree	16001A0804	2020	Infosys/2020/01	INFOSYS
26	S Ishrath Jahan	16001A0809	2020	TCS/2020/01	TCS
27	Sane Anjali	16001A0833	2020	TCS/2020/02	TCS
28	Chandra Sekhar Vadde	16001A0807	2020	J36440-2/2021	Dr. Reddy's Laboratories Ltd
29.	Areesh Shaik	16001A0846	2020	3U3GYW-2/2021	Dr. Reddy's Laboratories Ltd
30.	Kandregula Suresh	16001A0836	2020	72354	Dr. Reddy's Laboratories Ltd

31.	Yamini Vijaya Sai Kumari Buduri	17005A0809	2020	SPA/PA/338	SciTech Patent Art
32.	Aravind Chitikireddy	17005A0803	2020	ESI/HR/ESIPL205/ 0001	Emerson Energy Solutions
33.	Nazia Taraanam	16001A0841	2020	13778663	Cognizant
34.	Sunil Chunduru	16001A0854	2020	1346258 ESI/HR/ESIPL196/ 0001	Emerson Energy Solutions
35.	Sunil Kumar Reddy	16001A0856	2020	STOCKONE012022	STOCKONE Technologies pvt ltd
36.	Venkata Sai Prasad Manchala	16001A0820	2020	HRD/3T/100202296 5/ 21-22	Infosys
37	A Harini Tejasvi	16001A0801	2020	DFC/2020/01	Deccan Fine Chemicals Pvt Ltd
38	A Swathi	16001A0803	2020	DFC/2020/02	Deccan Fine Chemicals Pvt Ltd
39	S Mahaboob Basha	16001A0810	2020	DFC/2020/03	Deccan Fine Chemicals Pvt Ltd
40	V Krishna Veni	16001A0816	2020	DFC/2020/04	Deccan Fine Chemicals Pvt Ltd
41	V Diwakar Naik	16001A0822	2020	DFC/2020/05	Deccan Fine Chemicals Pvt Ltd
42	Sandeep vanteddu	16001A0858	2020	1024995	SKI ENGINEERIN G
43	Kurrapothula Govardhan	16001A0837	2020	1380643	Emerson Energy Solution

44	Shaik Munaf	17005A0807	2020	DIVI/Chem/042020	Divis Laboratories Ltd
45	Y Tejaswi	16001A0857	2020	Hetero/2020/01	Hetero Labs
46	V Anusha	16001A0852	2020	Hetero/2020/02	Hetero Labs
47	U Narasimha	16001A0849	2020	Hetero/2020/03	Hetero Labs
48	M Niranjan	16001A0847	2020	Hetero/2020/04	Hetero Labs
49	R Aruna	16001A0845	2020	Hetero/2020/05	Hetero Labs
50	A Vikranth Kumar	16001A0829	2020	Hetero/2020/06	Hetero Labs
51	Medapuram Dhanyatha	16001A0834	2020	Hetero/2020/07	Hetero Labs
52	Tamatam Bavana Reddy	16001A0838	2020	Hetero/2020/08	Hetero Labs
53	Gorantta Renuka	16001A0843	2020	Hetero/2020/09	Hetero Labs
54	G Pooja	16001A0815	2020	HRD/3T/100203115 2/ 21-22	Infosys
55	Kaluguri Ashasree	16001A0802	2020	HRD/3T/100293885 0/ 21-22	Infosys

Higher education details

S. No.	Name of the Student	Roll No	Institute Name
1	Mekhala Meghana	16001A0855	IIT Madras
2.	Chandra Sarath Krishna	16001A0839	University of Calgary
3.	K Asha Sree	16001A0802	JNTUACEA, Anantapur
4.	Shaik Firoz	16001A0815	JNTUACEA, Anantapur

j. CO and PO attainment: sample copy

CO-PO attainment of Chemical Reaction Engineering Laboratory

Course Name:	Chemical Reaction Engineering Laboratory
Course Code:	
Semester:	III Year II Semester
Batch:	2017 - 2021
Academic Year:	2018 - 2020
Faculty Name:	Dr. T. Balu Narasiah, Ms. G. Neha Malini

Course Outcomes:		Internal Marks	Internal Lab					End Marks of each [60/10/30]	End Lab Exam				
No	Question no./Max. Marks		CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5
1	16001A0855	29	5.6	5.6	5.6	5.6	5.6	42	8.6	8.6	8.6	8.6	8.6
2	17001A0850	37	7.4	7.4	7.4	7.4	7.4	47	9.4	9.4	9.4	9.4	9.4
3	17001A0803	32	6.6	6.6	6.6	6.6	6.6	44	6.6	6.6	6.6	6.6	6.6
4	17001A0804	27	5.4	5.4	5.4	5.4	5.4	42	6.4	6.4	6.4	6.4	6.4
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	46	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	28	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	36	7	7	7	7	7	46	9	9	9	9	9
13	17001A0813	24	6.8	6.8	6.8	6.8	6.8	47	9.6	9.6	9.6	9.6	9.6
14	17001A0814	22	6.4	6.4	6.4	6.4	6.4	51	10.2	10.2	10.2	10.2	10.2
15	17001A0816	24	5.6	5.6	5.6	5.6	5.6	45	9	9	9	9	9
16	17001A0817	21	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	6.6	6.6	6.6	6.6	6.6
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	6.8	6.8	6.8	6.8	6.8
25	17001A0827	24	5.8	5.8	5.8	5.8	5.8	47	9.4	9.4	9.4	9.4	9.4
26	17001A0828	30	6	6	6	6	6	44	6.6	6.6	6.6	6.6	6.6
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	24	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	28	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	34	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	6.4	6.4	6.4	6.4	6.4
37	17001A0840	24	5.8	5.8	5.8	5.8	5.8	41	6.2	6.2	6.2	6.2	6.2
38	17001A0841	35	7	7	7	7	7	49	9.6	9.6	9.6	9.6	9.6
39	17001A0842	34	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	28	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	26	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	24	5.2	5.2	5.2	5.2	5.2	43	6.6	6.6	6.6	6.6	6.6
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	29	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	6.6	6.6	6.6	6.6	6.6
51	18005A0802	27	5.4	5.4	5.4	5.4	5.4	44	6.8	6.8	6.8	6.8	6.8
52	18005A0803	20	6	6	6	6	6	39	7.6	7.6	7.6	7.6	7.6
53	18005A0804	22	6.4	6.4	6.4	6.4	6.4	41	6.2	6.2	6.2	6.2	6.2
54	18005A0807	24	6.2	6.2	6.2	6.2	6.2	39	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	6.2	6.2	6.2	6.2	6.2
57	18005A0810	20	6	6	6	6	6	41	6.2	6.2	6.2	6.2	6.2
58	18005A0812	25	7	7	7	7	7	43	6.6	6.6	6.6	6.6	6.6
59	18005A0813	24	5.2	5.2	5.2	5.2	5.2	43	6.6	6.6	6.6	6.6	6.6
60	18005A0815	31	6.2	6.2	6.2	6.2	6.2	41	6.2	6.2	6.2	6.2	6.2

	Direct CO Attainment				Indirect CO Attainment				Total CO attainment 100% of Final Direct attainment value + 20% of Course End survey
	Start and End	40% of Start	60% of Start	Final Direct Attainment Value	Start and End Survey (100%)	20% of Course End Survey	Final Direct attainment value		
CO1	2.83	1.13	2.87	1.72	2.45	2.24	2.44	0.50	2.70
CO2	2.83	1.13	2.87	1.72	2.45	2.24	2.44	0.50	2.70
CO3	2.83	1.13	2.87	1.72	2.45	2.24	2.54	0.51	2.80
CO4	2.83	1.13	2.87	1.72	2.45	2.24	2.51	0.50	2.70
CO5	2.83	1.13	2.87	1.72	2.45	2.24	2.44	0.50	2.70

CO-PO articulation matrix of the respective subject

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
CO1	3	2	2	2	2	1	2	1	2	1	1	2	2	2	2
CO2	3	3	3	2	2	1	1	1	1	1	1	2	2	2	1
CO3	2	3	3	2	1	2	1	1	1	1	1	1	2	2	2
CO4	3	2	3	1	1	1	1	2	1	1	1	3	1	2	2
CO5	2	3	1	1	1	1	2	1	2	1	1	2	2	2	1
	2.4	2.4	2.4	1.4	1	1.6	1	1.4	1	1	0	2	1.8	1.4	1.6
	13	13	12	8	0	5	8	5	8	5	0	10	9	8	8

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
CO1	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
CO2	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
CO3	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
CO4	2.79	1.66	2.79	0.93	0.00	0.93	0.93	1.86	0.93	0.00	2.79	0.93	1.86	1.86	1.86
CO5	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	1.43

PO & PSO Attainment Level															
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
	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	1.43

k. best projects/Industry projects:

S.No	Project title	area	Type of project

l. content beyond the curriculum:

Guest lectures from industry experts are conducted regularly. Often faculty members cover certain important topics which are useful as per the industry requirement

m. whether the employers, alumni and program exit surveys are considered for the attainment calculations or not? If yes, attach proofs

Alumni Survey

INTRA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAM
DEPARTMENT OF MECHANICAL ENGINEERING
AUTONOMOUS ENGINEERING

Name of the Alumni: _____

Year: _____

Branch: _____

VISION & MISSION

VISION:
To become a globally recognized Chemical Engineering program equipped with facilities to cater to the industry, research and consultancy in Chemical Engineering and to serve as a valuable resource for industry development.

MISSION:

- To provide students with broad capabilities in the basic sciences, process systems and design tool development and transfer experimental and computational techniques to enable them to comprehend and practicing level of operations within manufacturing process plants, and their design.
- To develop professionals that promote internationally recognized research concepts and an entrepreneurial culture.
- To foster ethical leadership and integrity through support for administration, self-management, professional and regulatory or industrial education and the objective production.
- To maintain collaborative professional relationships which provide opportunities for long-term career development with industry and other research organizations.

S. No	Competencies	Exceeds Expectations	Meets Expectations	Needs Improvement	Not Satisfactory
1	Engineering Knowledge: Apply the knowledge of Mathematics, Science, Engineering and Technology for understanding and design of complex engineering systems and technical computing.				
2	Problem Solving: Identify, analyze and synthesize complex problems and be able to design and implement their solution by applying a systematic process and justify their solution.				
3	Design/Development of solution: Design solutions for complex engineering problems and design system components or processes that meet the specified requirements for functional performance, safety, reliability, manufacturability and sustainability.				
4	Oral Communication: Communicate effectively in a number of forms including reports, presentations, proposals, project, research, results and papers, manuscripts and conferences.				
5	Written Communication: Communicate effectively in writing including reports, proposals, project, research, results and papers, manuscripts and conferences.				

1	Engineering and systems: An understanding of professional and ethical responsibilities to the community and awareness of global issues.				
2	Interpersonal and Interdisciplinary: Communicate effectively by providing technical support through both verbal and written interaction and through oral and written reports.				
3	Individual and team work: Work with others to plan, execute and evaluate the project or assignment and to provide professional development through leading technical activities.				
4	Professionalism: Apply knowledge of contemporary chemical engineering practice.				
5	Life-long Learning: Use modern tools, skills, and modern engineering techniques to solve the chemical engineering practice.				
6	Project management and teamwork: Apply to design, analyze and synthesize a good and technical processes (Process Analysis and Control).				
7	Development of Knowledge: Recognize and apply the chemical engineering practice.				
8	Design & Innovation: Apply to design, analyze and synthesize a good and technical processes (Process Analysis and Control).				
9	Apply the Knowledge: Apply to design, analyze and synthesize a good and technical processes (Process Analysis and Control).				
10	Professionalism: Apply to design, analyze and synthesize a good and technical processes (Process Analysis and Control).				
11	Life-long Learning: Apply to design, analyze and synthesize a good and technical processes (Process Analysis and Control).				
12	Design & Innovation: Apply to design, analyze and synthesize a good and technical processes (Process Analysis and Control).				

INFORMED THAT ABOVE WITH SIGNATURE: _____ AT THE APPROPRIATE DATE.

1) Have you ever received your overall satisfaction with your preparation as a chemical engineer?
 Yes () No ()

2) In general, the department has provided a quality technical preparation?
 Yes () No ()

Employer Survey

2020 - 2021

Self Assessment Report

Criterion - 3

Employer Feedback Form

Name: Rajesh Srivastava Date: 20-04-2021
 Designation: Executive HR & Admin
 Company: Divis Laboratories Ltd Contact No: 040-23786300/400
 Email: rajesh@divislabs.com

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

Sl. No.	Question	Highly Satisfied (H)	Moderately Satisfied (M)	Satisfied (S)	Not Satisfied (NS)
1	Competence in applying concepts of Mathematics and engineering fundamentals (solving complex problems)	<input checked="" type="checkbox"/>			
2	Ability to identify, formulate, review research literature to solve complex engineering problems and give presentations	<input checked="" type="checkbox"/>			
3	Ability to design the system components that meet the requirements with respect to public health and safety	<input checked="" type="checkbox"/>			
4	Ability to use the knowledge obtained by research to evaluate, interpret the data, synthesize the information to provide valid conclusions in real time	<input checked="" type="checkbox"/>			
5	Ability to learn appropriate techniques and IT tools towards the formal curriculum required to solve real time problems	<input checked="" type="checkbox"/>			
6	Ability to uphold societal, health, safety, legal and ethical issues		<input checked="" type="checkbox"/>		
7	Ability to work for the sustained development of society by providing professional engineering solution to the societal problems	<input checked="" type="checkbox"/>			
8	Ability to comply to professional codes and responsibilities	<input checked="" type="checkbox"/>			
9	Ability to work individually as well as in groups to meet industry requirement		<input checked="" type="checkbox"/>		
10	Ability to communicate effectively on complex engineering activities, comprehend, write effective reports and design documentation and make effective presentations, oral, give and receive clear instructions	<input checked="" type="checkbox"/>			
11	Ability to apply the knowledge of engineering and management principles learnt to the work as a transfer and leader in the team while managing projects	<input checked="" type="checkbox"/>			
12	Ability to engage in independent and life-long learning in the context of technological change	<input checked="" type="checkbox"/>			

Figure 3.3.1b Employer feedback format

Formula to Calculate PG attainment using employer feedback is

- Collect the Feedback form from employers where students are placed
- Complete PG attainment using the formula

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

S. Srivastava
 Divis Laboratories Limited
 1-72/23 (P) DIVIS ROAD, ONE Towers
 Plotter Mills, Gachibowli, Hyderabad
 Telangana - 500032

Exit Survey

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

Student name: P. VISHNUPRAKASH

Year of production: 2022

After graduation, I am here:

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 that 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 [1]	Moderately 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 be able to analyze and interpret data		✓	
3	An ability to design systems, components, and processes to meet desired needs applicable in 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 individual, as a member or leader in diversified teams and multidisciplinary areas			✓
5	Ability to identify, formulate, and solve Chemical Engineering related problems			✓
6	An understanding of professional and ethical responsibility to		✓	

	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 workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professionalism			✓

n. whether the student satisfactory survey is conducted or not? If yes attach proofs
sample course end survey

3. faculty research and innovation

a. details of the faculty publications

s.no	Name of faculty	designation	Total no of publications
1	Dr. D. Subba Rao	Professor	7
2	Dr. S. V. Satyanarayana	Professor	16
3	Dr. T. Bala Narsaiah	Professor	4
4	Mr. M. Kalyan Kumar	Assistant Professor	6
5	Dr. S. Sharada	Assistant Professor	2
6	Dr. B. Dilip Kumar	Assistant Professor	3
7	Mr. M. Murali Naik	Assistant Professor(Ad-hoc)	1

b. details of research projects:

Project Title	Duration	Funding Agency	Amount (in lakhs)
Development of highly stable mixed matrix membranes (MMM) for dehydration of hydrazine hydrate via Pervaporation for rocket fuel applications.	2018-2021	DST-SERB-EMR Govt, of India	32.78
Spatial distribution of uranium and associated water quality parameters in groundwater /drinking water of Rayalaseema region of Andhra Pradesh	2016-2020 * extended for 2 years	BRNS Govt, of India	26.94
Nanoparticle Enhanced Phase Change Material Microcapsules/Fibers for Advanced Energy Storage and Allied Applications”	2018-2021	DST-SERB-EMR Govt, of India	37.83
Physicochemical Studies of TiO ₂ /Fe ₂ O ₃ /ZnO Heterostructure Assemblies for Electrochemical Water Splitting/Dye Degradation Applications	2017-2019	UGC, Govt. of India	1.2

Physicochemical studies of Type - I/II heterostructure assemblies for electrochemical water splitting/dye degradation applications	2017-2019	IEI, R&D grant in aid, Govt, of India	0.7
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c. details of the faculty who attended workshops/STTPs/FDPs

S.no	Name of Faculty	Number of Workshops/FDPs attended
1	Dr. D. Subba Rao	5
2	Dr. S.V Satyanarayana	5
3	Dr. T. Bala Narsaiah	5
4	Mr. M. Kalyan Kumar	5
5	Dr. S Sharada	5
6	Dr. B. Dilip Kumar	5
7	Mrs. A. Meenakshi	-
8	Mr. K Subba Rao	3
9	Ms. P. Uma Maheshwari	3
10	Mr. M. Murali Naik	5
11	Mr. A. Raja Sekhar Babu	3
12	Mr. K. Peddintaiah	5
13	Ms. G. Neha Mallika	3
14	Ms. D. Sowjanya	5
15	Mr. V. Ramanjaneyulu	3
16	H. Rehana Anjum	5
17	Ms. Ch Maneesha	3

d. details of faculty who organized conferences/workshops/STTPs/FDPs

S. No.	Faculty Name	Organized (FDP/Seminars/webinars)
1.	Dr. T. Bala Narsaiah	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
		2.Coordinator, Two-day program on “Waste Management “during 13-14 Nov,2019, Department of Chemical Engineering, JNTUACEA, Anantapur
		3.TEQIP workshop on “Energy Conversion and Storage” at Indian Institute of Technology Hyderabad during 2-7 Dec, 2019
		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
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	Organized 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.
		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
		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 centre, IIT Kanpur (UP) during 6-8th February 2019

e. details of patents published/ awarded and product development, if any

1.	Click Chemistry based Approach to Improve the Photostability of Dyes for Long Term Stability Sensitized Dye 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)
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f. details of faculty awards/ recognition

1.	Dr. T. Bala Narsaiah	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
2.	Dr. B. Dilip Kumar	District Best NSS Program Officer Award for Anantapur District from NSS Cell, JNT University Anantapur, Anantapuramu on 16-	JNTUA, Anantapur	District/State Award

4. other information

a. are the minutes of meeting of the departmental committee maintained YES/NO:
YES

b. number of MoUs/collaborations signed with organizations/institutions:02

c. details of new facilities added:.....

d. details of newsletters/magazines etc., published:02

5. SWOC ANALYSIS

a. Strengths:

- Excellent programs with emphasis on corecompetency development
- Traditional and blended mode of Teaching & Laboratory experiments
- Excellent undergraduate student placement
- Department owe reputed faculty
- Strong alumni support
- Sponsored and consultancy projects
- Publications and Patents

b. Weakness:

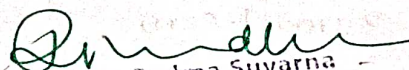
- Lack of access to journals
- Lack of budget allocation for research and maintenance of labs
- Limited floor space
- Lack of skilled non-teaching support staff
- Generally mediocre post graduate and research scholar base compared to UG student base
- Inadequate infrastructural facility for research activity
- Insufficient pool of bright and motivated Research Scholars


c. Opportunities:

- Excellent potential for undertaking Industry-academia collaborative research
- Interdisciplinary research in the new and emerging areas
- Setting up challenging research frontiers
- Newer research areas being opened up by the department faculty

d. Challenges

- Non-availability of new faculty for sustaining high end research
- Inadequate infrastructural facility such as space, equipment, etc.
- Faculty attrition

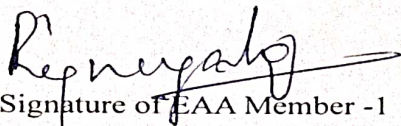

Prof. R. Padma Suvarna
Co-ordinator, IQAC
JNTUA CE, Ananthapuramu



6. Suggestions/Recommendations of the Committee

The department has to focus on the following areas.

1. Sophisticated instruments should establish for advanced research.
2. Internal revenue generation in the form of consultants.
3. Encourage students to participate in more number of co-curricular and extracurricular activities.



Signature of EAA Member -1

Name: K. NAGABHUSHAN RAJU

Designation: PROFESSOR

Address: Dept of Instrumentation

S.K University
Mobile Number: 9866590987

E-mail BHUSHANKR@gmail.com

Dr. K. Nagabhushan Raju

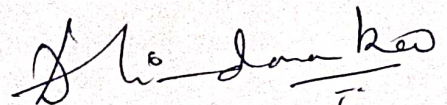
M.Tech., Ph.D

Professor

Department of Instrumentation

Sri Krishnadevaraya University

ANANTAPUR - 515003, A.P. INDIA



Signature of EAA Member -2

Name: MURALIDHAR RAO.

Designation: PROFESSOR

Address: Dept of Biotechnology

SK University
Anantapur
Mobile Number: 9440699873

E-mail

Co-Ordinator

Department of Biotechnology

Sri Krishnadevaraya University,

ANANTAPUR - 515 003, A.P.

JNTUA COLLEGE OF ENGINEERING ANANTAPUR
(AUTONOMOUS):ANANTHAPURAMU
EXTERNAL ACADEMIC AUDIT FOR ACADEMIC YEAR 2020-2021

PART-A General Information

1.Name of the Department: Chemical Engineering

2.Year of establishment: 1989

3.Programs offered (approved by AICTE)

a.UG Programmes: B.Tech Chemical Engineering

b.PG Programmes: M.Tech (Nanotechnology, Environmental Engineering)

4.Accreditation status: 2019-2022

5.Details of the faculty:

S.No	Name	Qualification	Designation	Specialization	Experience (in years)
1	Dr. S.V Satyanarayana	PhD	Professor	Membrane separations, Pervaporation	27
2.	Dr. T. Balanarsaiah	PhD	Professor	Fluidization	16
3.	Mr. M. Kalyan Kumar	M.Tech	Assistant Professor	Environmental Engineering	21
4.	Dr. S Sharada	PhD	Associate Professor	Microreactors	18
5.	Dr. B. Dilip Kumar	PhD	Associate Professor	Nanotechnology, Electrochemistry	16
6.	Mr .K Subba Rao	M.Tech	Assistant Professor (Ad - hoc)	Environmental Engineering	16
7	Dr. P. Uma Maheshwari	PhD	Assistant Professor (Ad - hoc)	Membrane separations, Pervaporation	11
8.	Mr. M. Murali Naik	M.Tech	Assistant Professor (Ad - hoc)	Adsorption	12
9.	Mr. A. Raja Sekhar Babu	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	9
10.	Mr. K. Peddintaiah	M.Tech	Assistant Professor (Ad - hoc)	Micro Reactors	7
11.	Ms.G. Neha Mallika	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	4

12.	Ms. D. Sowjanya	M.Tech	Assistant Professor (Ad - hoc)	Reaction Engineering	5
13.	Mr. V. Ramanjaneyulu	M.Tech	Assistant Professor (Ad - hoc)	Environmental engineering	4
14.	H. Rehana Anjum	M.Tech	Assistant Professor (Ad - hoc)	Membrane separations, waste water treatment	2
15.	Ms. Ch Maneesha	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	2

6. Details of non-teaching staff:

S.No	Name	Qualification	Designation
1	Mr. P. Gangadhar Reddy	X Class	Record Assistant
2	Mrs. K. Jayamma	5 th class	Gardener
3	Mr. B. Md Ansar	X Class	Junior Lab Assistant
4	Mr. A. Sunil Kumar	X Class	Record Assistant
5	Mr. S. Sreenivasulu	ITI	Senior Instructor
6	Mrs. G. Parvathi	X Class	Record Assistant
7	Mr. M. Nagaraju	8 th Class	Junior Instructor
8	Mrs Saritha	UG	Record Assistant
9	Mr. K Narendra	12 th Class	Attender

7. Admission status: no. of students admitted

Programme	Sanctioned	Admitted
UG(B.Tech - CHEM)	60	58
PG	25	18

8. Physical resources available:

S.No	Particulars	
1	Number of classrooms	04
2	Number of faculty rooms	14
3	Number of staff rooms	02
4	Available ICT tools in classrooms	02

v) Number of laboratories

S.No	Name of the Laboratory	Equipment Available
1	Chemical Engineering Workshop	1. Flow meters: Rotameter, Venturi meter, Orifice meter 2. Thermocouple 3. pH, conductivity and dissolved oxygen 4. Gas Chromatography

		<ul style="list-style-type: none"> 5. Spectrophotometer (UV-VIS) 6. X-Ray Diffractometer 7. Heat exchanger 8. Dryer 9. Distillation PID Controller (Level/Flow control)
2	Basic Thermodynamics Lab	<ul style="list-style-type: none"> 1. Simple dilation unit 2. VLE unit 3. LLE unit
3	Mechanical Operations Lab	<ul style="list-style-type: none"> 1. Jaw Crusher 2. Disc Grinder 3. Roll Crusher 4. Hammer Mill 5. Ball Mill 6. Sieve shaker 7. Cyclone Separator 8. Vibrating Screens 9. Ribbon Blender 10. Rotary Drum Filter Press 11. Plate and Frame Filter Press Sedimentation apparatus
4	Momentum Transfer Lab	<ul style="list-style-type: none"> 1. Reynolds Apparatus 2. Centrifugal Pump Test Rig 3. Orifice and Mouthpiece Apparatus 4. Fluidized Bed 5. Drag Studies Apparatus 6. Flow Through Annulus 7. Bernoulli's Theorem Apparatus 8. Pitot Tube Apparatus 9. Discharge Over Notches Apparatus Orifice, Venturi & Rotameter Trainer
5	Energy & Environmental engineering Lab	<ul style="list-style-type: none"> 1. P^H meter 2. Colorimeter 3. TDS meter, Aerobic 4. Anaerobic reactor 25L capacity 5. BOD incubator 6. High accuracy analytical balance (5 digit) 7. Desiccators 8. RO system with domestic 2''x12'' Membrane module 9. UV-Vis spectrophotometer 10. High volume air sampler 11. Bomb calorimeter

		<ul style="list-style-type: none"> 12. Fuel cell test kit 13. Microscope Flash Point/Fire Point
6	Chemical Technology Lab	<ul style="list-style-type: none"> 1. Viscometer 2. pH meter 3. Heating Mantle Electrical Weighing balance
7	Process Heat Transfer Lab	<ul style="list-style-type: none"> 1. Heat Transfer through composite Wall 2. Thermal conductivity of Metal Rod 3. Heat Transfer in Natural Convection 4. Heat Transfer in Forced Convection 5. Shell and Tube Heat Exchanger 6. Double Pipe Heat Exchanger 7. Heat Transfer through Helical Coils 8. Stefan Boltzmann Apparatus 9. Single Effect Evaporator 10. Critical Heat Flux Apparatus
8	Mass Transfer Lab	<ul style="list-style-type: none"> 1. Simple Distillation Unit 2. Vacuum Oven 3. Forced Draft Tray Dryer 4. Solid -Air diffusion Apparatus 5. Packed Bed Distillation Unit 6. Packed Bed Absorber 7. VLE Unit 8. Steam Distillation Unit 9. Surface evaporation Apparatus 10. Stefan's tube apparatus
9	Chemical Reaction Engineering Lab	<ul style="list-style-type: none"> 1. Batch Reactor 2. Tubular Reactor 3. Photochemical Reactor 4. Plug flow Reactor 5. Stirred Tank Reactor 6. Hot air Oven 7. Combined Reactor 8. RTD Studies in Packed Bed Reactor 9. Cascade CSTR Apparatus Plug Flow Reactor
10	Instrumentation and Process Control Lab	<ul style="list-style-type: none"> 1. PID Controller 2. U-Tube manometer 3. Single tank system 4. Two tank interacting system 5. Two tank non-interacting system 6. Bimetallic thermometer

		<p>7. Measurement of level by Air Purge method</p> <p>8. Measurement of level by Capacitance method</p> <p>9. First order system (Mercury in Glass thermometer)</p> <p>Second order system (Mercury thermometer in thermal well)</p>
11	Process Simulation Lab	50 Computers with MATLAB and Turbo C Software
12	Research Laboratory	<p>UV- Spectrophotometer, Micro-oven, Sonicator, Wet mixer and Grinder, Fume Hood, BOD analyzer, Water Sampler Kit, Air Samplers, Muffle furnace, Orbital shaker, Gas Chromatography, <i>Atomic Absorption spectrometry, High Performance Liquid Chromatography, Potentiostat, Centrifuge, UV-Laminar Chamber, Microwave oven, Hot air oven</i></p>

vi) Department library:

S.No	Particulars	Quantity
1	Number of Titles	558
2	Number of volumes	723

Part-B

1. Curriculam:

Is the curriculum updated(yes/no) :YES

2. teaching and learning process during academic year from 2020-21:

a. Student to Faculty Ratio(SFR):

	2020-21
Sanctioned intake B.Tech	180
Sanctioned intake lateral entry B.Tech	18
Sanctioned intake M.Tech (EE + NT)	50
Total number of students	298
Total number of faculty	15
SFR	20

b. Percentage of faculty using ICT for effective teaching and learning mechanism year wise:

No. of faculty on rolls	Number faculty using ICT tools	Available ICT tools and resources	Number of ICT enabled rooms	e-resources and techniques used
15	15	PC with internet, LCD Projector, Access to e-resources	03	NPTEL video courses, MIT Open courseware, IUCEE video lectures

C. Students' academic performance(outgoing batch result analysis):

Total no of Students	No. of students cleared the program without backlogs in stipulated period of study	No. of students cleared the program with backlogs in stipulated period of study
58	44	58

d. Status of student mentoring system and action taken:

Mentoring system is available to monitor the academic and personal activities of the students

e. Achievement of students:

Name of the Student	Achievements and Recognitions
Bathala Veera Vamsi Kumar (17001A0836)	Gold Medal

g. Student remedial classes for slow learners and GATE/CAT, etc classes for advanced learners:

Remedial classes conducted for slow learners

h. Are the faculty members maintaining the course files?(course files shall consists of class timetable copy, syllabus copy along with outcomes, lesson plan, sessional and end examination question papers, assignments, quiz, sessional marks, result analysis, CO attainment, mapping of CO and PO, class notes, hard copies PPTs): YES

i. Company wise details of the students placed (on-campus and off-campus) and details of the students qualified in various competitive examination (attach proofs)

Placement Details

S. No.	Name of the Student Placed	University Serial number	Year of passing	ON/OFF campus placement	Name of the Employer
1	B Sai Mukesh Reddy	17001A0820	2021	ON	Accenture
2	Kotta Sai Chandana	17001A0826	2021	ON	Accenture
3	Guggilla Likhitha	17001A0805	2021	ON	COGNIZANT
4	Chinnakonda Vinay Kiran Reddy	17001A0834	2021	ON	COGNIZANT
5	Bachu Badri Venkata Prasanna	17001A0845	2021	ON	Deccan Fine Chemicals Pvt Ltd
6	Depuru Sairaj Kousik	17001A0803	2021	ON	Divi's Laboratories Ltd
7	Ayyagarla Palli Mahaboob Shabaz	17001A0804	2021	ON	Divi's Laboratories Ltd
8	Ayyagarla Palli Mahaboob Shabaz	17001A0804	2021	ON	Divi's Laboratories Ltd
9	Kuruba Lakshmi Harsha Vardhan	17001A0806	2021	ON	Divi's Laboratories Ltd
10	Cherukuru Sasi Kiran	17001A0818	2021	ON	Divi's Laboratories Ltd
11	Shaik Suhale	17001A0829	2021	ON	Divi's Laboratories Ltd
12	Rayam Venkata Ramanaiyah	17001A0835	2021	ON	Divi's Laboratories Ltd
13	Budamakuntla Abhinay	17001A0839	2021	ON	Divi's Laboratories Ltd

14	Meka Veera Raja Sudheer	17001A0841	2021	ON	Divi's Laboratories Ltd
15	A D Gunasekar	17001A0848	2021	ON	Divi's Laboratories Ltd
16	Chinthaginjala Srinivas	17001A0851	2021	ON	Divi's Laboratories Ltd
17	Chinnakotti Jayasankar	18005A0801	2021	ON	Divi's Laboratories Ltd
18	Rampamkotha Mabushareef	18005A0802	2021	ON	Divi's Laboratories Ltd
19	Shaik Mohammad Musthafa	18005A0803	2021	ON	Divi's Laboratories Ltd
20	Vanapalli Sai Diwakar	18005A0804	2021	ON	Divi's Laboratories Ltd
21	Gangireddy Mahendra Reddy	18005A0809	2021	ON	Divi's Laboratories Ltd
22	Narapareddy Nikhila	17001A0801	2021	ON	Emerson Energy Solution
23	Yalavarthi Abhishek	17001A0808	2021	ON	Emerson Energy Solution
24	Ramadoddy Sreelatha	17001A0812	2021	ON	Emerson Energy Solution
25	Epuru Lakshmi Lalasa	17001A0819	2021	ON	Emerson Energy Solution
26	Guggilla Likhitha	17001A0805	2021	ON	INFOSYS
27	Epuru Lakshmi Lalasa	17001A0819	2021	ON	INFOSYS
28	Gurugubelli Sudhier	17001A0831	2021	ON	INFOSYS
29	Epuru Lakshmi Lalasa	17001A0819	2021	ON	TCS
30	Chinnakonda Vinay Kiran Reddy	17001A0834	2021	ON	TCS
31.	Ramavath Kumar Naik	17001A0817	2021	OFF	Infosys
32.	DNS Sekhar Padavala	18005A0810	2021	OFF	Symed Labs Limited
33.	Dedeepya B	17001A0833	2021	OFF	Infosys
34	Karanam Harshitha	17001A0824	2021	OFF	Accenture

35	Sake Kamalini	17001A0830	2021	OFF	Hetero Labs
36	R Indhumathi	17001A0837	2021	OFF	Hetero Labs
37	Kunigiri pavan Kumar	17001A0814	2021	OFF	Hetero Labs
38	Jalagiri Surendra Babu	17001A0849	2021	OFF	Hetero Labs
39	Ch V V Satyanarayana	18005A0812	2021	OFF	Hetero Labs

Higher Education Details

S. No.	Name of the Student	University Serial number	Passing year	Institute Name	Course name
1	M Sai Mukesh Reddy	17001A0820	2021	IIT Guwahati	Chemical Engineering
2	B Meenakshi	17001A0821	2021	Andhra University	Industrial Pollution Control
3	Yedamalla Jaya Sagar	17001A0823	2021	NIT Tirchy	
4	Kalluri Gowri Sankar Reddy	17001A0825	2021	NIT Tirchy	
5	Bathala Veera Vamsi Kumar	17001A0836	2021	IIT Chennai	Chemical Engineering
6	Meka Veera Raja Sudheer	17001A0841	2021	IIT BHU	Chemical Engineering
7	D B Prem Kumar	17001A0842	2021	IITDM Kancheepuram	
8	Muppirala Subramanya Venkata Ramanan	17001A0844	2021	IIT Indore	Metallurgy Engineering & Material Science
9	Kondareddy Nitish Reddy	17001A0852	2021	IIT Guwahati	Chemical Engineering

j. CO and PO attainment: sample copy

CO-PO attainment of Chemical Reaction Engineering Laboratory

Course Name :	Chemical Reaction Engineering Laboratory
Course Code :	
Semester :	III Year II Semester
Batch :	2017 - 2021
Academic Year :	2018 - 2020
Faculty Name :	Dr. T. Balu Narasimh, Ms. G. Neha Malini

Course Outcomes	Roll No / Question no /Max. Marks	Internal Marks	Internal Lab					End Marks of each (60/10/5/5/5)	End Lab Exam				
			CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5
1	16001A0859	28	5.6	5.6	5.6	5.6	5.6	6.0	12	12	12	12	12
2	17001A0801	27	7.4	7.4	7.4	7.4	7.4	47	3.4	3.4	3.4	3.4	3.4
3	17001A0803	22	6.6	6.6	6.6	6.6	6.6	44	3.5	3.5	3.5	3.5	3.5
4	17001A0804	27	5.4	5.4	5.4	5.4	5.4	42	3.4	3.4	3.4	3.4	3.4
5	17001A0805	27	7.4	7.4	7.4	7.4	7.4	42	10.4	10.4	10.4	10.4	10.4
6	17001A0806	37	7.4	7.4	7.4	7.4	7.4	45	3.6	3.6	3.6	3.6	3.6
7	17001A0807	31	6.2	6.2	6.2	6.2	6.2	42	3.6	3.6	3.6	3.6	3.6
8	17001A0808	34	6.8	6.8	6.8	6.8	6.8	44	3.2	3.2	3.2	3.2	3.2
9	17001A0809	32	6.4	6.4	6.4	6.4	6.4	46	3.2	3.2	3.2	3.2	3.2
10	17001A0810	24	5.8	5.8	5.8	5.8	5.8	47	3.4	3.4	3.4	3.4	3.4
11	17001A0811	26	7	7	7	7	7	52	10.4	10.4	10.4	10.4	10.4
12	17001A0812	28	6	6	6	6	6	45	3	3	3	3	3
13	17001A0813	24	6.8	6.8	6.8	6.8	6.8	44	3.5	3.5	3.5	3.5	3.5
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	27	5.6	5.6	5.6	5.6	5.6	45	3	3	3	3	3
16	17001A0817	21	6.2	6.2	6.2	6.2	6.2	45	3	3	3	3	3
17	17001A0818	25	5	5	5	5	5	44	3.5	3.5	3.5	3.5	3.5
18	17001A0819	24	6.8	6.8	6.8	6.8	6.8	51	10.2	10.2	10.2	10.2	10.2
19	17001A0820	27	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	45	3.5	3.5	3.5	3.5	3.5
21	17001A0822	31	6.2	6.2	6.2	6.2	6.2	45	3.5	3.5	3.5	3.5	3.5
22	17001A0824	25	7	7	7	7	7	50	10	10	10	10	10
23	17001A0825	27	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	3.5	3.5	3.5	3.5	3.5
25	17001A0827	24	5.8	5.8	5.8	5.8	5.8	47	3.4	3.4	3.4	3.4	3.4
26	17001A0828	30	6	6	6	6	6	44	3.5	3.5	3.5	3.5	3.5
27	17001A0830	20	6	6	6	6	6	45	3	3	3	3	3
28	17001A0831	24	7.2	7.2	7.2	7.2	7.2	52	10.4	10.4	10.4	10.4	10.4
29	17001A0832	24	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	3	3	3	3	3
31	17001A0834	24	7.2	7.2	7.2	7.2	7.2	49	3.5	3.5	3.5	3.5	3.5
32	17001A0835	27	7.4	7.4	7.4	7.4	7.4	46	3.2	3.2	3.2	3.2	3.2
33	17001A0836	25	7	7	7	7	7	50	10	10	10	10	10
34	17001A0837	24	7.2	7.2	7.2	7.2	7.2	49	3.8	3.8	3.8	3.8	3.8
35	17001A0838	24	7.2	7.2	7.2	7.2	7.2	49	3.8	3.8	3.8	3.8	3.8
36	17001A0839	24	4.8	4.8	4.8	4.8	4.8	42	3.4	3.4	3.4	3.4	3.4
37	17001A0840	29	5.8	5.8	5.8	5.8	5.8	41	3.2	3.2	3.2	3.2	3.2
38	17001A0841	35	7	7	7	7	7	49	3.8	3.8	3.8	3.8	3.8
39	17001A0842	24	7.2	7.2	7.2	7.2	7.2	46	3.2	3.2	3.2	3.2	3.2
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	27	7.4	7.4	7.4	7.4	7.4	47	3.4	3.4	3.4	3.4	3.4
42	17001A0845	28	7.6	7.6	7.6	7.6	7.6	47	3.4	3.4	3.4	3.4	3.4
43	17001A0846	27	7.4	7.4	7.4	7.4	7.4	48	3.6	3.6	3.6	3.6	3.6
44	17001A0847	28	5.6	5.6	5.6	5.6	5.6	45	3	3	3	3	3
45	17001A0848	26	7.2	7.2	7.2	7.2	7.2	49	3.8	3.8	3.8	3.8	3.8
46	17001A0849	26	5.2	5.2	5.2	5.2	5.2	42	3.6	3.6	3.6	3.6	3.6
47	17001A0850	28	5.6	5.6	5.6	5.6	5.6	46	3.2	3.2	3.2	3.2	3.2
48	17001A0851	23	6.6	6.6	6.6	6.6	6.6	48	3.6	3.6	3.6	3.6	3.6
49	17001A0852	32	6.4	6.4	6.4	6.4	6.4	45	3	3	3	3	3
50	16005A0801	31	6.2	6.2	6.2	6.2	6.2	42	3.6	3.6	3.6	3.6	3.6
51	16005A0802	27	5.4	5.4	5.4	5.4	5.4	44	3.8	3.8	3.8	3.8	3.8
52	16005A0803	30	6	6	6	6	6	39	7.6	7.6	7.6	7.6	7.6
53	16005A0804	32	6.4	6.4	6.4	6.4	6.4	41	3.2	3.2	3.2	3.2	3.2
54	16005A0807	24	5.2	5.2	5.2	5.2	5.2	38	7.6	7.6	7.6	7.6	7.6
55	16005A0808	22	4.4	4.4	4.4	4.4	4.4	40	3	3	3	3	3
56	16005A0809	29	5.8	5.8	5.8	5.8	5.8	41	3.2	3.2	3.2	3.2	3.2
57	16005A0810	30	6	6	6	6	6	41	3.2	3.2	3.2	3.2	3.2
58	16005A0812	25	7	7	7	7	7	42	3.6	3.6	3.6	3.6	3.6
59	16005A0813	24	5.2	5.2	5.2	5.2	5.2	42	3.6	3.6	3.6	3.6	3.6
60	16005A0815	31	6.2	6.2	6.2	6.2	6.2	41	3.2	3.2	3.2	3.2	3.2

	Direct CO Attainment				Indirect CO Attainment				Total Co attainment 100% of Final Direct attainment value + 100% of Course End Survey
	100% of Internal	40% of Internal	100% of External	100% of External	Course end Survey (100%)		20% of Course End Survey		
CO1	2.83	1.13	2.87	1.72	2.85	2.28	2.48	0.50	2.78
CO2	2.83	1.13	2.87	1.72	2.85	2.28	2.48	0.50	2.78
CO3	2.83	1.13	2.87	1.72	2.85	2.28	2.56	0.51	2.80
CO4	2.83	1.13	2.87	1.72	2.85	2.28	2.51	0.50	2.79
CO5	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

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15	PO16
CO1	3	2	2	2	2	1	2	1	2	1	2	1	2	2	1	2
CO2	3	3	3	2	2	1	1	1	1	1	1	1	2	2	2	1
CO3	2	3	3	2	2	1	2	1	1	1	1	1	1	2	1	2
CO4	3	2	3	1	1	1	1	1	2	1	1	3	1	2	2	2
CO5	2	3	1	1	1	1	2	1	2	1	1	2	2	2	2	1
	24	24	24	14	14	1	16	1	16	1	1	2	14	16	16	16
	13	13	12	8	0	5	8	5	8	5	0	10	9	8	8	8

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15	PO16
CO1	2.78	1.85	1.85	1.85	0.00	0.33	1.85	0.33	1.85	0.33	0.00	1.85	1.85	0.33	1.85	1.85
CO2	2.78	2.78	2.78	1.85	0.00	0.33	0.33	0.33	0.33	0.33	0.00	1.85	1.85	1.85	0.33	1.85
CO3	1.86	2.80	2.80	1.86	0.00	0.33	1.86	0.33	0.33	0.33	0.00	0.33	1.86	0.33	1.86	1.86
CO4	2.78	1.86	2.78	0.33	0.00	0.33	0.33	1.86	0.33	0.33	0.00	2.78	0.33	1.86	1.86	1.86
CO5	1.85	2.78	0.33	0.33	0.00	0.33	1.85	0.33	1.85	0.33	0.00	1.85	1.85	1.85	0.33	0.33
	2.41	2.41	2.23	1.48	0.00	0.33	1.48	0.33	1.48	0.33	0.00	1.86	1.67	1.48	1.48	1.49

PO & PSO Attainment Level																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15	PO16
	2.41	2.41	2.23	1.48	0.00	0.33	1.48	0.33	1.48	0.33	0.00	1.86	1.67	1.48	1.48	1.49

k. Best projects/Industry projects:

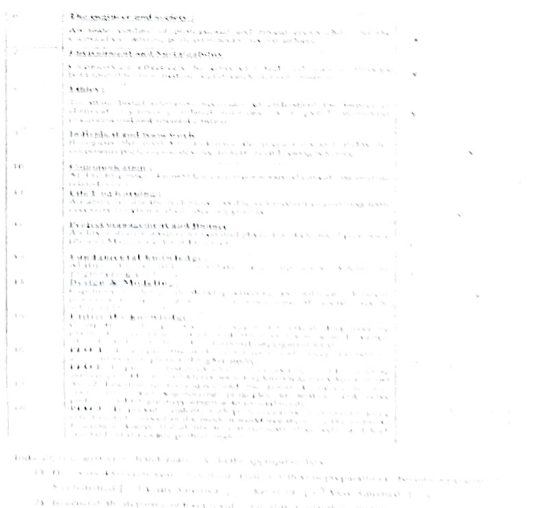
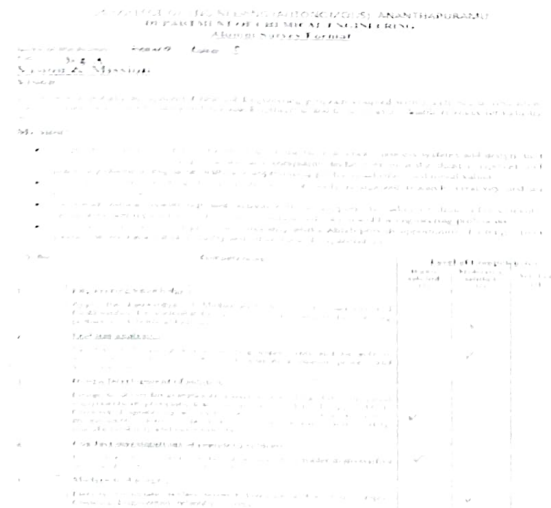
S.No	Project title	area	Type of project
1	Crude oil refining	Petroleum	Model making

l. Content beyond the curriculum:

Guest lectures from industry experts are conducted regularly. Often faculty members cover certain important topics which are useful as per the industry requirement

m. Whether the employers, alumni and program exit surveys are considered for the attainment calculations or not? If yes, attach proofs: YES

Alumni Survey



Employer Survey

2020-2021

Dr. Subodh Agarwal Director

Employer Feedback Form

Date: 20-04-2021

- Rajesh Singhania

Executive HR & Admin

- DWS (as per email)

040-23786300/hydr

rajesh@divisgroup.com

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

Question	Highly satisfied		Moderately satisfied		Not satisfied	
	S1	S2	S1	S2	S1	S2
1. Confidence in applying concepts of Mathematics and Science in solving real world complex problems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ability to identify, formulate, resolve resource constraints in real world situations. Engineering problems and give solutions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Ability to use the system components for real time applications like public health, etc. projects	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Ability to use the tools taught by respect to study computer and its applications & information to solve real world problems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ability to use appropriate techniques and IT tools to solve the formal, structured, repetitive to solve real world problems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Ability to use social, health, safety, legal and ethical issues in the solution and development of society	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Ability to identify professional engineering solution to the problem	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Ability to compare to professional codes and standards in the work environment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Ability to work individually as well as in groups to solve real world problems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Ability to communicate effectively in complex engineering work environment with effective engineering team and other stakeholders	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Ability to use the knowledge of engineering and technology to solve real world as a manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Ability to use the knowledge of engineering and technology to solve real world as a manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Ability to use the knowledge of engineering and technology to solve real world as a manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Ability to use the knowledge of engineering and technology to solve real world as a manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature of the Employer/Feedback Form

Signature

Name of the Employer/Feedback Form: **Divis Laboratories Pvt. Ltd.**
 Address: **1-772 N.P. ROAD, HYDRABAD, TELANGANA**
 Telephone: **040-23786300**

Overall comments by the employer: **Highly satisfied**
 Overall comments by the employer: **Moderately Satisfied**
 Overall comments by the employer: **Satisfied**

Exit Survey

INTIA COLLEGE OF ENGINEERING (AUTONOMOUS), ANANTHAPURAM

DEPARTMENT OF CHEMICAL ENGINEERING

GRADUATE EXIT SURVEY

Batch: 2018-2022

Student name: [REDACTED]

Year of graduation: [REDACTED]

After graduation, I am in to:

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 that 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 (I)	Moderately Satisfied (II)	Satisfied (III)
1	Are you able to apply the knowledge of Mathematics, Science, Engineering and fundamentals for understanding and solving of complex engineering problems in Chemical Engineering?		✓	
2	Are you capable of designing and conducting experiments and be able to analyze and interpret data?		✓	
3	Are you able to design systems, components and processes in their domain areas applicable to Chemical Engineering within their constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability?		✓	
4	Are you able to function effectively as individual, as a member or leader in diversified teams and multidisciplinary areas?			✓
5	Are you able to identify, formulate and solve Chemical Engineering related problems?			✓
6	Are you understanding of professional and ethical responsibilities to		✓	

7	the chemical engineering profession and to society at large			
8	An ability to communicate effectively by conveying technical material through both formal written medium and through oral presentations	✓		
9	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 workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professionalism			✓

3. Faculty research and innovation

a. Details of the faculty publications

s.no	Name of faculty	designation	Total no of publications
1	Dr. S. V. Satyanarayana	Professor	12
2	Mr. M. Kalyan Kumar	Assistant Professor	5
3	Dr. S. Sharada	Assistant Professor	3
4	Dr. B. Dilip Kumar	Assistant Professor	5
5	Mr. M. Murali Naik	Assistant Professor(Ad-hoc)	2
6	Mrs P Uma Maheswari	Assistant Professor(Ad-hoc)	2

b. Details of research projects:

Project Title	Duration	Funding Agency	Amount (in lakhs)
Development of highly stable mixed matrix membranes (MMM) for dehydration of hydrazine hydrate via Pervaporation for rocket fuel applications.	2018-2021	DST-SERB-EMR Govt, of India	32.78
Spatial distribution of uranium and associated water quality parameters in groundwater /drinking water of Rayalaseema region of Andhra Pradesh	2016-2020 * extended for 2 years	BRNS Govt, of India	26.94
Nanoparticle Enhanced Phase Change Material Microcapsules/Fibers for Advanced Energy Storage and Allied Applications"	2018-2021	DST-SERB EMR Govt, of India	37.83
Physicochemical Studies of TiO ₂ /Fe ₂ O ₃ /ZnO Heterostructure Assemblies for Electrochemical Water Splitting/Dye Degradation Applications	2017-2019	UGC, Govt. of India	1.2
Physicochemical studies of Type - I/II heterostructure assemblies for electrochemical water splitting/dye degradation applications	2017-2019	IEI, R&D grant in aid, Govt, of India	0.7

c. Details of the faculty who attended workshops/STTPs/FDPs

S.no	Name of Faculty	Number of Workshops/FDPs attended
1	Dr. S.V Satyanarayana	5
2	Dr. T. Balanarsaiah	5
3	Mr. M. Kalyan Kumar	5
4	Dr. S Sharada	5
5	Dr. B. Dilip Kumar	5
6	Mr. K Subba Rao	3
7	Ms. P. Uma Maheshwari	3
8	Mr. M. Murali Naik	5
9	Mr. A. Raja Sekhar Babu	3
10	Mr. K. Peddintaiah	5
11	Ms. G. Neha Mallika	3
12	Ms. D. Sowjanya	5
13	Mr. V. Ramanjaneyulu	3
14	H. Rehana Anjum	5
15	Ms. Ch Maneesha	3

d. Details of faculty who organized conferences/workshops/STTPs/FDPs

S. No.	Faculty Name	Organized (FDP/Seminars/webinars)
1.	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.
2.	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.
3.	Dr. B. Dilip Kumar	Organized 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.

e. Details of patents published/ awarded and product development, if any

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)

f. Details of faculty awards/ recognition : NIL

4. Other information

a. Are the minutes of meeting of the departmental committee maintained YES/NO: YES

b. Number of MoUs/collaborations signed with organizations/institutions: NIL

c. Details of new facilities added:

d. Details of newsletters/magazines etc., published: 02

SWOC ANALYSIS

a. Strengths:

- Excellent programs with emphasis on core competency development
- Traditional and blended mode of Teaching & Laboratory experiments
- Excellent undergraduate student placement
- Department owe reputed faculty
- Strong alumni support
- Sponsored and consultancy projects
- Publications and Patents

b. Weakness:

- Lack of access to journals
- Lack of budget allocation for research and maintenance of labs
- Limited floor space
- Lack of skilled non-teaching support staff
- Generally mediocre post graduate and researchscholar base compared to UG student base
- Inadequate infrastructural facility for researchactivity
- Insufficient pool of bright and motivated Research Scholars

c. Opportunities:

- Excellent potential for undertaking Industry-academia collaborative research
- Interdisciplinary research in the new andemerging areas
- Setting up challenging research frontiers
- Newer research areas being opened up by thedepartment faculty

d. Challenges

- Non-availability of new faculty for sustaininghigh end research
- Inadequate infrastructural facility such asspace, equipment, etc.
- Faculty attrition

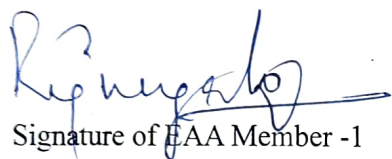


Prof. R. Padma Suvarna
Co-ordinator, IQAC
JNTUA CE, Ananthapuram

6. Suggestions/Recommendations of the Committee

The department has to focus on the following parameters

1. More number of funded research projects from different funding agencies.
2. Have to encourage students to participate in more number of co-curricular and Extracurricular activities.
3. Sophisticated should be established.



Signature of EAA Member -1

Name: K. NAGABHUSHAN RAJU

Designation: professor

Address: DEPT of Instrumentation,
SK. University

Mobile Number: 98665 90987

E-mail bhushanrj@ gmail.com.

Dr. K. Nagabhushan Raju

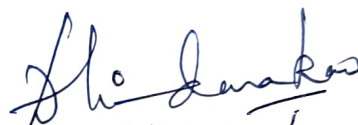
M. Tech., Ph. D

Professor

Department of Instrumentation

Sri Krishnadevaraya University

ANANTAPUR - 515003, A.P. INDIA



Signature of EAA Member -2

Name: MURALIDHAR RAO

Designation: PROFESSOR

Address: DEPT of Biotechnology
SK. University

Mobile Number: 9440699873

E-mail

Co-Ordinator

Department of Biotechnology

Sri Krishnadevaraya University,

ANANTAPUR - 515 003, A.P.

JNTUA COLLEGE OF ENGINEERING ANANTAPUR
(AUTONOMOUS):ANANTHAPURAMU
EXTERNAL ACADEMIC AUDIT FOR ACADEMIC YEAR 2021-2022

PART-A General Information

1.Name of the Department: Chemical Engineering

2. Year of establishment: 1989

3.Programs offered (approved by AICTE)

a.UG Programmes: B.Tech Chemical Engineering

b.PG Programmes: M.Tech (Nanotechnology, Environmental Engineering)

4.Accreditation status: 2019-2022

5.Details of the faculty:

S.No	Name	Qualification	Designation	Specialization	Experience (in years)
1	Dr. S.V Satyanarayana	PhD	Professor	Membrane separations, Pervaporation	28
2.	Dr. T. Balanarsaiah	PhD	Professor	Fluidization	17
3.	Mr. M. Kalyan Kumar	M.Tech	Assistant Professor	Environmental Engineering	22
4.	Dr. S Sharada	PhD	Associate Professor	Microreactors	19
5.	Dr. B. Dilip Kumar	PhD	Associate Professor	Nanotechnology, Electrochemistry	17
6.	Mr .K Subba Rao	M.Tech	Assistant Professor (Ad - hoc)	Environmental Engineering	17
7	Dr. P. Uma Maheshwari	PhD	Assistant Professor (Ad - hoc)	Membrane separations, Pervaporation	12
8.	Mr. M. Murali Naik	M.Tech	Assistant Professor (Ad - hoc)	Adsorption	13
9.	Mr. A. Raja Sekhar Babu	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	10
10.	Mr. K. Peddintaiah	M.Tech	Assistant Professor (Ad - hoc)	Micro Reactors	8
11.	Ms.G. Neha Mallika	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	5

12.	Ms. D. Sowjanya	M.Tech	Assistant Professor (Ad - hoc)	Reaction Engineering	6
13.	Mr. V. Ramanjaneyulu	M.Tech	Assistant Professor (Ad - hoc)	Environmental engineering	5
14.	H. Rehana Anjum	M.Tech	Assistant Professor (Ad - hoc)	Membrane separations, waste water treatment	3
15.	Ms. Ch Maneesha	M.Tech	Assistant Professor (Ad - hoc)	Nanotechnology	3

6. Details of non-teaching staff:

S.No	Name	Qualification	Designation
1	Mr. P. Gangadhar Reddy	X Class	Record Assistant
2	Mrs. K. Jayamma	5 th class	Gardener
3	Mr. B. Md Ansar	X Class	Junior Lab Assistant
4	Mr. A. Sunil Kumar	X Class	Record Assistant
5	Mr. S. Sreenivasulu	ITI	Senior Instructor
6	Mrs. G. Parvathi	X Class	Record Assistant
7	Mr. M. Nagaraju	8 th Class	Junior Instructor
8	Mrs Saritha	UG	Record Assistant
9	Mr. K Narendra	12 th Class	Attender

7. Admission status: no.of students admitted

Programme	Sanctioned	Admitted
UG(B.Tech - CHEM)	60	58
PG	25	18

8. Physical resources available:

S.No	Particulars	
1	Number of classrooms	04
2	Number of faculty rooms	14
3	Number of staff rooms	02
4	Available ICT tools in classrooms	02

v) Number of laboratories

S.No	Name of the Laboratory	Equipment Available
1	Chemical Engineering Workshop	1. Flow meters: Rotameter, Venturi meter, Orifice meter 2. Thermocouple 3. pH, conductivity and dissolved oxygen 4. Gas Chromatography

		<ul style="list-style-type: none"> 5. Spectrophotometer (UV-VIS) 6. X-Ray Diffractometer 7. Heat exchanger 8. Dryer 9. Distillation
2	Basic Thermodynamics Lab	<ul style="list-style-type: none"> PID Controller (Level/Flow control) 1. Simple dilution unit 2. VLE unit 3. LLE unit
3	Mechanical Operations Lab	<ul style="list-style-type: none"> 1. Jaw Crusher 2. Disc Grinder 3. Roll Crusher 4. Hammer Mill 5. Ball Mill 6. Sieve shaker 7. Cyclone Separator 8. Vibrating Screens 9. Ribbon Blender 10. Rotary Drum Filter Press 11. Plate and Frame Filter Press
4	Momentum Transfer Lab	<ul style="list-style-type: none"> Sedimentation apparatus 1. Reynolds Apparatus 2. Centrifugal Pump Test Rig 3. Orifice and Mouthpiece Apparatus 4. Fluidized Bed 5. Drag Studies Apparatus 6. Flow Through Annulus 7. Bernoulli's Theorem Apparatus 8. Pitot Tube Apparatus 9. Discharge Over Notches Apparatus
5	Energy & Environmental engineering Lab	<ul style="list-style-type: none"> Orifice, Venturi & Rotameter Trainer 1. P^H meter 2. Colorimeter 3. TDS meter, Aerobic 4. Anaerobic reactor 25L capacity 5. BOD incubator 6. High accuracy analytical balance (5 digit) 7. Desiccators 8. RO system with domestic 2''x12'' Membrane module 9. UV-Vis spectrophotometer 10. High volume air sampler 11. Bomb calorimeter

		12. Fuel cell test kit 13. Microscope Flash Point/Fire Point
6	Chemical Technology Lab	1. Viscometer 2. pH meter 3. Heating Mantle Electrical Weighing balance
7	Process Heat Transfer Lab	1. Heat Transfer through composite Wall 2. Thermal conductivity of Metal Rod 3. Heat Transfer in Natural Convection 4. Heat Transfer in Forced Convection 5. Shell and Tube Heat Exchanger 6. Double Pipe Heat Exchanger 7. Heat Transfer through Helical Coils 8. Stefan Boltzmann Apparatus 9. Single Effect Evaporator 10. Critical Heat Flux Apparatus
8	Mass Transfer Lab	1. Simple Distillation Unit 2. Vacuum Oven 3. Forced Draft Tray Dryer 4. Solid -Air diffusion Apparatus 5. Packed Bed Distillation Unit 6. Packed Bed Absorber 7. VLE Unit 8. Steam Distillation Unit 9. Surface evaporation Apparatus 10. Stefan's tube apparatus
9	Chemical Reaction Engineering Lab	1. Batch Reactor 2. Tubular Reactor 3. Photochemical Reactor 4. Plug flow Reactor 5. Stirred Tank Reactor 6. Hot air Oven 7. Combined Reactor 8. RTD Studies in Packed Bed Reactor 9. Cascade CSTR Apparatus Plug Flow Reactor
10	Instrumentation and Process Control Lab	1. PID Controller 2. U-Tube manometer 3. Single tank system 4. Two tank interacting system 5. Two tank non-interacting system 6. Bimetallic thermometer

		<p>7. Measurement of level by Air Purge method</p> <p>8. Measurement of level by Capacitance method</p> <p>9. First order system (Mercury in Glass thermometer) Second order system (Mercury thermometer in thermal well)</p>
11	Process Simulation Lab	50 Computers with MATLAB and Turbo C Software
12	Research Laboratory	UV- Spectrophotometer, Micro-oven, Sonicator, Wet mixer and Grinder, Fume Hood, BOD analyzer, Water Sampler Kit, Air Samplers, Muffle furnace, Orbital shaker, Gas Chromatography, <i>Atomic Absorption spectrometry, High Performance Liquid Chromatography, Potentiostat, Centrifuge, UV-Laminar Chamber, Microwave oven, Hot air oven</i>

vi) Department library:

S.No	Particulars	Quantity
1	Number of Titles	558
2	Number of volumes	723

Part-B

1. Curriculam:

Is the curriculum updated(yes/no) : YES

2. Teaching and learning process during academic year from 2021-22:

a. Student to Faculty Ratio(SFR):

	2021-22
Sanctioned intake B.Tech	180
Sanctioned intake lateral entry B.Tech	18
Sanctioned intake M.Tech (EE + NT)	50
Total number of students	298
Total number of faculty	14
SFR	21.28

b. Percentage of faculty using ICT for effective teaching and learning mechanism year wise:

No. of faculty on rolls	Number faculty using ICT tools	Available ICT tools and resources	Number of ICT enabled rooms	e-resources and techniques used
14	14	PC with internet, LCD Projector, Access to e-resources	03	NPTEL video courses, MIT Open courseware, IUCEE video lectures

C. Students' academic performance(outgoing batch result analysis):

Total no of Students	No. of students cleared the program without backlogs in stipulated period of study	No. of students cleared the program with backlogs in stipulated period of study
55	46	55

d. Status of student mentoring system and action taken:

Mentoring system is available to monitor the academic and personal activities of the students

e. Achievement of students:

Name of the Student	Achievements and Recognitions
Makam Naga Sravani(18001A0827)	Gold Medal

Achievements in co-curriculum activities

S.No	Student Name	Roll No	Event Name	Participation
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1	Muppala Madhuri	20001A0845	FUSION2K22	Fusion 2K22 Paper presentation
2	Naragolla Yashwanthsai	19001A0836	District level Neighbourhood Youth parliament 2022	Participated
3	Ithigowni Yaswanthi	20001A0819	Avishkaar 2022	Participated

g. Student remedial classes for slow learners and GATE/CAT, etc classes for advanced learners:

Remedial classes conducted for slow learners

h. Are the faculty members maintaining the course files?(course files shall consists of class timetable copy, syllabus copy along with outcomes, lesson plan, sessional and end examination question papers, assignments, quiz, sessional marks, result analysis, CO attainment, mapping of CO and PO, class notes, hard copies PPTs): YES

i. Company wise details of the students placed (on-campus and off-campus) and details of the students qualified in various competitive examination (attach proofs)

Placement Details

S. No.	Name of the Student Placed	University Serial number	Year of passing	ON/OFF campus placement	Name of the Employer
1	Makam Naga Sravani	18001A0827	2022	ON	TCS
2	Challa Madhu Kiran	18001A0828	2022	ON	TCS
3	Kareddula Yomakeswara	18001A0848	2022	ON	TCS
4	Thummala Sowmya	18001A0804	2022	ON	Cognizant
5	G Swetha	18001A0812	2022	ON	Cognizant
6	Annalarapu Devi	18001A0840	2022	ON	Cognizant
7	Charugundla Likitha	18001A0850	2022	ON	Cognizant
8	Challa Madhu Kiran	18001A0828	2022	ON	Wipro
9	B Tejasri	18001A0835	2022	ON	Wipro
10	Mungara Thrisha	18001A0841	2022	ON	Wipro
11	G Sai Jyothi Jeythisha	18001A0845	2022	ON	Wipro

12	Busireddy Susmitha Reddy	18001A0857	2022	ON	Wipro
13	Mungara Thrisha	18001A0841	2022	ON	Infosys
14	Vummadi setty Meghana	18001A0803	2022	ON	Virtusa
15	M Sai Upendra Reddy	18001A0825	2022	ON	Deccan Fine Chemicals
16	Kaattabadi Shabaaz Ahmed	18001A0823	2022	ON	Deccan Fine Chemicals
17	Nellaturu Raghava Praveen	18001A0837	2022	ON	Deccan Fine Chemicals
18	Bondhala Surya Kiran Kumar	18001A0816	2022	ON	Deccan Fine Chemicals
19	Mopuni Naga Ganesh	18001A0809	2022	ON	Hetero Labs limited
20	Sabhavati Eswar Naik	18001A0814	2022	ON	Hetero Labs limited
21	Muramreddy Vidyadhar Reddy	18001A0802	2022	ON	Hetero Labs limited
22	Nellaturu Raghava Praveen	18001A0837	2022	ON	Hetero Labs limited
23	Rangappa Yuvaraj	18001A0802	2022	ON	Hetero Labs limited
24	B Vijay Kumar	18001A0822	2022	ON	Hetero Labs limited
25	Muddarajappa Gari Manjunath	18001A0846	2022	ON	Hetero Labs limited
26	Thondu Prudhvi Teja	18001A0849	2022	ON	Hetero Labs limited
27	Kunapa Rishi Kumar Raju	18001A0844	2022	ON	Hetero Labs limited
28	B Surya Kiran Kumar	18001A0816	2022	ON	Hetero Labs limited
29	D Dheeraj	18001A0829	2022	ON	Hetero Labs limited
30.	K Venugopal Achari	18001A0804	2022	ON	Hetero Labs limited
31.	N Naveen Kumar	18001A0807	2022	ON	Hetero Labs limited
32.	Allamudi Pradeep	19005A0801	2022	ON	Hetero Labs limited
33.	Palem Tharun	18001A0808	2022	ON	Hetero Labs limited
34.	G Swetha	18001A0812	2022	ON	Hetero Labs limited
35.	K Kavya	18001A0815	2022	ON	Hetero Labs limited

36.	Kattabadi Shabaaz Ahmed	18001A0823	2022	ON	Hetero Labs limited
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Higher Education Details

S. No.	Name of the Student	University Serial number	Passing year	Institute Name	Course Name
1	K Shabaaz Ahmed	18001A0823	2022	NIT Warangal	Systems & Control Engineering
2	G V Sree Vanya	18001A0843	2022	Sungkyunkwan University, South Korea	Advanced Material Science & Engineering

j. CO and PO attainment: sample copy

CO-PO attainment of Chemical Reaction Engineering Laboratory

Course Name :	Chemical Reaction Engineering Laboratory
Course Code :	
Semester :	III Year II Semester
Batch :	2017 - 2021
Academic Year :	2018 - 2020
Faculty Name :	Dr. T. Sula Narasish, Mr. G. Naha Malih

Course Outcomes: No	Roll No./ Question no./Part, Marks	Internal Marks	Internal Lab					End Marks of each (COMBICO)	End Lab Exam				
			CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5
		40	8	8	8	8	8	60	12	12	12	12	12
1	16001A0601	38	5.6	5.6	5.6	5.6	5.6	43	8.6	8.6	8.6	8.6	8.6
2	17001A0601	37	7.4	7.4	7.4	7.4	7.4	47	9.4	9.4	9.4	9.4	9.4
3	17001A0603	33	6.6	6.6	6.6	6.6	6.6	44	8.6	8.6	8.6	8.6	8.6
4	17001A0604	27	5.4	5.4	5.4	5.4	5.4	42	6.4	6.4	6.4	6.4	6.4
5	17001A0605	37	7.4	7.4	7.4	7.4	7.4	52	10.4	10.4	10.4	10.4	10.4
6	17001A0606	37	7.4	7.4	7.4	7.4	7.4	46	9.4	9.4	9.4	9.4	9.4
7	17001A0607	31	6.2	6.2	6.2	6.2	6.2	43	6.6	6.6	6.6	6.6	6.6
8	17001A0608	34	6.8	6.8	6.8	6.8	6.8	46	9.2	9.2	9.2	9.2	9.2
9	17001A0609	32	6.4	6.4	6.4	6.4	6.4	46	9.2	9.2	9.2	9.2	9.2
10	17001A0610	29	5.8	5.8	5.8	5.8	5.8	47	9.4	9.4	9.4	9.4	9.4
11	17001A0611	30	6	6	6	6	6	52	10.4	10.4	10.4	10.4	10.4
12	17001A0612	25	7	7	7	7	7	45	9	9	9	9	9
13	17001A0613	24	6.8	6.8	6.8	6.8	6.8	49	9.8	9.8	9.8	9.8	9.8
14	17001A0614	32	6.4	6.4	6.4	6.4	6.4	51	10.2	10.2	10.2	10.2	10.2
15	17001A0615	24	5.6	5.6	5.6	5.6	5.6	45	9	9	9	9	9
16	17001A0617	31	6.2	6.2	6.2	6.2	6.2	48	9	9	9	9	9
17	17001A0618	25	5	5	5	5	5	44	8.6	8.6	8.6	8.6	8.6
18	17001A0619	34	6.8	6.8	6.8	6.8	6.8	51	10.2	10.2	10.2	10.2	10.2
19	17001A0620	37	7.4	7.4	7.4	7.4	7.4	52	10.4	10.4	10.4	10.4	10.4
20	17001A0621	32	6.4	6.4	6.4	6.4	6.4	48	9.6	9.6	9.6	9.6	9.6
21	17001A0623	31	6.2	6.2	6.2	6.2	6.2	46	9.6	9.6	9.6	9.6	9.6
22	17001A0624	35	7	7	7	7	7	50	10	10	10	10	10
23	17001A0625	28	5.6	5.6	5.6	5.6	5.6	50	10	10	10	10	10
24	17001A0626	32	6.4	6.4	6.4	6.4	6.4	44	8.6	8.6	8.6	8.6	8.6
25	17001A0627	29	5.8	5.8	5.8	5.8	5.8	47	9.4	9.4	9.4	9.4	9.4
26	17001A0628	30	6	6	6	6	6	44	8.6	8.6	8.6	8.6	8.6
27	17001A0630	30	6	6	6	6	6	45	9	9	9	9	9
28	17001A0631	34	7.2	7.2	7.2	7.2	7.2	52	10.4	10.4	10.4	10.4	10.4
29	17001A0632	36	7.2	7.2	7.2	7.2	7.2	50	10	10	10	10	10
30	17001A0633	28	5	5	5	5	5	45	9	9	9	9	9
31	17001A0634	36	7.2	7.2	7.2	7.2	7.2	46	9.6	9.6	9.6	9.6	9.6
32	17001A0635	37	7.4	7.4	7.4	7.4	7.4	46	9.2	9.2	9.2	9.2	9.2
33	17001A0636	25	7	7	7	7	7	50	10	10	10	10	10
34	17001A0637	36	7.2	7.2	7.2	7.2	7.2	49	9.6	9.6	9.6	9.6	9.6
35	17001A0638	34	7.2	7.2	7.2	7.2	7.2	49	9.6	9.6	9.6	9.6	9.6
36	17001A0639	24	4.8	4.8	4.8	4.8	4.8	42	6.4	6.4	6.4	6.4	6.4
37	17001A0640	29	5.8	5.8	5.8	5.8	5.8	41	8.2	8.2	8.2	8.2	8.2
38	17001A0641	35	7	7	7	7	7	49	9.6	9.6	9.6	9.6	9.6
39	17001A0642	26	7.2	7.2	7.2	7.2	7.2	46	9.2	9.2	9.2	9.2	9.2
40	17001A0643	32	6.6	6.6	6.6	6.6	6.6	51	10.2	10.2	10.2	10.2	10.2
41	17001A0644	37	7.4	7.4	7.4	7.4	7.4	47	9.4	9.4	9.4	9.4	9.4
42	17001A0645	28	7.6	7.6	7.6	7.6	7.6	47	9.4	9.4	9.4	9.4	9.4
43	17001A0646	27	7.4	7.4	7.4	7.4	7.4	46	9.6	9.6	9.6	9.6	9.6
44	17001A0647	28	5.6	5.6	5.6	5.6	5.6	45	9	9	9	9	9
45	17001A0648	34	7.2	7.2	7.2	7.2	7.2	49	9.6	9.6	9.6	9.6	9.6
46	17001A0649	24	5.2	5.2	5.2	5.2	5.2	43	8.6	8.6	8.6	8.6	8.6
47	17001A0650	28	5.6	5.6	5.6	5.6	5.6	46	9.2	9.2	9.2	9.2	9.2
48	17001A0651	33	6.6	6.6	6.6	6.6	6.6	48	9.6	9.6	9.6	9.6	9.6
49	17001A0652	22	6.4	6.4	6.4	6.4	6.4	45	9	9	9	9	9
50	18005A0601	31	6.2	6.2	6.2	6.2	6.2	43	8.6	8.6	8.6	8.6	8.6
51	18005A0602	27	5.4	5.4	5.4	5.4	5.4	44	8.6	8.6	8.6	8.6	8.6
52	18005A0603	20	6	6	6	6	6	39	7.6	7.6	7.6	7.6	7.6
53	18005A0604	22	6.4	6.4	6.4	6.4	6.4	41	8.2	8.2	8.2	8.2	8.2
54	18005A0607	26	5.2	5.2	5.2	5.2	5.2	39	7.6	7.6	7.6	7.6	7.6
55	18005A0608	23	4.4	4.4	4.4	4.4	4.4	40	6	6	6	6	6
56	18005A0609	29	5.8	5.8	5.8	5.8	5.8	41	8.2	8.2	8.2	8.2	8.2
57	18005A0610	20	6	6	6	6	6	41	8.2	8.2	8.2	8.2	8.2
58	18005A0612	25	7	7	7	7	7	43	8.6	8.6	8.6	8.6	8.6
59	18005A0613	24	5.2	5.2	5.2	5.2	5.2	43	8.6	8.6	8.6	8.6	8.6
60	18005A0615	31	6.2	6.2	6.2	6.2	6.2	41	8.2	8.2	8.2	8.2	8.2

Direct CO Attainment					Indirect CO Attainment				Total CO attainment
	Final Direct Attainment Value	10% of Final Direct attainment value	Course End Degree (100%)	20% of Course End Degree	60% of Final Direct attainment value + 20% of Course End Degree		60% of Final Direct attainment value + 20% of Course End Degree		
CO1	2.03	0.21	2.07	0.41	2.48	0.50	2.78		
CO2	2.03	0.21	2.07	0.41	2.48	0.50	2.78		
CO3	2.03	0.21	2.07	0.41	2.48	0.50	2.78		
CO4	2.03	0.21	2.07	0.41	2.48	0.50	2.78		
CO5	2.03	0.21	2.07	0.41	2.48	0.50	2.78		

CO-PO articulation matrix of the respective subject

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
CO1	3	2	2	2	2	1	2	1	2	1	2	2	2	1	2
CO2	3	3	3	2	2	1	1	1	1	1	1	2	2	1	2
CO3	2	3	3	2	2	1	2	1	1	1	1	1	2	1	2
CO4	3	2	3	2	2	1	1	1	2	1	1	3	1	2	2
CO5	2	3	3	2	2	1	2	1	2	1	1	2	2	2	2
	24	24	24	14	14	5	14	1	14	1	14	1	18	14	14
	13	13	12	8	0	5	8	5	8	5	0	2	10	9	8

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
CO1	2.78	1.85	1.85	1.85	0.00	0.33	1.65	0.33	1.65	0.33	0.00	1.85	1.85	0.33	1.85
CO2	2.78	2.78	2.78	1.85	0.00	0.33	0.33	0.33	0.33	0.33	0.00	1.85	1.85	1.85	0.33
CO3	1.86	2.60	2.60	1.86	0.00	0.33	1.86	0.33	0.33	0.33	0.00	0.33	1.86	0.33	1.86
CO4	2.73	1.86	2.73	0.33	0.00	0.33	0.33	0.33	1.86	0.33	0.00	2.73	0.33	1.86	1.86
CO5	1.85	2.78	0.33	0.33	0.00	0.33	1.85	0.33	1.85	0.33	0.00	1.85	1.85	1.85	0.33
	2.41	2.41	2.23	1.48	0.00	0.33	1.48	0.33	1.48	0.33	0.00	1.66	1.67	1.48	1.43

PO & PSO Attainment Level

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
	2.41	2.41	2.23	1.48	0.00	0.33	1.48	0.33	1.48	0.33	0.00	1.66	1.67	1.48	1.43

k. Best projects/Industry projects:

S.No	Project title	area	Type of project
1	Crude oil refining	Petroleum	Model making

l. Content beyond the curriculum:

Guest lectures from industry experts are conducted regularly. Often faculty members cover certain important topics which are useful as per the industry requirement

m. Whether the employers, alumni and program exit surveys are considered for the attainment calculations or not? If yes, attach proofs

Alumni Survey

INTVA COLLEGE OF ENGINEERING TECHNOLOGY, ANANTHAPURAM
DEPARTMENT OF CHEMICAL ENGINEERING
A JNTU-RAJESWARAMPET

Name of the Institution: Intva College of Engineering Technology, Anantapuram
Year: 2018-19
Name of the Institute: Narasimha Murthy
Visit: 18/05/2019

The Institute is a provider of engineering education equipped with facilities for education, research, and development in Chemical Engineering and for the use of a suitable program for industry projects.

Objectives:

- To provide students with broad education in the basic sciences, general sciences, and design, with emphasis on creative, professional and computer-aided design, and general engineering and professional practice, including an understanding of the role of the engineer in society.
- To develop professionals that possess fundamental engineering principles and are entrepreneurial in spirit.
- To foster national leadership and initiative through the administration, administrative, professional and research activities in research and development, and the engineering profession.
- To promote collaborative projects/industry visits which provide appropriate learning opportunities for long-term industrial visits and other industry-related opportunities.

S.No	Competencies	Level of Competency		
		Highly Skilled	Medium Skilled	Low Skilled
1	Engineering Knowledge:			
2	Ability to apply the knowledge of Mathematics, Science, Engineering and Technology for identifying and solving complex engineering problems in the domain of Chemical Engineering.			
3	Capable of designing and conducting experiments and the ability to analyze and interpret data, identify the cause of anomalies, problems and faults in the system.			
4	Problem Solving and Analysis:			
5	Ability to identify, analyze, and solve complex engineering problems and design solutions for systems that meet the identified needs. Capabilities to identify, analyze, and solve complex engineering problems in the domains of Chemical Engineering, Mathematics, Science, and Technology, and to identify, analyze, and solve complex engineering problems in the domains of Chemical Engineering, Mathematics, Science, and Technology.			
6	Communication:			
7	Teamwork:			
8	Leadership:			
9	Ability to communicate effectively in English with the industry through a suitable program for industry projects.			

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	1. Fundamentals and worked:																		
2	2. Fundamentals and worked:																		
3	3. Fundamentals and worked:																		
4	4. Fundamentals and worked:																		
5	5. Fundamentals and worked:																		
6	6. Fundamentals and worked:																		
7	7. Fundamentals and worked:																		
8	8. Fundamentals and worked:																		
9	9. Fundamentals and worked:																		
10	10. Fundamentals and worked:																		
11	11. Fundamentals and worked:																		
12	12. Fundamentals and worked:																		
13	13. Fundamentals and worked:																		
14	14. Fundamentals and worked:																		
15	15. Fundamentals and worked:																		
16	16. Fundamentals and worked:																		
17	17. Fundamentals and worked:																		
18	18. Fundamentals and worked:																		
19	19. Fundamentals and worked:																		
20	20. Fundamentals and worked:																		

Indicate your answer with tick mark (✓) in the appropriate box.

18. How useful was the program for your industry/academic work? (in preparation to become an engineer)

Not Usual () Very Useful ()

19. In general, the department has provided a quality education program?

Poor () Good () Very Good ()

Employer Survey

2020 - 2021

Self Assessment Report

Criteria - 3

Employer Feedback Form

Date: 20-04-2021

Rajesh Singhpuria

Designation: Executive HR Admin

Organization: Divis Laboratories Ltd

Phone No: 040-23786300/400

Email: Sr.rajesh@divislabs.com

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

Sl. No.	Description	Highly Satisfied (4)	Moderately Satisfied (3)	Satisfied (2)	Not Satisfied (1)
1	Confidence in analyzing concepts of Mathematics and engineering fundamentals to solve complex problems	<input checked="" type="checkbox"/>			
2	Ability to identify, formulate, review research literature to analyze complex engineering problems and give assignments	<input checked="" type="checkbox"/>			
3	Ability to design the system components that meet the specified needs with respect to public health and safety	<input checked="" type="checkbox"/>			
4	Ability to use the knowledge obtained by research to analyze, interpret the data, synthesize the information to provide valid conclusions in real time	<input checked="" type="checkbox"/>			
5	Ability to learn appropriate techniques and IT tools (beyond the formal curriculum) required to solve real world problems	<input checked="" type="checkbox"/>			
6	Ability to assess societal, health, safety, legal and ethical issues		<input checked="" type="checkbox"/>		
7	Ability to work for the sustained development of society by providing professional engineering solution to the societal problems	<input checked="" type="checkbox"/>			
8	Ability to commit to professional ethics and responsibilities	<input checked="" type="checkbox"/>			
9	Ability to work individually as well as in groups in professional environment		<input checked="" type="checkbox"/>		
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	<input checked="" type="checkbox"/>			
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	<input checked="" type="checkbox"/>			
12	Ability to engage in independent and life-long learning in the context of technological change	<input checked="" type="checkbox"/>			

Figure 3.5.1b Employer feedback format

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

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

S. Rajesh
 Divis Laboratories Limited
 1-72/23(P) DIVISION, Durgam Chattri
 Hill, Hyderabad, India
 Telephone: 400032

Exit Survey

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

Student name: P. Yashwanth

Year of graduation: 2022

After graduation, I am here:

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 infrastructure that promotes internationally recognized research, creativity and an entrepreneurial culture.
- To foster ethical leadership and activities that support the administration, enhancements, 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	High Satisfied (%)	Moderately Satisfied (%)	Satisfied (%)
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 when realistic constraints such as economic, environmental, 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 work			✓
5	Ability to identify, formulate, and solve Chemical Engineering related problems			✓
6	An understanding of professional and ethical responsibility to		✓	

	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 workforce including the ability to function in teams, the ability to communicate effectively, and high standards of ethics and professionalism			✓

3. Faculty research and innovation

a. Details of the faculty publications

s.no	Name of faculty	designation	Total no of publications
1	Dr. S. V. Satyanarayana	Professor	09
2	Mr. M. Kalyan Kumar	Assistant Professor	03
3	Dr. S. Sharada	Assistant Professor	03
4	Dr. B. Dilip Kumar	Assistant Professor	04
5	Mr. M. Murali Naik	Assistant Professor(Ad-hoc)	01
6	Dr. P Uma Maheswari	Assistant Professor(Ad-hoc)	01
7	Mr K Peddintaiah	Assistant Professor(Ad-hoc)	01
8	Ms G Neha Mallika	Assistant Professor(Ad-hoc)	01

b. Details of research projects:

Project Title	Duration	Funding Agency	Amount (in lakhs)
Development of highly stable mixed matrix membranes (MMM) for dehydration of hydrazine hydrate via Pervaporation for rocket fuel applications.	2018-2021	DST-SERB-EMR Govt, of India	32.78
Spatial distribution of uranium and associated water quality parameters in groundwater /drinking water of Rayalaseema region of Andhra Pradesh	2016-2020 *extended for 2 years	BRNS Govt, of India	26.94
Nanoparticle Enhanced Phase Change Material Microcapsules/Fibers for Advanced Energy Storage and Allied Applications”	2018-2021	DST-SERB-EMR Govt, of India	37.83

c. Details of the faculty who attended workshops/STTPs/FDPs

S.no	Name of Faculty	Number of Workshops/FDPs attended
1	Dr. S.V Satyanarayana	5
2	Dr T Balanarsaiah	5
3	Mr. M. Kalyan Kumar	5
4	Dr. S Sharada	5
5	Dr. B. Dilip Kumar	5
6	Mr. K Subba Rao	3
7	Ms. P. Uma Maheshwari	3
8	Mr. M. Murali Naik	5
9	Mr. A. Raja Sekhar Babu	3
10	Mr. K. Peddintaiah	5
11	Ms. G. Neha Mallika	3
12	Ms. D. Sowjanya	5
13	Mr. V. Ramanjaneyulu	3
14	H. Rehana Anjum	5
	Ms. Ch Maneesha	3

d. Details of faculty who organized conferences/workshops/STTPs/FDPs

Nil

e. Details of patents published/ awarded and product development, if any

Nil

f. Details of faculty awards/ recognition

4. Other information

a. Are the minutes of meeting of the departmental committee maintained YES/NO: YES

b. Number of MoUs/collaborations signed with organizations/institutions:00

c. Details of new facilities added:.....

d. Details of newsletters/magazines etc., published:02

5. SWOC ANALYSIS

a. Strengths:

- Excellent programs with emphasis on core competency development
- Traditional and blended mode of Teaching & Laboratory experiments
- Excellent undergraduate student placement
- Department owe reputed faculty
- Strong alumni support
- Sponsored and consultancy projects
- Publications and Patents

b. Weakness:

- Lack of access to journals
- Lack of budget allocation for research and maintenance of labs
- Limited floor space
- Lack of skilled non-teaching support staff
- Generally mediocre post graduate and researchscholar base compared to UG student base
- Inadequate infrastructural facility for researchactivity
- Insufficient pool of bright and motivated Research Scholars


c. Opportunities:

- Excellent potential for undertaking Industry-academia collaborative research
- Interdisciplinary research in the new andemerging areas

- Setting up challenging research frontiers
- Newer research areas being opened up by the department faculty

d. Challenges

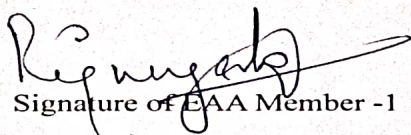
- Non-availability of new faculty for sustaining high end research
- Inadequate infrastructural facility such as space, equipment, etc.
- Faculty attrition


 Prof. R. Padma Suvarna
 Co-ordinator, IQAC
 JNTUA CE, Ananthapuramu

6. Suggestions/Recommendations of the Committee

The department has to focus on the following

1. Internal revenue generation in the form of consultation.
2. Funded research projects from different agencies.
3. Representation should be made to the administration to fill the vacant posts.
4. Sophisticated instruments should be established for advance research.


 Signature of EAA Member -1

Name: K. NAGABHUSHAN RAO.

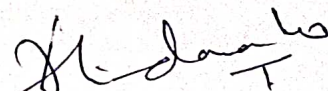
Designation: PROFESSOR.

Address: Dept of Instrumentation,
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Dr. K. Nagabhushan Rao
 M.Tech., Ph.D.
 Professor
 Department of Instrumentation,
 Sri Krishnadevaraya University,
 ANANTAPUR - 515003, A.P.



Signature of EAA Member -2

Name: MURALIDHAR RAO

Designation: PROFESSOR

Address: Dept. of Biotechnology,
 Sri University

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E-mail

Co-Ordinator
 Department of Biotechnology
 Sri Krishnadevaraya University,
 ANANTAPUR - 515 003, A.P.