Department of Electrical & Electronics Engineering

REVISED SELF ASSESSMENT REPORT (Tier-1)

GMR Institute of Technology
Rajam 532 127, AP
Accredited by NAAC & NBA
www.gmrit.edu.in

GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada

GMRIT Training Tomorrow's Engineers Today

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

PART A: INSTITUTIONAL INFORMATION

1. **Name and Address of the Institution:** GMR INTISTITUTE OF TECHNOLOGY, GMR NAGAR, RAJAM – 532127, SRIKAKULAM DIST., ANDHRA PRADESH
2. **Name and Address of the Affiliating University:** JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, KAKINADA (JNTUK)
3. **Year of establishment of the Institution:** 1997
4. **Type of the Institution:**

Institution of National Importance University	☐	
Deemed-to-be-University	☐	
Autonomous	✓	Autonomy status granted by UGC in the Year 2012
Any other (Please specify)	☐	

5. **Ownership**

Status: Central	☐
Government State	☐
Government	☐
Government Aided	
Self-financing	✓
Trust	☐
Society	☐
Section 25 Company	✓
Any Other (Please specify) Provide Details	☐

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

Name of the Institution (s)	Year of Establishment	Programs of Study	Location
1. Sri GCSR Degree College	1993	Degree	Rajam
2. Sri GCSR Junior College	2006	Intermediate	Rajam
3. GMR VARALAKSHMI DAV PUBLIC SCHOOL	2003	SCHOOL (LKG TO 10TH CLASS)	RAJAM
4. SEETHA MAHA LAKSHMI DAV PUBLIC SCHOOL	2004	SCHOOL (LKG TO 10TH CLASS)	PALAKONDA

Table A.6

7. Details of all the Programs being Offered by the Institution under Consideration

S. No.	Program Name	Name of the Department	Year of Start	Intake	Increase/ Decrease in Intake, if any	Year of Increase/ Decrease	AICTE Approval	Accreditation Status*
1	Engineering & Technology – UG (B.Tech)	CIVIL	2002	60	120	2016	2016	Accredited
2		EEE	1997	60	120	2009	2009	Accredited
3		MEC	1997	60	180	2018	2018	Accredited
4		ECE	1999	40	180	2012	2012	Accredited
5		CSE	1997	40	180	2013	2013	Accredited
6		CHE	1997	40	30	2017	2017	-
7		IT	1999	40	120	2019	2019	Accredited
8	Engineering & Technology – PG (M.Tech)	TRANSPORTATION ENGG.	2008	18	-	-	2008	Not Accredited
9		PID	2007	18	-	-	2007	Not Accredited
10		THERMAL	2013	18	-	-	2013	Not Accredited
11		VLSI&ESD	2011	18	-	-	2011	Not Accredited
12		CSE – CYBER SECURITY	2017	18	-	-	2017	Not Accredited
13		ENVIRONMETAL ENGG.	2012	18	-	-	2012	Not Accredited

Table A.7

8. Programs to be considered for Accreditation vide this application

S.No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Civil Engineering
2	Under Graduate	Engineering & Technology	Computer Science & Engg.
3	Under Graduate	Engineering & Technology	Electrical & Electronics Engg.
4	Under Graduate	Engineering & Technology	Electronics & Communication Engg.
5	Under Graduate	Engineering & Technology	Mechanical Engineering

9. Total number of Employees

A. Regular Employees (Faculty and Staff)

Items	2021-22		2020-21		2019-20		2018-19	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	157	165	146	157	147	169	139	157
Faculty in Engineering (Female)	27	32	25	27	23	27	25	30
Faculty in Maths, Science & Humanities teaching in Engineering Program (Male)	40	40	40	43	42	44	38	41
Faculty in Maths, Science & Humanities teaching in Engineering Program (Female)	5	8	5	5	4	6	4	5
Non-teaching staff (Male)	97	97	104	105	103	104	109	110
Non-teaching staff (Female)	6	6	6	6	5	6	6	6

B. Contractual Employees (Faculty and Staff)

Items	2021-22		2020-21		2019-20		2018-19	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	0	0	0	0	0	0	0	0
Faculty in Engineering (Female)	0	0	0	0	0	0	0	0
Faculty in Maths, Science & Humanities teaching in Engineering Program (Male)	0	0	0	0	0	0	0	0
Faculty in Maths, Science & Humanities teaching in Engineering Program (Female)	0	0	0	0	0	0	0	0
Non-teaching staff (Male)	0	0	0	0	0	0	0	0
Non-teaching staff (Female)	0	0	0	0	0	0	0	0

10. Total Number of Engineering Students (B.Tech):

Item	2021-22	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
Total no. of boys	2929	2742	2642	2483
Total no. of girls	1078	940	913	909
Total no. of students	4004	3682	3555	3392

Engineering and Technology – PG Shift-1

Item	2021-22	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
Total no. of boys	11	24	43	64
Total no. of girls	05	04	10	19
Total no. of students	16	28	53	83

Table: A.10

(Instruction: The data may be categorized in tabular form separately for undergraduate, postgraduate engineering, other program, if applicable)

Note: In case, the institution is running programs other than engineering programs, a separate table giving similar details is to be included.

11. Vision of the Institution:

"To be among the most preferred institutions for engineering and technological education in the country… An institution that will bring out the best from its students, faculty and staff – to learn, to achieve, to compete and to grow – among the very best… An institution where ethics, excellence and excitement will be the work religion, while research, innovation and impact, the work culture"

12. Mission of the Institution:

- To turnout disciplined and competent engineers with sound work and life ethics.
- To implement outcome based education in an IT-enabled environment.
- To encourage all-round rigor and instill a spirit of enquiry and critical thinking among students, faculty and staff.
- To develop teaching, research and consulting environment in collaboration with industry and other institutions.

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

Name: Dr. C L V R S V Prasad
Designation: Principal
Mobile No: 9441406014
Email id: prasad.CLVRSV@gmrgroup.in

NBA Coordinator, if Designated
Name: Dr. L Govinda Rao
Designation: Associate Professor
Mobile No: 8895865369
Email id: govindarao.l@gmrit.edu.in

Criteria – 1
Vision, Mission and PEOs [50M]

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

Department of Electrical and Electronics Engineering (EEE)is established in the year 1997 to meet the requirements of the industry/discipline.

The Vision and Mission of the Department

The Vision:

To be a nationally preferred Electrical & Electronics Engineering department of learning for students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking.

The Mission:

- To provide high-quality education in Electrical & Electronics Engineering, to prepare the graduates for a rewarding career in Electrical & Electronics Engineering and related industries, in tune with evolving needs of the industry.
- To prepare the students to become thinking professional and good citizens who would apply their knowledge critically and innovatively to solve professional and social problems.

The Vision and Mission of the Institute

The Vision

- To be among the most preferred institutions for engineering and technological education in the country.
- An institution that will bring out the best from its students, faculty, and staff – to learn, to achieve, to compete and to grow – among the very best.
- An institution where ethics, excellence and excitement will be the work religion, while research, innovation and impact, the work culture.

The Mission

- To turnout disciplined and competent engineers with sound work and life ethics.
- To implement outcome-based education in an IT-enabled environment.
- To encourage all-round rigor and instill a spirit of enquiry and critical thinking among students, faculty, and staff.
- To develop teaching, research, and consulting environment in collaboration with industry and other institutions.

Appropriateness of the statements with the program

Statement	Appropriateness
Vision: To be a most preferred Electrical & Electronics Engineering department of learning for students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking.	High quality education in tune with industry needs (M1) and Critical thinking and problem solving (M2) are the two core elements of the department mission statements.
Mission(M1): To provide high-quality education in Electrical & Electronics Engineering, to prepare the graduates for a rewarding career in Electrical & Electronics Engineering and related industries, in tune with evolving needs of the industry.	Electrical & Electronics Engineering graduates will excel in their careers as a result of the technical abilities they have gained to satisfy the needs of their respective industries.
Mission(M2): To prepare the students to become thinking professional and good citizens who would apply their knowledge critically and innovatively to	Graduates of Electrical and Electronics Engineering can think logically, create, develop, and implement projects, as well as demonstrate

solve professional and societal problems	abilities as a professional and ideal citizen in solving societal problems.

Alignment of department statement with Institution statement

Department Statement	Institution Statement	Consistency
Vision: To be a nationally preferred Electrical & Electronics Engineering department of learning for students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking	**Vision:** To be among the most preferred institutions for engineering and technological education in the country. An institution that will bring out the best from its students, faculty, and staff – to learn, to achieve, to compete and to grow – among the very best. An institution where ethics, excellence and excitement will be the work religion, while research, innovation and impact, the work culture.	Department competes with other institutions in academics, research, and various technical and non-technical activities, and strives to be one of the best and most preferable, thus meeting the institute's vision. Department exhibiting constant growth in academics as well as the establishment of laboratories with contemporary technology, providing a good learning platform for both students and teachers, as well as facilitating multi-disciplinary research.
Mission (M1): To provide high-quality education in Electrical & Electronics Engineering, to prepare the graduates for a rewarding career in Electrical & Electronics Engineering and related industries, in tune with evolving needs of the industry	**Mission (M1):** To turnout disciplined and competent engineers with sound work and life ethics.	The EEE Department is generating more competent engineers with professional and social ethics, with the addition of more related courses on latest industrial trends/technologies to the curriculum.
Mission (M2): To prepare the students to become thinking professional and good citizens who would apply their knowledge critically and innovatively to solve professional and social problems	**Mission (M2):** To implement outcome-based education in an IT-enabled environment	Courses related to various IT technologies are also incorporated in the curriculum to improve their critical and innovative thinking capabilities and overall growth.
	Mission (M3): To encourage all-round rigor and instill a spirit of enquiry and critical thinking among students, faculty, and staff.	The department's infrastructure and curriculum encourage team members to conduct high-quality research while also improving their abilities in order to advance their careers.
	Mission (M4): To develop teaching, research, and consulting environment in collaboration with industry and other institutions	The courses in the curriculum in line with engineering and society, environment and sustainability, ethics, life-long learning are able to prepare students to be professional and ethical citizens in society.

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

Graduates in Electrical and Electronics Engineering, a few years after graduation would

- Graduates with ability to solve core engineering problems through continuous self-paced learning in tune with changing technologies. **(PEO1)**
- Reinforce engineering skills, critical thinking and problem-solving skills in professional engineering practices and deal with socio-economical, technical and business challenges. **(PEO2)**
- Nurture professionalism with soft skills, managerial & leadership skills and ethical values. **(PEO3)**

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

The Vision and Mission statements of the department along with the Program Educational Objectives (PEOs) are well stated and efforts are made to disseminate them among all the stakeholders for internalization and better understanding. Following are the various avenues used to disseminate the information effectively.

Internal Stakeholders (Students, Faculty and Management):

1. Institute website(www.gmrit.edu.in)
2. LAN portal (LMS)
3. Campus Management System
4. Academic regulations, Syllabus books
5. Digital Signages
6. Notice Boards
7. Signages at common and prominent locations
8. Course file
9. Department library
10. Survey Forms (Students & Faculty)

External Stakeholders (Industries, Potential Employers, Professional Bodies, Research Organizations, Parents and Alumni):

1. Institute Website (www.gmrit.edu.in)
2. Survey Forms (Alumni & Employer)
3. Campus Management System (CMS)

Process of Dissemination and Assurance:

In all the avenues listed above viz. Website, LAN portal, Academic regulations, Feedback forms, Survey forms, Sign boards, Course handouts and other CMS tools, the statements of Vision and Mission are displayed prominently gaining the attention of the stakeholders and for their quick reference in both hard and soft forms. As a part of the induction program, sensitization towards Vision and Mission Statements is done every year for the benefit of the stake holders. The number of survey forms & Feedback forms distributed to all the stakeholders and hit counters in the website and LAN portal can be taken as a measure for assurance.

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

The Vision, Mission and PEOs of the department are framed by the Program Assessment and Development Committee (PADC) in consultation with Program Advisory Committee (PAC) and BoS which have the following composition with both external and internal stakeholders.

The composition of PADC:

1. Program Coordinator
2. Management representative (Principal)

3. Three senior faculty members
4. Two Student representative

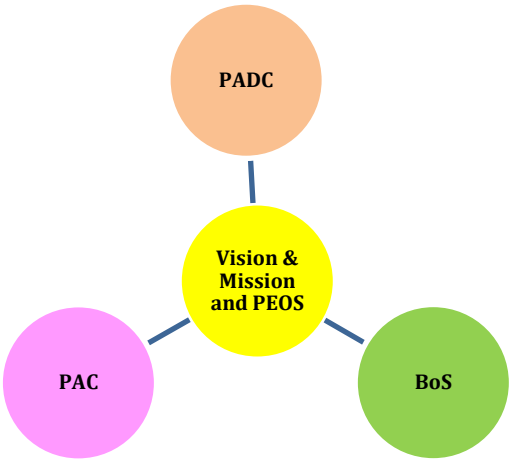

Figure 1.4.1 Different Committees involved in the revision of Vision, Mission & PEOs

The composition of PAC:

1. Program Coordinator
2. Management representative (Principal)
3. Three senior faculty members
4. Alumni & Industry nominees (One each)

The PADC reviews the Vision and Mission statements and PEOs to align all the development initiatives taken up in the department on need basis with the industry requirements. The SWOC analysis will be conducted by the PADC involving all the internal and external stakeholders to initiate the review. Further, taking the inputs from the program advisory committee (PAC) and BoS, the final versions of Vision, Mission and PEO are framed.

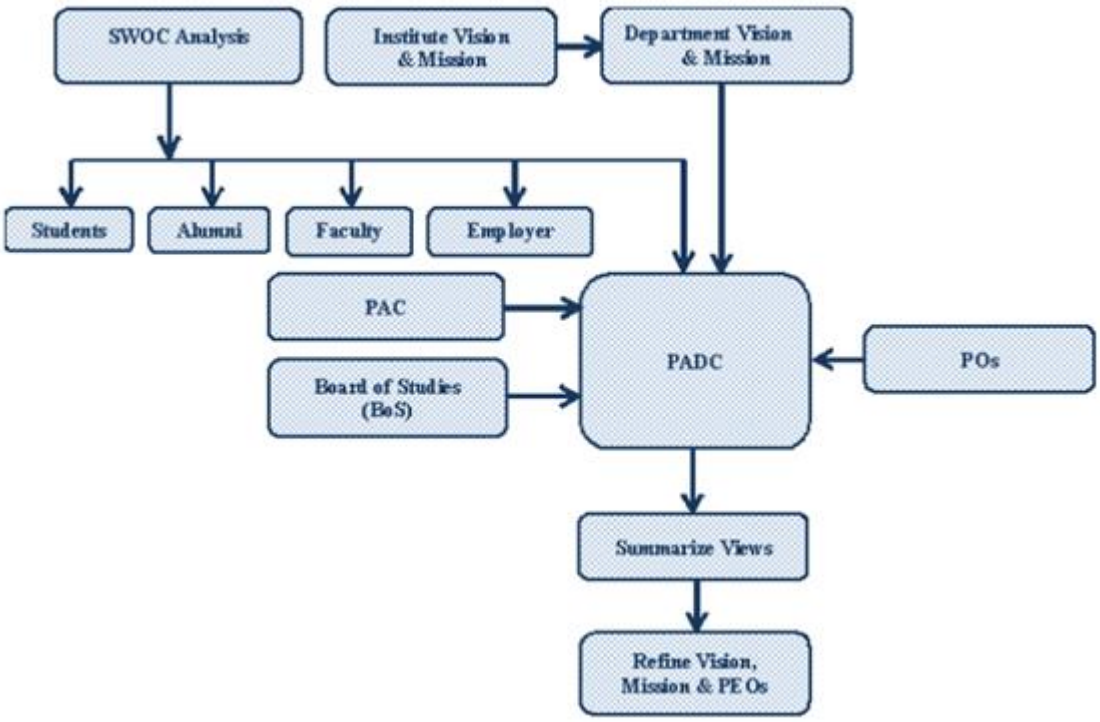

Figure 1.4.2. Formulation of the Vision, Mission and PEOs of the Program (Process Flow)

Following is the procedure adopted by PADC for revising the Vision & Mission statements and PEOs.

Step-1: Conduct SWOC analysis with the stakeholders and summarize the views

Step-2: Take the inputs from PAC and BoS

Step-3: Consolidation of the views from SWOC analysis, PAC and BoS aligned with POs

Step-4: Finalize the Vision, Mission and PEOs

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

Once the mission statements of the department are formulated, to check the consistency of the attainment of PEOs with the various activities in-line with the mission statements, the gravity of the impact of the various elements in the mission statements with PEOs are mapped and furnished below:

Table 1.1.

	High quality Learning **(M1)**	Academics & Research **(M2)**	Industrial Developments **(M3)**	Professional Skills & Ethics **(M4)**	Critical Thinking & Innovations **(M5)**	Addressing Social Needs **(M6)**
PEO1	3	3	3	2	3	2
PEO2	3	3	2	2	3	3
PEO3	2	2	2	3	3	2

3= Substantial 2 = Moderate 1=Slight

PEOs are carefully designed in such a way that it reflects the career and professional accomplishments of the graduates in line with the vision and the mission of the department/Institute.

Consistency of the M1 with PEOs:

The department's first mission element aims to offer high quality education to the graduates to succeed in their career or pursue the higher education to enhance the knowledge of fundamentals & advances in technologies in Electrical and Electronics Engineering in accordance with industry needs. This corresponds to the PEO1 in a Substantial way.

Furthermore, the graduates' ability to adapt to industrial requirements on a continuous basis is becoming highly tied with the PEO2.

Graduates professional excellence with leadership and teamwork skills have moderately linked with PEO3.

Consistency of the M2 with PEOs:

The second mission element of the program aims to offer robust curriculum designed by considering inputs from various stakeholders which enable the graduates to gain knowledge in fundamentals and keep them abreast of the latest technological developments, facilitating them to solve core engineering problems, substantiating PEO1

The second mission element of the program with its robust curriculum, evaluates the student in such a way, that it helps them to improve their lateral and higher order thinking skills necessary for providing solutions to societal needs, substantiating PEO2

The curriculum incorporates various courses which nurture the graduates with ethics, teamwork, leadership and communication skills, exhibits professionalism, moderately linking with PEO3.

Consistency of the M3 with PEOs:

The third element of the mission aims at preparing the graduates a rewarding career in core industries by providing industry driven courses, self-paced MOOCS courses, summer internship and full semester internship with industry partners substantiating PEO1

The third element of the mission aims at nurturing the critical, creative and innovative thinking skills of the graduates with the help of industry and professional body partners to provide solutions to societal needs by conducting various extra and co-curricular activities which is moderately mapped to PEO2 and PEO3

Consistency of the M4 with PEOs:

The curriculum is designed taking into account the inputs from various stakeholders that primarily caters to equip the graduates with domain knowledge and supplements them with professional skills and ethics to be exhibited at workplace along with moderately linking with PEO1 and PEO2.

The curriculum incorporates various courses which nurture the graduates with ethics, teamwork, leadership and communication skills, exhibits professionalism and also conducts various extra and co-curricular activities in association with professional body chapters, substantiating PEO3

Consistency of the M5 with PEOs:

The fifth mission element of the program aims to offer robust curriculum designed by considering inputs from various stakeholders which enable the graduates to gain knowledge in fundamentals and keep them abreast of the latest technological developments, facilitating them to solve core engineering problems. It also evaluates the student in such a way, that it helps them to improve their lateral and higher order thinking skills necessary for providing solutions to societal needs. The curriculum incorporates various courses which nurture the graduates with ethics, teamwork, leadership and communication skills, exhibits professionalism and also conducts various extra and co-curricular activities in association with professional body chapters, substantiating all the PEOs

Consistency of the M6 with PEOs:

The sixth mission element of the program aims to offer robust curriculum designed by considering inputs from various stakeholders which enable the graduates to gain knowledge in fundamentals and keep them abreast of the latest technological developments, facilitating them to solve core engineering problems. The curriculum incorporates various courses which nurture the graduates with ethics, teamwork, leadership and communication skills, exhibits professionalism and also conducts various extra and co-curricular activities in association with professional body chapters, moderately linking with PEO1 and PEO3.

The sixth mission element of the program evaluates the student in such a way, that it helps them to improve their lateral and higher order thinking skills necessary for providing solutions to societal needs, substantiating PEO2.

Criteria – 2
Program Curriculum and Teaching – Learning Processes [100M]

2.1. Program Curriculum (30)

2.1.1. State the Process for Designing the Program Curriculum (10)

The department of EEE has a standard operating procedure (SoP) (Figure 2.1.1) in-place for designing the curriculum/syllabi periodically by introducing skill based elective courses to cater the needs of industries related to EEE, professional bodies and research organizations, considering the alignment with POs and PSOs. The process also takes care of minimum curriculum requirement i.e., program specific criteria (PSC) defined by lead society IEEE.

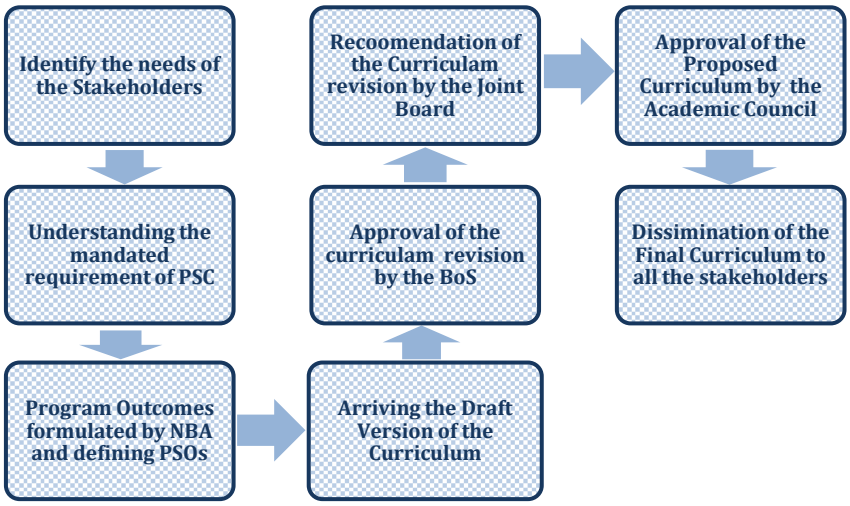

Figure 2.1.1 Curriculum Development Process

Step 1: Identify the Needs of the Stakeholders
The PADC collects the needs of the stakeholders periodically in the form of feedback and consolidate their views. Accordingly, inputs to the curriculum are suggested and forwarded to the Board of Studies (BoS) for consideration and implementation ensuring the alignment with POs and PSOs.

Step 2: Understanding the Mandate Requirement of the IEEE and POs
The PADC also understands Program Specific Criteria (PSC) as well as the minimum curricular requirement put forth by the lead society IEEE. Further BoS will ensures that these components are incorporated in the curriculum in with appropriate credit proportion as prescribed by the statutory bodies like UGC and AICTE.

Step 3: Program Outcomes formulated by NBA and PSOs
National Board of Accreditation (NBA) prescribes a set of twelve Program Outcomes (POs) which are common to all the programs in line with Graduate Attributes. In addition to twelve POs, two additional Program Specific Outcomes (PSOs) are defined aligning with the domain specific skills

Step 4: Preparation of draft version of the curriculum
Internal BoS members of the program and allied programs shall prepare the draft version of the curriculum incorporating the inputs wherever needed aligning POs and PSOs.

Step 5: Approval and implementation of the curriculum

The department of EEE has Board of Studies constituted as per UGC norms to discus in length with regard to curriculum development and continuous update on the syllabi. The meeting is normally convened for every six months with an agenda purely based on the feedback on curriculum received from various stakeholders. Subsequently, joint board meetings will also be facilitated to discuss the common issues in the curriculum development process. Finally, the proposed curriculum is put forth to the members of academic council for final approval and implementation.

2.1.2. Structure of the Curriculum (5)

The following table shows various courses offered semester wise and the credits awarded is based on the standard LTPC structure.

Table 2.1.2

Course Code	Course Title	Total Number of contact hours				Credits
		Lecture (L)	Tutorial (T)	Practical #(P)	Total Hours	
Semester-I						
16HSX01	English Communication Skills I	3	1	-	4	3
16MAX01	Engineering Mathematics I	3	1	-	4	3
16PYX01	Engineering Physics	3	1	-	4	3
16MEX01	Engineering Mechanics	3	1	-	4	3
16CSX01	Problem solving using C	3	1	-	4	3
16PYX02	Engineering Physics Lab	-	-	3	3	2
16CSX02	Problem solving using C Lab	-	-	3	3	2
16MEX02	Engineering Drawing	-	-	3	3	2
Semester-II						
16HSX03	English Communication Skills II	3	1	-	4	3
16MAX02	Engineering Mathematics II	3	1	-	4	3
16CYX01	Engineering Chemistry	3	1	-	4	3
16EEX01	Basic Electrical Engineering	3	1	-	4	3
16CHX01	Environmental Studies	3	1	-	4	3
16HSX02	English Communication Skills Lab	-	-	3	3	2
16CYX02	Engineering Chemistry Lab	-	-	3	3	2
16MEX03	Engineering Workshop	-	-	3	3	2
Semester-III						
16MA303	Engineering Mathematics III	3	-	2	5	4
16EE302	Circuit Theory	3	1	-	4	3
16EE303	DC Machines	3	1	-	4	3
16EE304	Electromagnetic Field Theory	3	1	-	4	3
16EC302	Digital Electronics	3	1	-	4	3
16EC303	Electronic Devices & Circuits	3	1	-	4	3
16EC307	Digital Electronics Lab	-	-	3	3	2
16EC308	Electronic Devices & Circuits Lab	-	-	3	3	2
16EE309	Electrical Engineering Lab	-	-	3	3	2
16HSX05	CC & EC Activities I	-	-	3	3	-
16ESX1A	Employability Skills I	-	2	-	2	-
Semester-IV						
16EC503	Linear IC Applications	3	1	-	4	3
16EE402	Control Systems	3	-	2	5	4
16EE403	Network Analysis & Synthesis	3	1	-	4	3
16EE404	Transformers & Induction Machines	3	1	-	4	3
16EE405	Power Plant Engineering & Economics	3	1	-	4	3

16EE406	Electrical Measurements & Instrumentation	3	1	-	4	3
16EC607	Linear IC Applications Lab	-	-	3	3	2
16EE408	Electrical Measurements & Instrumentation Lab	-	-	3	3	2
16EE409	DC Machines Lab	-	-	3	3	2
16HSX05	CC & EC Activities I	-	-	3	3	1
16ESX1B	Employability Skills II	-	2	-	2	1
Semester-V						
16CS307	Object Oriented Programming	3	-	2	5	4
16EE502	Power Electronics	3	1	-	4	3
16EE503	Power Transmission & Distribution	3	1	-	4	3
16EE504	Signal and Systems Theory	3	1	-	4	3
16EE505	Synchronous & Special Machines	3	1	-	4	3
	Elective I / CC	3	1	-	4	3
16EE507	AC Machines Lab	-	-	3	3	2
16EE508 / 16EE509	Term Paper / Mini project	-	-	3	3	2
16HSX06	CC & EC Activities II	-	-	3	3	
16ESX2A	Employability Skills III	-	2	-	2	
	Summer Internship	-	-	-	-	-
Semester-VI						
16EE601	Discrete Signal Processing	3	1	-	4	3
16EE602	Electrical Drives	3	1	-	4	3
16EE603	Power System Analysis	3	1	-	4	3
16EC602	Microprocessors & Microcontrollers	3	-	2	5	4
	Elective II / CC	4	-	-	4	3
	Elective III (Open Elective)	3	1	-	4	3
16EE607	Power Electronics Lab	-	-	3	3	2
16EE508 / 16EE509	Term Paper / Mini project	-	-	3	3	2
	Audit Course	-	-	-	-	-
16HSX06	CC & EC Activities II	-	-	3	3	1
16ESX2B	Employability Skills IV	-	2	-	2	1
Semester-VII						
16HSX04	Engineering Economics & Project Management	3	1	-	4	3
	Elective IV / CC	3	1	-	4	3
	Elective V / CC	4	-	-	4	3
16EE704	Electrical Systems and Simulation Lab	-	-	3	3	2
16PE704	Power Systems Lab	-	-	3	3	2
16EE706	Full Semester Internship	-	-	-	**32**	16
Semester-VIII						
16EE801	Ethics for Electrical Engineers	4	-	-	4	3
16EE802	Power System Protection	4	-	-	4	3
	Elective VI / CC	4	-	-	4	3
16EE804	Project	-	-	-	**12**	10
Total		**125**	**35**	**78**	**268**	**190**
List of Electives under various categories						
Elective I						
16EE001	Electrical Machine Design	3	1	-	4	3
16EE002	Automotive Electrical Engineering	3	1	-	4	3
16EE003	Advanced Control Systems	3	1	-	4	3

	MOOCs	-	-	-	-	3
Elective II						
16IT504	Computer Networks	4	-	-	4	3
16CS304	Data Base Management Systems	4	-	-	4	3
16CSX15	Fundamentals of Software Engineering	4	-	-	4	3
	MOOCs	-	-	-	-	3
Elective III (Open Electives – Mathematics, Chemistry, Entrepreneurship Skills, Industrial Safety and Engineering & Technology)						
16CE007	Disaster Management	3	1	-	4	3
16EE004	Renewable Energy Sources	3	1	-	4	3
16ME009	Principles of Entrepreneurship	3	1	-	4	3
16EC004	Fundamentals of Global Positioning System	3	1	-	4	3
16CS006	Computational Intelligence	3	1	-	4	3
16CS007	IoT for Engineering Applications	3	1	-	4	3
16CH007	Industrial Safety & Hazard Management	3	1	-	4	3
16IT005	Fundamentals of Cloud Computing	3	1	-	4	3
16PE007	Smart Grid Technology	3	1	-	4	3
16MA001	Computational Mathematics	3	1	-	4	3
16CY001	Nano Science and Technology	3	1	-	4	3
Elective IV						
16EE005	Flexible AC Transmission Systems	4	-	-	4	3
16EE006	High Voltage DC Transmission	4	-	-	4	3
16EE007	Power System Deregulation	4	-	-	4	3
16EE008	Power System Operation and Control	3	1	-	4	3
	MOOCs	-	-	-	-	3
Elective V						
16EC023	Communication Systems	4	-	-	4	3
16EE009	Electric Locomotives, Traction and Vehicles	4	-	-	4	3
16EE010	PLCs & SCADA	4	-	-	4	3
16EC505	VLSI Design	4	-	-	4	3
	MOOCs	-	-	-	-	3
Elective VI						
16EE011	Artificial intelligence applications to power systems	4	-	-	4	3
16EE012	Design and Layout of Power Systems	4	-	-	4	3
16EE013	Electrical Installation, Design & Estimation	4	-	-	4	3
16EE014	Energy Audit, Conservation & Management	4	-	-	4	3
16EE015	Power Quality	4	-	-	4	3
16EC011	Embedded Systems	4	-	-	4	3
	MOOCs	-	-	-	-	3
Contemporary Courses (CC)						
16CSX16	Digital Marketing (Self Study Mode)	-	-	-	-	1
16EE017	Batteries & Super Capacitors	4	-	-	4	3
16EE018	Power System Devices	4	-	-	4	3
16EE019	Railway Signaling System	4	-	-	4	3

Audit Courses						
16AT001	Contemporary India: Economy, Polity & Society (ME)	-	-	-	-	-
16AT002	Indian Heritage and Culture (EEE)	-	-	-	-	-
16AT003	Intellectual Property Rights and Patents (ECE)	-	-	-	-	-
16AT004	Introduction to Journalism (CSE)	-	-	-	-	-
16AT005	Professional Ethics and Morals (CE)	-	-	-	-	-
16AT006	Science, Technology and Development (Chem)	-	-	-	-	-
16AT007	Industrial sociology (PE)	-	-	-	-	-
16AT008	Organizational Behavior (IT)	-	-	-	-	-
16AT009	Communication Etiquette in workplaces (BS& H)	-	-	-	-	-

All the courses that are offered under the curriculum contribute to the attainment of POs & PSOs. The number of courses varying from six and above contribute to each of the POs attainment indicating the balance in the curriculum.

2.1.3. State the components of the Curriculum (5)

Following the AICTE/APSCHE guidelines and the norms of the affiliating University, the curriculum has been designed. In line with the norms the percentage credit distribution among the various course components approved by the Board of Studies is shown below.

Table 2.1.3

S.No.	Course Component	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
1	Basic Sciences	11.49	27	20
2	Engineering Sciences	10.92	26	19
3	Humanities and Social Sciences	8.05	19	14
4	Program Core	48.85	116	85
5	Program Electives	8.62	20	15
6	Open Electives	1.72	4	3
7	Project(s)*	6.89	12	12
8	Internships/Seminars*(SI&FSI)	9.19	32	16
9	Any other (Skill Oriented Courses)	3.4	23	6
10	Total number of Credits			190

2.1.4. State the Process used to identify extent of Compliance of the Curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I (10)

The curriculum is designed aligning with the POs, PSOs ensuring the compliance of POs and PSOs with PEOs. The different courses offered in the curriculum during the four-year program are aligned with the POs and PSOs and attainment of POs and PSOs is calculated based on three level mapping.

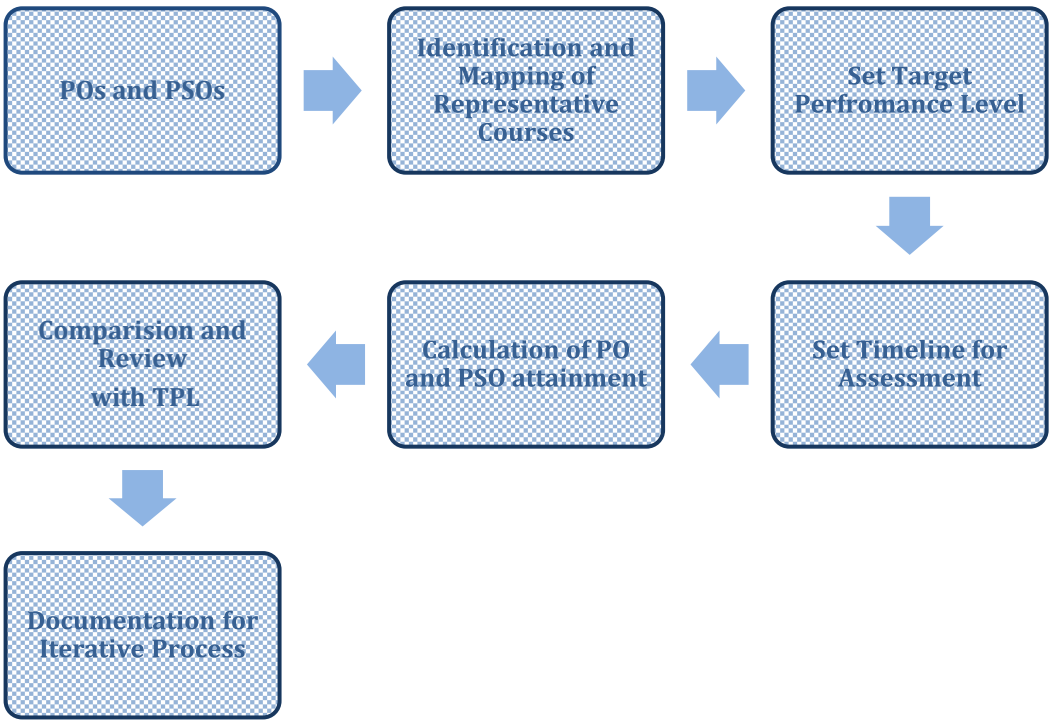

Figure 2.1.4 Process to Ensure the Compliance of the Curriculum for the Attainment of the Outcome (s)

All the courses that are offered under the curriculum contribute to the attainment of POs & PSOs. The number of courses varying from six and above contributes to each of the POs attainment indicating the balance in the curriculum.

Program Outcomes and Program Specific Outcomes:

Program outcomes statements are directly adapted from the NBA manual which are common to all the programs. Program Specific Outcomes (PSOs) beyond the twelve POs are formulated based on the contemporary skills and competencies in line with the industry requirements.

- **Identification and Mapping of Representative Courses**
  All the courses offered in the curriculum are grouped under various components as mentioned in Sec. 2.1.3. The alignment of all the theory and laboratory courses representing and contributing to POs and PSOs attainment is done with three level weightages.

PO statement	Titles of the representative courses	Mapping Level (1,2,3)
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.		
PO1	Engineering Mathematics I	3
	Engineering Physics	3
	Engineering Mechanics	3
	Problem solving using C	3
	Engineering Mathematics II	3
	Engineering Chemistry	3
	Basic Electrical Engineering	3
	Environmental Studies	1
	Engineering Workshop	3
	Engineering Mathematics III	3
	Circuit Theory	3

	DC Machines	2
	Electromagnetic Field Theory	2
	Digital Electronics	3
	Electronic Devices & Circuits	3
	Linear IC Applications	3
	Control Systems	3
	Network Analysis & Synthesis	3
	Transformers & Induction Machines	2
	Electrical Measurements & Instrumentation	3
	Synchronous & Special Machines	2
	Microprocessors & Microcontrollers	3
	Engineering Economics & Project Management	2
PO2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.		
PO2	Engineering Mathematics I	2
	Engineering Physics	2
	Engineering Mechanics	2
	Problem solving using C	3
	Engineering Mathematics II	2
	Engineering Chemistry	2
	Basic Electrical Engineering	3
	Engineering Workshop	2
	Engineering Mathematics III	3
	Circuit Theory	3
	DC Machines	2
	Electromagnetic Field Theory	2
	Digital Electronics	3
	Electronic Devices & Circuits	3
	Linear IC Applications	3
	Control Systems	3
	Network Analysis & Synthesis	3
	Transformers & Induction Machines	2
	Power Plant Engineering & Economics	3
	Electrical Measurements & Instrumentation	3
	Object Oriented Programming	3
	Power Electronics	2
	Power Transmission & Distribution	2
	Signal and Systems Theory	3
	Synchronous & Special Machines	2
	Automotive Electrical Engineering	3
	Advanced Control Systems	3
	Discrete Signal Processing	3
	Electrical Drives	3
	Power System Analysis	3
	Microprocessors & Microcontrollers	2

	Database Management Systems	3
	Renewable Energy Sources (open Elective)	2
	Engineering Economics & Project Management	2
	Power System Operation and Control	3
	Electric Locomotives, Traction and Vehicles (Elective-V)	2
	High Voltage DC Transmission (FSI)	3
	Power System Protection	2
	Electrical Installation, Design & Estimation (Elective VI)	2
PO3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.		
PO3	Engineering Mechanics	2
	Problem solving using C	3
	Environmental Studies	1
	Digital Electronics	2
	Electronic Devices & Circuits	2
	Linear IC Applications	2
	Control Systems	3
	Transformers & Induction Machines	2
	Electrical Measurements & Instrumentation	3
	Object Oriented Programming	3
	Power Electronics	2
	Power Transmission & Distribution	2
	Signal and Systems Theory	3
	Synchronous & Special Machines	2
	Automotive Electrical Engineering	3
	Advanced Control Systems	3
	Discrete Signal Processing	3
	Electrical Drives	3
	Power System Analysis	3
	Microprocessors & Microcontrollers	2
	Database Management Systems	3
	Engineering Economics & Project Management	2
	Power System Operation and Control	3
	High Voltage DC Transmission (FSI)	3
	Power System Protection	2
	Electrical Installation, Design & Estimation (Elective VI)	2
PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.		
PO4	Engineering Physics Lab	3
	Problem solving using C Lab	3
	Engineering Drawing	3
	Engineering Chemistry Lab	3
	Digital Electronics Lab	3

	Electronic Devices & Circuits Lab	3
	Electrical Engineering Lab	3
	Control Systems	3
	Linear IC Applications Lab	3
	Electrical Measurements & Instrumentation Lab	3
	DC Machines Lab	3
	Object Oriented Programming	3
	AC Machines Lab	3
	Microprocessors & Microcontrollers	2
	Power Electronics Lab	3
	Electrical Systems and Simulation Lab	3
	Power Systems Lab	3
PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.		
PO5	Control Systems	3
	Object Oriented Programming	2
	Microprocessors & Microcontrollers	2
	Power Electronics Lab	1
	Electrical Systems and Simulation Lab	3
PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.		
PO6	Environmental Studies	2
	Power Plant Engineering & Economics	3
	Electric Locomotives, Traction and Vehicles (Elective-V)	2
	Ethics for Electrical Engineers	3
	Electrical Installation, Design & Estimation (Elective VI)	3
PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.		
PO7	Environmental Studies	3
	Power Plant Engineering & Economics	3
	Renewable Energy Sources (open Elective)	3
	Ethics for Electrical Engineers	3
PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.		
PO8	Ethics for Electrical Engineers	3
PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.		
PO9	Engineering Drawing	3
	Engineering Economics & Project Management	1
PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.		
PO10	English Communication Skills I	3

	Engineering Drawing	3
	English Communication Skills II	3
	English Communication Skills Lab	3
	Engineering Workshop	3
	Microprocessors & Microcontrollers	3
PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.		
PO11	Engineering Workshop	2
	Object Oriented Programming	1
	Engineering Economics & Project Management	2
PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.		
PO12	Object Oriented Programming	2
	Ethics for Electrical Engineers	3
	Electrical Installation, Design & Estimation (Elective VI)	3
PSO1: Utilize statistics, transformation methods, discrete mathematics and application of differential equations in analyzing and design of electrical/electronic systems.		
PSO1	Circuit Theory	2
	Electromagnetic Field Theory	1
	Control Systems	3
	Network Analysis & Synthesis	3
	Power Electronics	2
	Power Transmission & Distribution	2
	Signal and Systems Theory	3
	Advanced Control Systems	3
	Discrete Signal Processing	3
	Power System Analysis	2
	Power System Operation and Control	3
PSO2: Analyze, design and implement control of electrical systems in any problem/application of electrical/electronic (s) engineering.		
PSO2	Circuit Theory	1
	DC Machines	1
	Electromagnetic Field Theory	1
	Digital Electronics	2
	Electronic Devices & Circuits	2
	Linear IC Applications	2
	Control Systems	3
	Network Analysis & Synthesis	2
	Transformers & Induction Machines	2
	Power Plant Engineering & Economics	2
	Electrical Measurements & Instrumentation	2
	Power Electronics	2
	Power Transmission & Distribution	2
	Signal and Systems Theory	2

	Synchronous & Special Machines	2
	Automotive Electrical Engineering	2
	Advanced Control Systems	2
	Discrete Signal Processing	2
	Electrical Drives	2
	Power System Analysis	2
	Power System Operation and Control	2
	Electric Locomotives, Traction and Vehicles (Elective-V)	1
	High Voltage DC Transmission (FSI)	3
	Power System Protection	2
	Electrical Installation, Design & Estimation (Elective VI)	3

- **Set Target Performance Level**

  Annual review of PO and PSO attainment is done and accordingly improvisations are suggested for the respective representative courses. Based on the effectiveness of improvisations and best practices introduced during the last three years, ensuring continuous improvement every year a target performance level is set as a base line for comparison. In general, the average of attainment of POs and PSOs for the last three years is set as a target performance level.

- **Calculation of PO and PSO attainment**

  At the end of every assessment (continuous & semester end assessments), calculation of PO and PSO attainment is done using direct and indirect tools with weightage of 85 % and 150% respectively by the course coordinators.

  Direct tool: CO attainment of all the representative courses: CO attainment is calculated based on the performance in the continuous assessment and end semester assessment.

  Indirect tool:

  1. Program exit survey from all the outgoing students
  2. Alumni and Employer survey

- **Comparison and review with TPL**

  Attainment of POs and PSOs is reviewed annually in comparison with TPL set. In case of any deviation in the attainment levels observed, a detailed analysis is done by the respective course coordinators to identify the root cause which could be due to the impact of teaching methodology, students understanding level, and toughness index of the question paper etc. Based on the level of attainment and the representative courses influencing the attainment, additional initiatives related to pedagogy are introduced catering to both bright students & slow learners for continuous improvement.

2.2. Teaching – Learning Processes (70)

2.2.1. Describe Processes followed to Improve Quality of Teaching – Learning (15)

Teaching and Learning are necessary actions to accomplish the educational goals. The department of Electrical and Electronics Engineering follows and introduces the different pedagogical methods and initiatives for the continuous improvement of the quality of Teaching – Learning. Overall framework of the different processes adapted to enhance the quality of teaching and learning is depicted in the flow chart. For all the initiatives taken up in teaching and learning appropriate documentation is done to visualize the impact on the performance of the students.

Teaching Process

Preparation & Adherence of Academic calendar:

Following the overall affiliating university timelines for completion of the various academic activities, well in advance to the commencement of the academic year, academic calendar is prepared. Ensuring the minimum number of instruction days as per the UGC norms all the academic activities such as instruction weeks, schedules for continuous and end-semester assessments are planned. Academic monitoring committee conducts the reviews periodically to verify the adherence of academic calendar.

Event calendar of Co-curricular and Extracurricular activities:

For the holistic growth of the students apart from the curricular activities to enhance the technical skills and soft skills of the students, different co-curricular and extra-curricular activities are planned during the semester in addition to the classwork. As per the event calendar, the faculty coordinators of the respective departments ensure the conduct of activities.

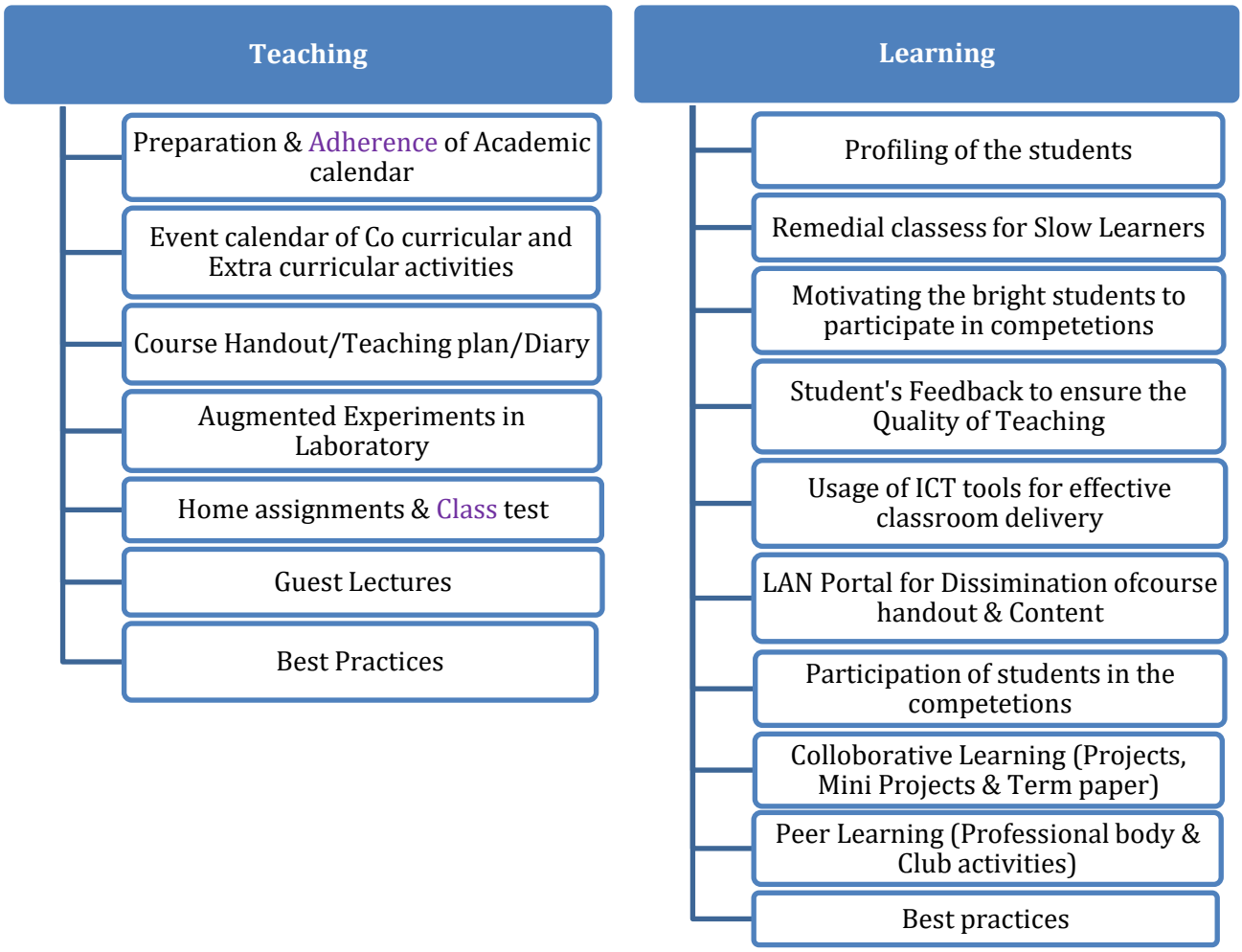

Figure 2.2.1 Best Practices in Teaching – Learning Process at GMRIT

Course Handout/Teaching plan/Diary:

All course coordinators shall prepare the course handouts in advance to the commencement of the classwork and will be shared with the students. Course handout helps the teachers and students to ensure the timely completion of the syllabus. Further, it also helps the students to understand the topics covered beyond the curriculum.

Augmented Experiments in Laboratory:

Enabling the students to apply the concepts learned and to nurture the research aptitude, the students are encouraged to design new experiments/working models to augment the curriculum. Indicative objective statements for the augmented experiments are provided to promote the out of the box thinking and collaborative learning.

Home assignments & Class test:

Curriculum has a provision for self-learning element in each of the units of the syllabus. To ensure the overall learning and not to miss out the self-learning component, home assignments and class tests are conducted covering those concepts.

Guest Lectures:

To keep the students in pace with the contemporary knowledge, a series of guest lectures are organized in every semester by inviting the subject matter expert from the industry, academia, and research. The guest lectures motivate the students to choose the career path in the respective disciplines.

Best Practices:

- FDPs for competency enhancement
- Workshops and seminars for technology updates
- Faculty & Students involvement in the governance
- Incentives for research promotion

Learning Process

Profiling of the students:

Students from various cross sections in terms of demography and motivation levels, take admissions in engineering program having varied capacity of learning. To balance the learning levels among all the students in the class, profiling is done based on the academic competency.

Remedial for slow learners:

In the beginning of all the semesters based on the performance in the continuous assessment, slow learners are identified. To ramp up the learning ability of the students, remedial classes are scheduled beyond the regular classwork bringing them in pace with the other students. Further, the students who could not clear the course in the first attempt are tracked and provided with additional coaching for supplementary exams.

Motivating the bright students to participate in competitions:

To encourage the creamy layer of the students to stretch beyond and take an extra mile, students are motivated to participate in various national and international competitions. This will enable the bright students explore the various career opportunities in the international domain leading to a very bright career which increase the self-reputation and as well the institution reputation. All the advanced learners are given opportunity to work on real time projects supervised by the faculty mentors.

Student's feedback to ensure the quality of teaching:

Feedback from the stakeholders is believed as a tool for the continuous improvement. Apart from giving an opportunity to express their learning experience for the students, it is a tool for all the faculty members for self-assessment and continuous improvement.

Usage of ICT tools for effective classroom delivery:

Every classroom is equipped with an audio video facility enabling faculty to use laptops for visualization of concepts to the students. Smart classrooms with interactive projectors will facilitate the faculty members for the effective utilization of ICT tools for the classroom delivery.

LAN Portal for dissemination of course handout and content:

Course handouts consisting of objectives, outcomes, lesson plan, syllabus, and reference books of all the courses are made available on LAN. Lecture notes and video lectures are uploaded on ongoing bases to supplement the classroom teaching.

Participation of students in the competition:

To enhance the confidence levels of the students, they are motivated to participate in all the national and international competitions organized by the premier institutions. This will scope for the students for cross cultural interactions that enhance technical and soft skills. The respective department coordinators regularly update about the events conducted at national and international levels and support them in getting financial assistance.

Collaborative Learning (Project, Mini Project & Term paper):

In the curriculum term paper, mini project and project work are made available to promote collaborative learning. Students were encouraged to form into groups with inter disciplinary combinations in addressing the real time problems. This leads to an eco-system making the students to learn by working together in collaboration.

Peer Learning (Professional body & Club activities):

To enable the peer learning, student club activities, societal activities, co- and extra- curricular activities are being organized as per the event calendar. This facilitates the learning among the peers by organizing various activities among themselves viz. seminars, quizzes, elocutions and debates.

Best practices:

- Student Council
- Participation in the placement activities
- Participation in department development
- Student centric community engagement
- Availability and usage of resources 24x7

The impact analysis for various teaching & learning initiatives are recorded in terms of

1. Subject wise student attendance and performance
2. Quality of performance subject wise (Number of students crossing the course average)
3. Number the students clearing the exams in first attempt
4. Overall semester wise pass percentage
5. Percentage of students involved in co-curricular and extra-curricular activities
6. Student placements & participation in the national and international competitions
7. Higher education and entrepreneurship
8. Research credentials of the faculty and students

2.2.2 Quality of End Semester Examinations, Internal Semester Question Papers, Assignments and Evaluation (15)

The quality of question papers, conduct of examinations/tests and evaluation of answer scripts during continuous assessment and end semester examinations is ensured by having an SOP followed in true spirit.

Internal Test Question Papers

The Academic Monitoring Committee (AMC) ensures the conduct of the class work and completion of the syllabus as per the course handout. All the course coordinators shall review for the uniform syllabus completion before the commencement of the examinations. The program coordinator shall scrutinize the question papers to ensure the mapping of the COs aligned with the syllabus covered with appropriate cognitive learning levels. The continuous assessment is done three times during the

semester as Mid-1, Mid-2 and Assignment test. The assignment test contributes to attainment of all COs whereas Mid-1 and Mid-2 contributes to specific COs. A set of questions covering all the COs is provided

to the students as an assignment that helps the students' learning. Based on the class average marks and percentage of the students scoring more than the class average, the respective CO attainments are calculated.

Quality of End Semester Examination Question Papers

The end semester exam question papers are invited from the external and internal subject experts with proper mapping of COs and related learning levels. To ensure the quality and compliance with the guidelines for the question paper setting, moderator reviews the question paper two hours before the commencement of the examination. In case of any deviation more than 15% the moderator rejects the question paper, and another question paper is considered from the question paper bank. Based on the class average marks and number of students scoring more than the class average, the respective CO attainments are calculated.

Based on the marks scored for each of the questions, the CO attainment levels are computed and compared with the target levels. Corrective measures are initiated in the course delivery in case of non-attainment of target level for the subsequent batches for continuous improvement.

2.2.3 Quality of Students Projects (20)

The quality of students' projects is ensured at different levels right from the division of the student batches, allotment of supervisor and till the final assessment. The process includes

- Project batch formation with uniform distribution of students based on academic performance.
- Allotment of supervisor for each batch of students based on area of interest.
- Selection of the project topic based on the student's expertise contributing to POs and PSOs.
- Continuous monitoring of the progress through project review committee.
- Indicative classification of the projects (working model/prototype, software development, simulation and analysis, product development etc.)
- Continuous final assessment based on the rubric.

Project batch formation

At the end of the 6th semester project batch formation is done ensuring the uniform distribution of the students' academic competency across all the batches. The batch size is normally restricted to a maximum of five.

Allotment of supervisor

Once the project batches are formed, all the project batches notify their areas of interest and expertise. The PRC allocates the supervisors mapping the student's interest and specialization of the faculty members.

Selection of the project topic

Students are motivated to take up the projects related to consumers, commercial and societal related aspects whereby the students are assessed for the demonstrating of their skills covering programming, computational, analytical, designing and soft skills, in addition to core competencies viz. electrical circuits, electrical machines, power systems, control systems, power electronics etc.

The project supervisors ensure the topic selection that contributes to attainment of most of the POs and PSOs.

Monitoring of project progress

The PRC conducts reviews to monitor the progress continuously. A schedule with the timeline will be notified in the beginning of the semester for the various activities starting from finalization of the project title and abstract. To ensure that all the batches progress uniformly and carryout the project work, during the semester PRC conducts four reviews for continuous assessment apart from the final assessment conducted by the external expert.

Indicative classification of the projects

All the project works taken up by the students may get covered under the following domains and specializations classified as given below.

Working model/prototype

Software development

Simulation and analysis

Continuous/ Final Assessment.

The continuous and final assessments are done having an SoP and rubric are designed to assess the various learning levels contributing the COs and POs.

Rubric for continuous Assessment:

http://115.241.205.4/gmritnew/nba/Project_Rubrics_merged.pdf

Rubric for final Assessment:

http://115.241.205.4/gmritnew/nba/Project_Rubrics_merged.pdf

Student Paper Publications in Project/Mini-project/Term paper

Academic Year	Name of the Project/Mini-project/Term paper	Journal/Conference Details
2017-18	Hybrid Power Generation in Remote Locations Based on Renewable Energy Sources	International Journal of Applied Engineering Research, ISSN 0973-4562 Volume 13, Number 8 (2018) pp. 56-59
2017-18	A review on techno-economic aspects of grid connected hybrid renewable energy power system	IEEE International Conference on Intelligent Sustainable Systems (ICISS-2017), 7-8 Dec., 2017
2018-19	Smart Grid-The Upcoming Era	International Journal of Engineering Development and Research, IJEDR Publisher, Vol. 6, No. 7, pp. 66-73., October- 2018.
2019-20	A review on recent advancements in battery management schemes for electric vehicles	Journal of Critical Reviews, ISSN-2394-5125 Vol. 7, Issue 10, 2020, pp. 2599-2606
2019-20	Study on optimization techniques for PV-Wind based hybrid renewable energy system	International Journal of Research in Engineering, Prime Publications, Vol. 1, No. 4, pp.05-08, October-2019.
2019-20	Evolution of Hybrid Super Capacitors and its Future Pathway	International Journal of Engineering Applied Sciences and Technology, Vol. 4, Issue 6, pp. 114-119, October 2019
2019-20	A study on DC-to-DC converters in solar PV system	International Journal of Research in Engineering, Vol. 2, No. 1, pp.1-3, January 2020.
2021-22	Closed loop speed control of PMSM motor using dspace model	International Journal of Innovative Engineering and Innovative Research
2021-22	Simulation of a hybrid energy system source-fed to BLDC motor drive for Electrical vehicles	International Journal of Mechanical Engineering

2021-22	Load frequency control of three area interconnected power system using ANFIS	International Journal of Advanced research in science and technology
2021-22	Fault analysis using regression for a grid connected spy system	International Journal of Innovative Engineering and Innovative Research
2021-22	Implementation of various modulation techniques to a PV fed solar inverter for standalone applications	2022 IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT)
2021-22	Performance evaluation of hydro power project in India using multi criteria decision making techniques	Ecological Engineering & Environmental Technology
2021-22	Brief Overview on Inverters	International Journal on Recent Development in Science and Technology
2021-22	A Review on Particle Swarm Optimization and Quantum Behaved Particle Swarm Optimization D Quantum Behaved Particle Swarm Optimization	International Journal for Advanced Research N Science and Technology
2021-22	A Review of Isolated and Grid-Connected Hybrid Renewable Energy System	International Journal for Advanced Research N Science and Technology
2021-22	A Review on Wireless Power Transmission	International Journal for Advanced Research N Science and Technology
2021-22	A Study on Wind Power Generation Across the Top Wind Generating Countries in The World – Its Future	International Journal for Advanced Research N Science and Technology
2021-22	A Review on Deep Learning Based Load Demand Forecasting Techniques for Smart Grid	International Journal for Advanced Research N Science and Technology
2021-22	Methods Of Transmission Line Compensation Using Facts Devices	International Journal on Recent Development in Science and Technology
2021-22	Technologies For Desalination of Sea Water in Ocean Thermal Energy Conversion System	International Journal on Recent Development in Science and Technology
2021-22	A Review on Improvement of Energy Efficiency in Residential Buildings	International Journal on Recent Development in Science and Technology
2021-22	Usage of Bess to Mitigate the Transmission Line Congestion and To Improve Power System Efficiency with Renewable Energy.	International Journal for Advanced Research N Science and Technology
2021-22	The Analysis of Electric, Hybrid and Fuel Cell Vehicles	International Journal on Recent Development in Science and Technology
2021-22	Solar Cell Efficiency Improvement Techniques	International Journal on Recent Development in Science and Technology
2021-22	On Road Charging of a Electrical Vehicle	International Journal for Advanced Research N Science and Technology
2021-22	Design And Development of Electric Scooter	International Journal on Recent Development in Science and Technology
2021-22	Face Recognition Techniques	International Journal on Recent Development in Science and Technology
2021-22	Extreme Fast Charging of Electric Vehicle by Using Solid State Transformer	International Journal for Advanced Research N Science and Technology
2021-22	A Review on Renewable Energy Power Generation Systems	International Journal for Advanced Research N Science and Technology
2021-22	Renewable Energy Based Electric Vehicle Charging	International Journal for Advanced Research N Science and Technology

Student projects/mini projects with working models

Academic Year	Title of the project / working model	Guide Name
2017-18	Automatic attendance Marking System by Image Processing	Dr. G. Chandra Sekhar
2017-18	Vision Based Self Driving Vehicle	Mr. T.S.L.V.Ayya Rao
2017-18	Fire Fighting Robot	Dr. T.S. Kishore
2017-18	Mobile Controlled Electric Wheel Chair	Mr. R. Vijay Krishna
2017-18	IoT based Health Monitoring System	Mr.R.Rama Krishna
2017-18	RFID based Keypad Door Lock and Alert System Using Arduino	Mr. M.Vinay kumar
2017-18	An Efficient Solar Inverter Circuit	Mr. J S V Siva Kumar
2017-18	Dual Axis Solar Tracking System with Weather Monitor Sensor	Mr. D Rajesh Babu
2018-19	Automated Green House Management System	Mr. M Rambabu
2018-19	An Efficient Model for Crop Monitoring System	Dr.S.P.Mishra
2018-19	Air Quality Detection Using Arduino UNO	Dr. K.Karthick
2018-19	Automatic Railway gate Control System Using Arduino	Dr. P. Bharani Chandra Kumar
2018-19	Single Axis Solar Tracking System	Dr.P. Ramana
2018-19	Floor Cleaning Robot Using Arduino	Mr.J.Ravi Kumar
2018-19	Arduino Based Dual Axis Solar Tracking System Using Servo Mechanism	Dr.Rajesh Kumar Patnaik
2018-19	Design of Solar Umbrella	Dr. G. Chandra Sekhar
2018-19	Smart brick making machine	Mr. M. Premkumar
2019-20	Single Phase Inverter Using Arduino Nano	Dr.Rajesh Kumar Patnaik
2019-20	IoT based Electricity Energy meter Using Esp 12 & Arduino	Dr.D.Danalakshmi
2019-20	Auto Temperature Detection Entrance for COVID safety room	Mr.N.S.S. RamaKrishna
2019-20	Fingerprint door Unlocking System Using Arduino	Mr. L.V Suresh Kumar
2019-20	Voice Controlled Robot Car	Mr .M. Venkatesh
2019-20	Car Parking System Using Arduino	Dr.G.Indira Kishore
2019-20	Room Temperature Control Using Arduino	Dr.Ch.Hemanth kumar
2019-20	Bidirectional Visitor Counter with Automatic Light Control	Mr.V. Srikanth babu
2019-20	Temperature based Fan Speed Control Monitoring with Arduino	Mr. P. Upendra Kumar
2019-20	Electric Bicycle Using IOT	Mr.L.V. Suresh Kumar
2019-20	Solar Electric Vehicle	Mr.N.S.S. Ramakrishna
2021-22	Automatic Temperature Detection Using Arduino	Mr.N.S.S. Ramakrishna
2021-22	Automatic Solar Tracking Based Food Dehydrator	Mr.J Ravi Kumar
2021-22	Smart Class Monitoring System	Mr.R Vijayakrishna
2021-22	Distance Measurement Using Ultrasonic Sensor	Mr.D Rajesh Babu
2021-22	GSM-Based Smart Energy Meter with Arduino UNO	Mr.V Manoj

2021-22	Home Automation	Mr.R Ramakrishna
2021-22	LPG Gas Leakage Detector Using Arduino	Mr.M Venkatesh
2021-22	Smart Irrigation Management Using IoT	Mr.R Vijayakrishna
2021-22	Agriculture Bot	Mr.Jsv Sivakumar
2021-22	IoT Based Smart Agriculture Using Renewable Energy Source	Dr.M Rambabu
2021-22	An Innovative Wearable Technology for Visually Impaired People	Dr.NVA Ravikumar
2021-22	Hand Gesture Controlled Drones	Dr.Tslv Ayyarao
2021-22	Magnetic Levitation Train	Dr. Ch Hemanth Kumar
2021-22	Automatic Railway Track Crack Detection System Using Arduino	Dr.G Indira Kishore
2021-22	Intelligent Priority Control for Traffic Light of VIP Vehicles and Ambulance	Dr.D Danalakshmi
2021-22	Solar And Wind Based Hybrid Electric Buggy	Dr.Rajesh Patnaik
2021-22	Solar Powered Ebike	Dr.T S Kishore
2021-22	Driver Anti-Sleep Device	Dr.P Ramana
2021-22	Mechanical Footstep Power Generation by Using Rack and Pinion	Dr.G Chandra Sekhar
2021-22	Comparative Model Analysis for Solar Tracking Methodology with Existing Fixed Plate Technology	Dr.S P Mishra

Skills acquired in the project and PO mapping.

S. No	Skills Demonstrated	Project Outcomes	POs PSOs
1	Domain specific knowledge	Apply the use of principles and paradigms of Electrical and Electronics Engineering	PO3, PSO1, PSO2
2	Programming skills	Acquire practical knowledge within the chosen area of technology for project development	PO4, PO12
3	Analytical skills	Identify, analyze, formulate and handle programming projects	PO5, PO11
4	Articulation and comprehending skills	Develop effective communication skills for presentation of project related activities	PO10
5	Professionalism	Demonstrate and insight to behave ethically in professional practice to support the larger community	PO8
6	Teamwork	Contribute as an individual or in a team in development of technical projects	PO9

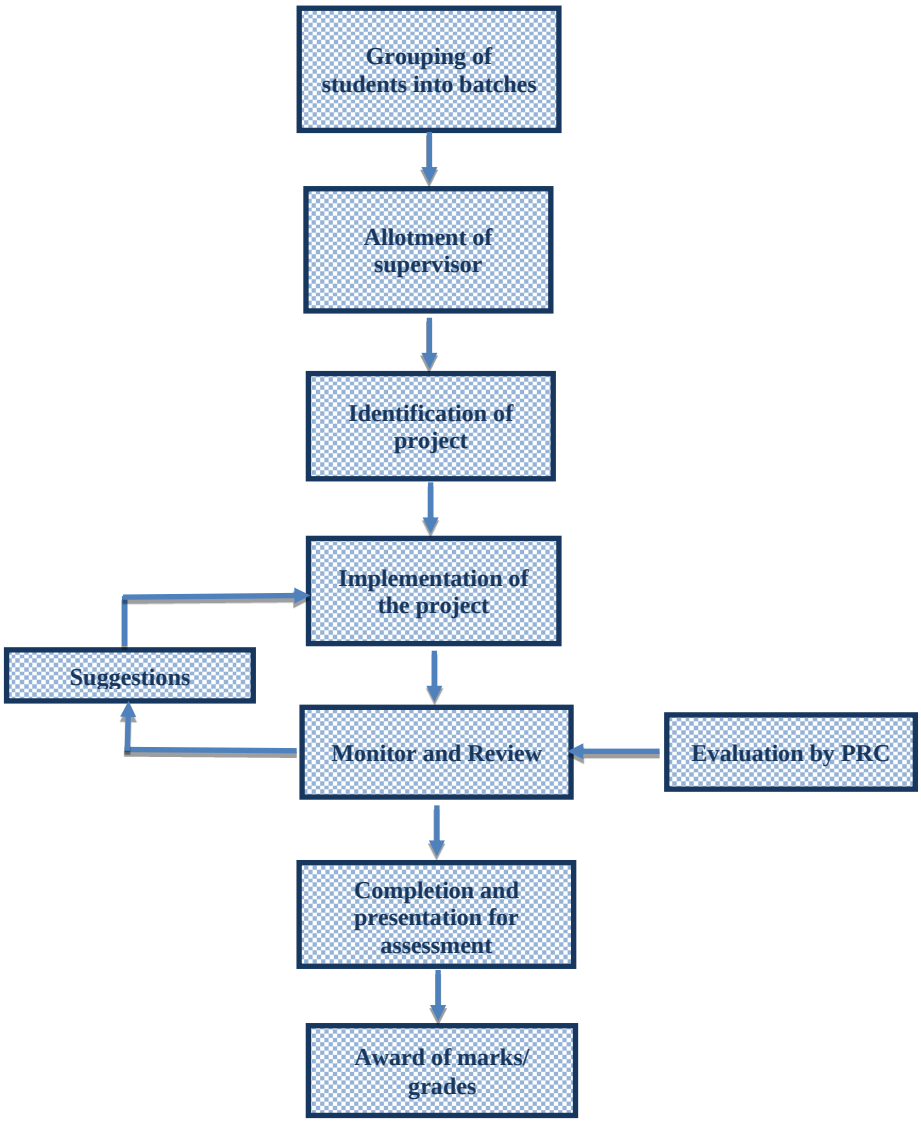

Figure 2.2.3 Processes involved in Project Execution

2.2.4 Initiatives related to industry interaction (10)

The curriculum is reviewed time to time based on the contemporary technology developments in the industry. To ensure this, collaboration with the various domain specific industries is maintained to understand the current developments. Following are the various activities and initiatives taken up in association with the industries.

- Curriculum design and development
- Industry driven elective courses
- Guest lectures
- Real time industry projects
- Faculty training for capacity building
- Industrial visits and internships
- MOUs for academic collaboration

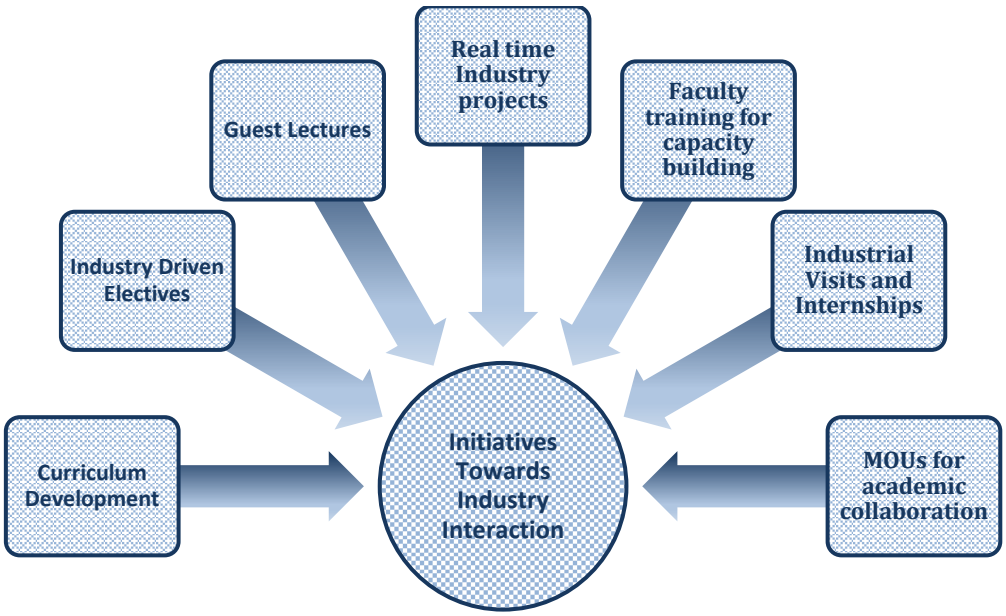

Figure 2.2.4 Initiatives towards Industry Interaction

Curriculum design and development

The Board of Studies of the program as per UGC norms has Industry nominee contributing to the curriculum design and development aligning with the contemporary technology and industry developments. BoS meetings are conducted with a frequency twice in a year and review the curriculum and necessary revisions are suggested for approval and incorporation.

Industry driven elective courses

To reduce gap between the industry and academia industry driven courses are offered under credited elective courses and also as add-on one credit courses over and above the graduation requirements. In addition to this theory courses, laboratory courses with industry sponsorship are offered in blended mode. This initiative enhances the scope for placements with specific industry-oriented skill sets.

Guest Lectures

To tap the subject expertise that is available with the industry, research and academic institutions outside the campus, series of guest lecture are being organized bringing awareness among the students and faculty about the recent developments in the industry and research.

Guest lectures from the industry SMEs give the practical insights of the engineering concepts learned beyond the curriculum. A minimum two guest lectures are being organized in every semester.

Real time industry projects

Students are encouraged to take up industry supported project works during their third and fourth years. Students collects the objective and data from the industry and do the project on campus.

Faculty training for capacity building

Another major implementation of one such initiative is the faculty training for competency enhancement. The members of faculty are regularly motivated and sent to the industries for internships for the continuous up-gradation of knowledge in the recent trends of engineering and technology. Further the trained members of such faculty handle the courses that are designed by the industries.

Industrial visits and internships

Industrial visits during third year is an ongoing initiative since inception of the institution. This enables the students to understand the industrial eco system and physical awareness about the various technologies that are being implemented in the industry. Industrial visit report writing helps the students in improving the presentation skills.

Since 2012, as a best practice under autonomy governance Summer Internship after fourth semester and Full Semester Internships (FSI) during fourth year are introduced. The FSI being a credited course the process is completely institutionalized. Through these internships, students have provided with opportunities to have hands-on experience and on job training. All the internship operations are taken care by the CDC department.

MOUs with industries

To enable the students and provide opportunities, to understand in the industrial eco-systems and work on latest technological developments in the industries, MoUs are signed with various industrial organizations. MoUs with the industries gives opportunities in taking up collaborative R&D and consultancy projects, internships and add-on courses to enhance the placement opportunities. To introduce the contemporary technological concepts in the curriculum keeping up the pace with industrial growth, SMEs from industry are nominated as BoS members contributing for the curriculum development.

The following are the MoUs signed with the industries:

1. Andhra Pradesh State Skill Development Corporation (APSSDC)
2. Amazon Web Services
3. gcGEMS – GC German Centre for Engineering and Management Studies UG Aachen and European Centre for Mechatronics APS GmbH Aachen
4. University of Technology, Petronas, Malaysia
5. Asia University, Taiwan
6. Edunet foundation
7. EduSkills
8. EPAM India
9. Prakasa Spectro Cast Pvt. Ltd.
10. TestBook Edu Solutions Pvt. Ltd
11. V.R. Siddhartha Engineering College, Vijayawada
12. Andhra University, Visakhapatnam
13. University of Wisconsin-Madison, USA
14. National Institute of Technology, Warangal

Impact Analysis

1. Industry ready curriculum with contemporary courses

ACY	Number of courses introduced/ revised	Course Titles
2017-18	02	Digital Marketing (Self Study Mode)
2018-19	01	Power System Devices
2019-20	01	Railway Signaling System
2020-21	01	Employability Skills I
2021-22	05	Employability Skills II Electrical Vehicle Technologies Green Energy Technologies Electric Vehicle Drive Train Systems Power Electronic Applications to Green Energy Systems

2. Industry driven electives (One credit)

ACY	No. of electives offered	Course Title	Collaborating Industry
2017-18	01	Automotive Electrical and Electronics	Robert Bosch Engineering and Business Solution limited, Coimbatore
2018-19	-	-	-
2019-20	01	Wind Turbines and its Applications	Right Renewable Technology, Chennai
2020-21	02	1.Design of power electronics converter in MATLAB/simulation 2.Electric vehicle technology.	1. GMRIT 2.GMRIT

3. Number of students opting for FSI

ACY	No. of students	Number of Industries	Name of the Industries
2017-18	35	11	Hindustan shipyard Pvt. Ltd., GMR Hyderabad International Airport Ltd., Go speedy Go, GMR Warora Energy Ltd., GMR Kamalanga Energy Ltd., Vizag Steel Plant, Just Dial, GMR Delhi International Airport Limited, Ken I Speak, Techbins Solution Pvt. Ltd., KVR Papers Pvt. Ltd.
2018-19	46	13	GMR Warora Energy Ltd., SLS Group-Nellimarla Jute Mills Pvt. Ltd., Empire Jute Company Ltd., Dhunish Technologies, GGK Technologies Pvt. Ltd., GMR Kamalanga Energy Ltd., GMR Rajahmundry Energy Ltd., Headrun Technologies Pvt. Ltd., Hindustan Aeronautics Ltd., Infinite Computers Ltd., Just Dial, Magnaquest Technologies Ltd., Vizag Steel Plant
2019-20	32	08	Antar IoT Pvt. Ltd., Beumer India Pvt. Ltd., GMR Kamalanga Energy Ltd., GMR Worora Energy Ltd., Hexaware Technologies Ltd., Sri Gopikrishna Infrastructure Pvt. Ltd.,

			Vizag Steel Plant, Topnotch Softwares Pvt. Ltd.
2020-21	-	-	-
2021-22	27	4	Cognizant GEN C, Wipro, Value Labs, UTP, Malaysia

4. Industries offering pre-placement internships

ACY	No. of pre-placement internships	Number of Industries	Name of the Industries
2017-18	09	02	Go speedy Go, Just Dial
2018-19	10	06	GMR Warora Energy Ltd., GGK Technologies Pvt. Ltd., Headrun Technologies Pvt. Ltd., Infinite Computers Ltd., Just Dial, Magnaquest Technologies Ltd.
2019-20	04	02	Beumer India Pvt. Ltd., Hexaware Technologies Ltd.
2020-21	-	-	-
2021-22	26	03	Cognizant GEN C Wipro Value Labs

5. Enhanced placement offers

ACY	No. of offers	Percentage	Details
2017-18	83	61.02	
2018-19	78	65.00	http://115.241.205.4/gmritnew/nba/Placement_Enhancements_EEE.pdf
2019-20	84	66.66	
2020-21	93	67.88	
2021-22	82	73.21	

6. Number of MoUs signed

ACY	No. of MoUs	No. of industries	Details
2017-18	-	-	
2018-19	03	02	http://115.241.205.4/gmritnew/nba/MOUs_signed_EEE.pdf
2019-20	02	02	
2020-21	-	-	
2021-22	09	05	

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

Since 2012, as a best practice under autonomy governance summer Internship after fourth semester and Full Semester Internships (FSI) during fourth year are introduced.

The summer internship after fourth semester of four weeks duration being a mandatory audit course for all the students, the allotment process of the students for summer internship is institutionalized. The internship department explores and build the tie-ups with the companies across the country and provide the summer internships nearly thousand students every year across the campus. At the end of the summer internship, all the students submit internship report which are duly assessed by the industry and academia experts.

To create an opportunity for the students, understand the various industry working environment and work culture, industrial tours are organized during their 3rd to 6th semesters of their study.

The FSI being a credited course the process is completely institutionalized. Through these internships, students have provided with opportunities to have hands-on experience and on job training. All the internship operations are taken care by the CDC department.

Following Standard Operating Procedure, a dedicated internship team of faculty members explores and provide FSI to the students opted in the various industries and research organizations across the country. The following is the procedure for allocating the students for FSI during their 7th/8th Semesters.

a) Registration of the students opting for FSI at the end of the 6th semester.
b) Selection process by industry/CDC team based on the competency mapping
c) Allotment of the internships in 7th and 8th Semesters
d) Continuous assessment of the students for every four weeks
e) Documentation and presentation of the report at the end of 16 weeks
f) End semester assessment with industry and academic experts

Feedback on industry initiatives

After the completion of both the summer and full semester internships, feedback is invited from the students for continuous improvement apart from the course end feedbacks that are collected after every industrial training program.

A standard rubric for collecting the feedback after summer and full semester internship, training programs and industry driven elective courses has been developed and deployed to ensure the attainment of the COs.

Impact analysis

1. Industrial tours

ACY	No. of Students	No. of Tours	Details
2017-18	262 (137+125)	02	Garividi Substation & 700 kW Solar Power Plant, Rajam
2018-19	125	01	Garividi Substation
2019-20	43	01	GMR Kamalanga Energy Ltd
2020-21	Nil	Nil	-
2021-22	169 (29+140)	02	NSTL, Vizag & GMRIT Solar Power Plant, Rajam

2. Summer internships

ACY	No. of Students	No. of Industries	Industry details
2017-18	132	33	
2018-19	134	25	http://115.241.205.4/gmritnew/nba/Summer_Internship_EEE.pdf
2019-20	144	27	
2020-21	112	01	
2021-22	119	02 (online platform)	

3. Full Semester Internships

ACY	No. of Students	No. of pre-placement offers	No. of Industries
2017-18	35	09	11
2018-19	46	10	13
2019-20	32	04	08
2020-21	-	-	-
2021-22	27	26	4

4. Training on new age/contemporary technologies

ACY	No. of Courses	No. of Industries / Organization
2017-18	05	05
2018-19	08	08
2019-20	03	03
2020-21	04	04
2021-22	03	03

Criteria – 3

Course Outcomes (COs) and Program Outcomes (POs) [175M]

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

The program outcomes are achieved through curriculum which offers the courses with a proper balance between the fundamental, core and elective courses. Each course has a set of defined Cos that are mapped to the POs. A set of performance criteria is used to provide quantitative measurement of how well COs are achieved. A sample of program outcomes and course outcomes is shown in the following table. The Cos are thus directly and quantitatively assessed and are tied to the POs as shown in the below Table 3.1. Therefore, if COs are met, the POs are met. The correlation of the COs with POs has been done at three levels, i.e., 3- Strong, 2- Moderate and 1-Weak respectively.

Table 3.1.1 Program Articulation Matrix (For six Courses of AR-16):

S. No	Course Year & Semester		Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14
1	2	3	EE.202	3	3											2	1
2	2	4	EE.213	3	3	3	3	3								3	3
3	3	5	EE.303		2	2										2	2
4	3	6	EE.313		3	3		2									2
5	4	7	EE.402		3	3										3	2
6	4	8	EE.408		2	2											2
	Average:			3	3	3	3	3								3	2

Course Articulation Matrix for the above six courses (6 Tables)

Table 3.1.2.EE.202: Circuit Theory

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
EE.301.1	2	2											2	1
EE.301.2	3	3											1	1
EE.301.3	3	3											1	1
EE.301.4	3	3											3	2
EE.301.5	2	2											1	1
EE.301.6	3	3											3	1
Average	3	3											2	1
COs:	1. Outline the time / frequency domain response of RLC circuit 2. Solve the three phase balanced and unbalanced circuits 3. Apply various network theorems for simplifying both AC and DC circuits 4. Analyze transient response of a series RL/RC/RLC circuits for DC and AC excitations 5. Summarize various network parameters for a given two port network 6. Apply transformed variables for a given network function													

Table 3.1.3. EE.213 Control Systems

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
EE.401.1	3	3	3	3	3								3	3
EE.401.2	2	2	2	3	2								3	3
EE.401.3	3	3	3	3	3								3	3
EE.401.4	3	3	3	3	3								3	3
EE.401.5	3	3	3	3	3								3	3
EE.401.6	2	2	2	3	2								3	3
Average	3	3	3	3	3								3	3
COs:	1. Build mathematical models of control systems in continuous time 2. Outline the system using block diagram and signal flow graph techniques 3. Analyze the transient and steady state performances of a control system 4. Analyze the stability of a system using time domain and frequency domain techniques 5. Develop different controllers in time/frequency domain 6. Illustrate state space modeling and compute the controllability and observability for the given system													

Table 3.1.4. EE.303 Power Transmission and Distribution

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
EE.501.1		2	2										2	1
EE.501.2		3	3										3	3
EE.501.3		2	2										2	1
EE.501.4		2	2										2	1
EE.501.5		3	3										3	3
EE.501.6		2	2										2	1
Average		2	2										2	2
COs:	1. Illustrate the working of cables and insulators. 2. Analyze the parameters of overhead line conductors for various configurations. 3. Outline the performance of short, medium and long transmission lines. 4. Summarize the parameters affecting mechanical design of transmission lines. 5. Analyze transients and voltage control in power transmission lines. 6. Summarize the operation of various distribution systems.													

Table 3.1.5. EE.313 Power System Analysis

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
EE.502.1		2	2		1									1
EE.502.2		3	3		1									2
EE.502.3		3	3		2									2
EE.502.4		3	3		1									2
EE.502.5		3	3		2									3
EE.502.6		3	3		2									3
Average		3	3		2									2
COs:	1. Illustrate the per-unit representation for a given power system network 2. Build nodal admittance and impedance matrices for power system networks 3. Make use of load flow studies in power system networks 4. Develop positive, negative and zero sequence networks for a given power system 5. Analyze power system behavior under short circuit studies 6. Examine the stability of a given power system network													

Table 3.1.6.EE.402 Power System Operation and Control

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
EE.701.1		2	2										2	1
EE.701.2		2	2										2	1
EE.701.3		3	3										3	2
EE.701.4		3	3										3	3
EE.701.5		3	3										3	3
EE.701.6		3	3										3	3
Average		3	3										3	2
COs:	1. Outline the economic operation of thermal power plants 2. Summarize hydro-thermal scheduling 3. Model load frequency control components 4. Examine the behavior of single area power system for change in load demand 5. Analyze the behavior of two area power system for various operating scenarios 6. Analyze the system for voltage stability													

Table 3.1.7. EE. 408 Power System Protection

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
EE.801.1		2	2											1
EE.801.2		2	2											1
EE.801.3		3	3											2
EE.801.4		3	3											2
EE.801.5		2	2											1
EE.801.6		2	2											3
Average		2	2											2
COs:	1. Outline the working of various circuit breakers 2. Summarize the construction and working of different types of relays 3. Identify suitable protective device for power system equipment 4. Identify protection schemes for relaying equipment 5. Outline the operation of electrostatic and digital relays 6. Compare Static Relays versus Electromagnetic Relays													

Program Articulation Matrix

COURSE CODE	COURSE TITLE	Weightage													
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PO 13	PO 14
C101	English Communication Skills I										3				
C102	Engineering Mathematics I	3	2												
C103	Engineering Physics	3	2												
C104	Engineering Mechanics	3	2	2											
C105	Problem solving using C	3	3	3											
C106	Engineering Physics Lab				3										
C107	Problem solving using C Lab				3										
C108	Engineering Drawing				3					3	3				
C109	English Communication Skills II										3				
C110	Engineering Mathematics II	3	2												
C111	Engineering Chemistry	3	2												
C112	Basic Electrical Engineering	3	3												
C113	Environmental Studies	1		1			2	3							
C114	English Communication Skills Lab										3				
C115	Engineering Chemistry Lab				3										
C116	Engineering Workshop	3	2								2	2			
C201	Engineering Mathematics III	3	3												
C202	Circuit Theory	3	3											2	1
C203	DC Machines	2	2												1
C204	Electromagnetic Field Theory	2	2											1	1
C205	Digital Electronics	3	3	2											2
C206	Electronic Devices & Circuits	3	3	2											2
C207	Digital Electronics Lab				3										
C208	Electronic Devices & Circuits Lab				3										
C209	Electrical Engineering Lab				3										
C212	Linear IC Applications	3	3	2											2
C213	Control Systems	3	3	3	3	3								3	3
C214	Network Analysis & Synthesis	3	3											3	2
C215	Transformers & Induction Machines	2	2	2											2
C216	Power Plant Engineering & Economics		3				3	3							2
C217	Electrical Measurements & Instrumentation	3	3	3											2
C218	Linear IC Applications Lab				3										
C219	Electrical Measurements & Instrumentation Lab				3										
C220	DC Machines Lab				3										
C221	CC & EC Activities I						3	2		3	3				
C222	Employability Skills II	2					3		2		3		2		
C301	Object Oriented Programming		3	3	3	2						1	2		
C302	Power Electronics		2	2										2	2
C303	Power Transmission & Distribution		2	2										2	2
C304	Signal and Systems Theory		3	3										3	2
C305	Synchronous & Special Machines	2	2	2											2
C310	Automotive Electrical Engineering		3	3											2
C306	Advanced Control Systems		3	3										3	2
C307	AC Machines Lab				3										
C308	Term Paper	2			2						3		3		
C309	Summer Internship	3	2						3		3		3		

C311	Discrete Signal Processing		3	3										3	2
C312	Electrical Drives		3	3											2
C313	Power System Analysis		3	3										2	2
C314	Microprocessors & Microcontrollers	3	2	2	2	2					3				
C315	Database Management Systems		3	3											
C316	Renewable Energy Sources (open Elective)		2					3							
C317	Power Electronics Lab				3	1									
C318	Mini Project	3	3	3	2	3	3	2	3	3	3	2	2	3	3
C319	Audit Course												3		
C320	CC & EC Activities II						3	2		3	3				
C321	Employability Skills IV	2					3		2		3		2		
C401	Engineering Economics & Project Management	2	2	2						1		2			
C402	Power System Operation and Control		3	3										3	2
C403	Electric Locomotives, Traction and Vehicles		2				2								1
C404	PLCS & SCADA		2	2											
C405	Electrical Systems and Simulation Lab				3	3									
C406	Power Systems Lab				3										
C407	Ethics for Electrical Engineers						3	3	3				3		
C408	Power System Protection		2	2											2
C409	Electrical Installation, Design & Estimation		2	2			3						3		3
C410	Project	3	3	3	2	3	3	2	3	3	3	2	2	3	3
C411	Power Quality		3	3					3						2

3.2. Attainment of Course Outcomes (75)

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

(Describe different assessment tools (semester end examinations, mid-semester tests, laboratory examinations, student portfolios, etc) to measure the student learning and hence attainment of course outcomes. (Student portfolio is a collection of artifacts that demonstrate skills, personal characteristics and accomplishments created by the student during study period.)

For evaluating the course outcomes and their attainments, only direct assessment tools are used based on the student performance in the continuous and semester end assessments. Continuous assessment is done thrice in a semester with 40% weightage and semester-end assessment with 60% weightage.

Assessment Process:

The CO attainment is calculated based on the percentage of the students crossing the class average marks and the assessment pattern for the various courses are shown below. The data related to the marks secured in each of the courses is maintained by the course coordinator and the CO attainments are calculated at the end of every semester to compare with the TPL set.

Assessment pattern for Theory Course:

Table 3.2.1.1

S. No	Assessment Tool	Weightage (%)	Frequency	Stakeholder	Responsibility	Assessment Process
1	Sessional exams	40	Thrice in a semester	Student	Course Coordinator	Sessional Exam-1 measure CO1, CO2 & CO3. Sessional Exam-2 measure CO4,

						CO5 & CO6. Sessional Exam-3 measure CO1 to CO6.
2	End Semester Exams	60	Once in a semester	Student		End Semester Exam measure CO1 to CO6.

Assessment pattern for Laboratory / Mini Project Course:

Table 3.2.1.2

Sl. No.	Assessment Tool	Weightage	Frequency	Stakeholder	Responsibility	Assessment Process
1	Continuous Assessment through Laboratory experiments /Reviews	30%	Weekly	Student	Course Coordinator	All CO attainments are calculated based on the laboratory experiments' mapping/ Project objectives
2	External Lab Examination	70%	Once in a Semester			

Assessment pattern for Term paper:

Table 3.2.1.3

Sl. No.	Assessment Tool	Weightage	Frequency	Stakeholder	Responsibility	Assessment Process
1	Continuous Assessment through Reviews	100%	Monthly	Student	Project Supervisor	CO attainment is calculated based on the rubric mapping with the objectives

Assessment pattern for Full Semester Internship & Project Work:

Table 3.2.1.4

Sl. No.	Assessment Tool	Weightage	Frequency	Stakeholder	Responsibility	Assessment Process
1	Continuous Assessment through Reviews	50%	Monthly	Student	Project Supervisor	CO attainment is calculated based on the rubric mapping with the objectives
2	End semester Viva-Voce exam	50%	Once in a semester			

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

Setting-up of the average target performance level for the course outcomes:

CO attainment of all the representative courses contributing to the various POs and PSOs is calculated using the direct measuring tools based on the performance in the continuous assessment and end semester assessment with a weightage of 40% and 60% respectively.

The attainment of COs is reviewed every semester in comparison with target performance levels (TPL) set. In case of any deviation in the attainment levels observed, a detailed analysis is done

by the respective course coordinators to identify the root cause which could be due to the impact of teaching methodology, Students understanding level, and Toughness index of the question paper etc. Based on the level of attainment and the representative courses influencing the attainment, additional initiatives related to pedagogy are introduced catering to both bright students & slow learners for continuous improvement. The TPL is calculated based on the average attainment of the COs for the last three years. After the calculation of CO attainment in continuous assessment and semester end assessment independently, the overall CO attainment is calculated with 40% and 60% weightages respectively.

Measuring Course Outcomes Attained through Semester End Examinations (SEE)
(Target may be stated in terms of percentage of students getting equal or more than the target set by the Program in SEE for each CO.)

The pattern of the semester-end question paper is set in such a way that all the COs are measured appropriately in line with the curriculum. The attainment of each CO of the course is calculated based on the percentage of the students scoring more than the class average marks secured in the contributing questions. To calculate the CO attainments for each of the courses, an appropriate rubric is developed mapping the marks secured in each of the questions that are contributing to COs. The overall CO attainment is the weighted average calculated based on the questions contributing to COs.

Rubric for Semester End Examination:

Table.3.2.2.1 Rubric for Semester End Examination

GMR INSTITUTE OF TECHNOLOGY, RAJAM - 532127																							
Department of Electronics & Communication Engineering																							
Course Outcomes Attainment - End Semester																							
ACADEMIC YEAR											BATCH												
COURSE CODE/TITLE											Course Outcome						CO1	CO2	CO3	CO4	CO5	CO6	
CLASS											CO Target												
COURSE COORDINATOR																							
QUESTION NO		1						2		3		4		5		6		7		8		9	
SUB DIVISION		A	B	C	D	E	F	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
COURSE OUTCOME		CO1	CO1	CO2	CO3	CO5	CO6	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO3	CO3	CO4	CO4	CO5	CO5	CO6	CO6
MAX MARKS		2	2	2	2	2	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
S.NO	JNTU NO																						
Class Average (CA)		####	####	####	#####	###	###	##	###	####	####	####	###	###	####	###	####	###	#####	###	###	###	####
No. of Students scored above CA		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percentage of Attainment		####	####	####	#####	###	###	##	###	####	####	####	###	###	####	###	####	###	#####	###	###	###	####
		CO1	CO1	CO2	CO3	CO5	CO6	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO3	CO3	CO4	CO4	CO5	CO5	CO6	CO6
		2	2	2	2	2	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

CO1 - ATTAINMENT	M A	CO2 - ATTAINMENT	M A	CO3- ATTAINMENT	M A	CO4- ATTAINMENT	M A	CO5 - ATTAINMENT	M A	CO6 - ATTAINMENT	M A
CO 1 TOTAL MARKS	0	CO 2 TOTAL MARKS	0	CO 3 TOTAL MARKS	0	CO 4 TOTAL MARKS	0	CO 5 TOTAL MARKS	0	CO 6 TOTAL MARKS	0
FINAL CO ATTAINMENT	#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!

Measuring CO Attainment through Cumulative Internal Examinations (CIE)

(Target may be stated in terms of percentage of students getting more than class average marks or set by the program in each of the associated COs in the assessment instruments (midterm tests, assignments, mini projects, reports and presentations, etc. as mapped with the Cos))

The continuous during the semester is done by conducting three assessment tests. Two tests are conducted for every eight weeks, and the third assessment is the comprehensive test. The pattern of the continuous assessment question paper is set in such a way that all the COs are measured appropriately in line with the syllabus covered. The attainment of each CO of the course is calculated based on the percentage of the students scoring more than the class average marks secured in the contributing questions. To calculate the CO attainments for each of the courses, an appropriate rubric is developed mapping the marks secured in each of the questions that are contributing to COs. The overall CO attainment is the weighted average calculated based on the questions contributing to COs. Procedure for gathering the data and CO attainment calculation is depicted in the flowchart shown below.

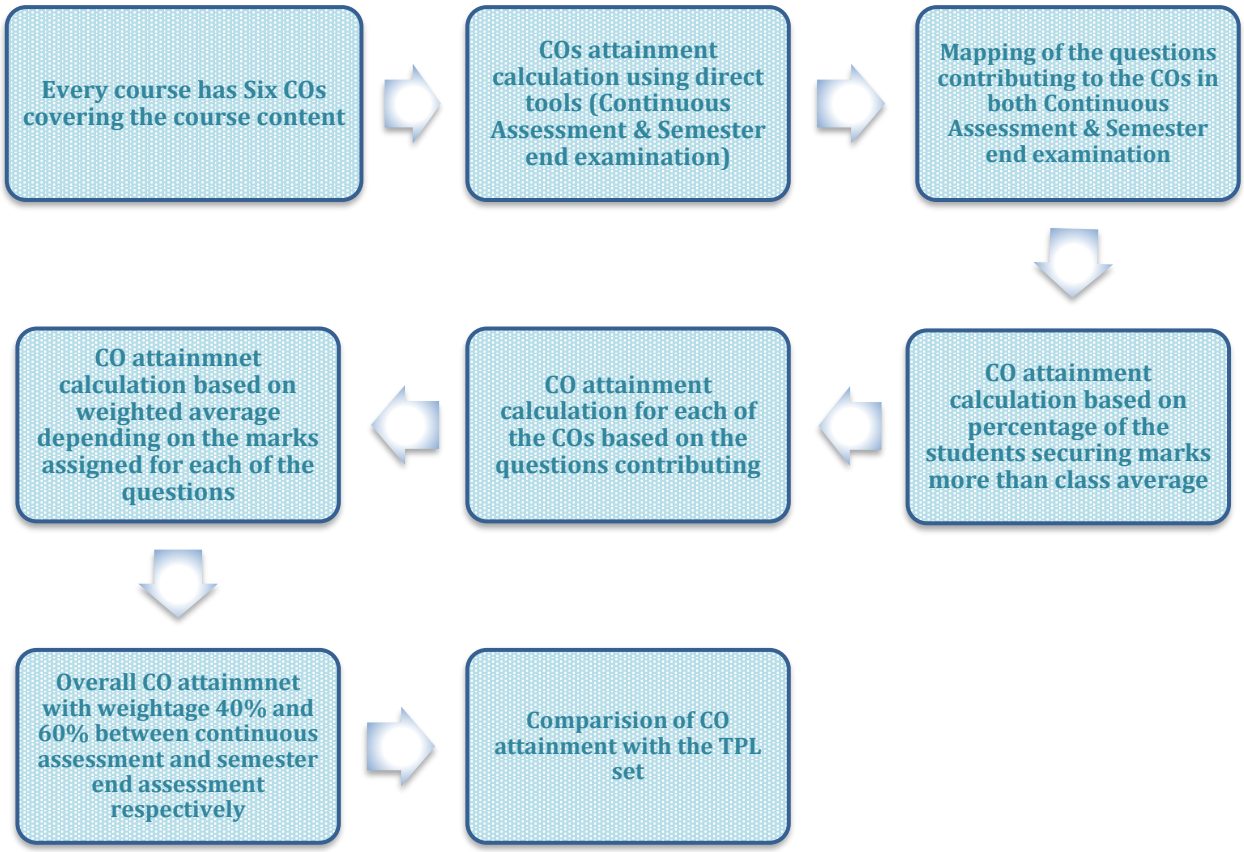

Figure 3.2.2.1. Process flow diagram for CO attainment calculation

Table.3.2.2.2 Rubric for Sessional Examinations

Course Outcome Attainment of Sessional Exmas

ACADEMIC YEAR -				BATCH		
COURSE CODE/TITLE				Course Outcome		
CLASS				CO Target		
COURSE COORDINATOR				Total No.of Students		
S.NO	JNTU NO	NAME OF THE STUDENT	MID 1 - MARKS ALLOTED	MID2 - MARKS ALLOTED	COMPREHENSIVE	
			CO1, CO2, CO3	CO4, CO5,CO6	CO1- CO6	
1						
212						
Class Average						
No. of Students scored above CA						
Percentage of Attainment						

COURSE OUTCOMES	MID 1	MID2	TOTAL CO ATTAINMENT IN MID EXAM	COMPREHENSIVE	(3/4) MID EXAM + (1/3) COMP		
CO1			#DIV/0!		#DIV/0!		
CO2			#DIV/0!		#DIV/0!		
CO3			#DIV/0!		#DIV/0!		
CO4			#DIV/0!		#DIV/0!		
CO5			#DIV/0!		#DIV/0!		
CO6			#DIV/0!		#DIV/0!		

Calculation of Overall CO Attainment:

After the calculation of CO attainment in continuous assessment and semester end assessment independently, the overall CO attainment is calculated with 40% and 60% weightages respectively.

Table.3.2.2.3 Rubric for Overall attainment calculation

Course Outcome Attainment of Sessional Exmas									
ACADEMIC YEAR -					BATCH				
COURSE CODE/TITLE					Course Outcome				
CLASS					CO Target				
COURSE COORDINATOR					Total No.of Students				
S.NO	JNTU NO	NAME OF THE STUDENT	MID 1 - MARKS ALLOTED	MID2 - MARKS ALLOTED	COMPREHENSIVE				
			CO1, CO2, CO3	CO4, CO5,CO6	CO1- CO6				
1									
212									
Class Average									
No. of Students scored above CA									
Percentage of Attainment									
	COURSE OUTCOMES	MID 1	MID2	TOTAL CO ATTAINMENT IN MID EXAM	COMPREHENSIVE	(3/4) MID EXAM + (1/3) COMP	END SEM	60% OF END SEM + 40 % MID EXAM	LEVEL
	CO1			#DIV/0!		#DIV/0!		#DIV/0!	####
	CO2			#DIV/0!		#DIV/0!		#DIV/0!	####
	CO3			#DIV/0!		#DIV/0!		#DIV/0!	####
	CO4			#DIV/0!		#DIV/0!		#DIV/0!	####
	CO5			#DIV/0!		#DIV/0!		#DIV/0!	####
	CO6			#DIV/0!		#DIV/0!		#DIV/0!	####
Level-1=40-49;Level-2= 50-59;Level-3= >=60									

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

3.3.1. Describe the assessment tools and processes used to gather the data upon which the evaluation of each of the Program Outcome and Program Specific Outcome is based indicating the frequency with which these processes are carried out. Describe the assessment processes that demonstrate the degree to which the Program Outcomes and Program Specific Outcomes are attained and document the attainment levels

For evaluating the POs and PSOs and their attainments, direct assessment tools and indirect assessment tools are used with a weightage of 85% and 15% respectively. The direct tools include continuous assessment and semester end assessment whereas the surveys from Alumni, Employer and Program exit surveys are taken as indirect tools.

Direct Tools:

1. Continuous Assessment
2. Semester end assessment

Indirect Tools:

1. Alumni Survey
2. Employer Survey
3. Student Exit survey

PO and PSO assessment:

Program articulation matrix is developed by mapping all the representative courses with respect to POs and PSOs. Mapping of the overall CO of the particular course with POs & PSOs is done at three levels 1, 2, 3 indicating the courses contribution at lower level moderate level and substantial level respectively. Further each PO attainment is calculated based on the weighted average of the levels of CO contribution and number of courses contributing. Alumni, Employer and Student surveys (Program Exit Survey) are taken as indirect tools for the measurement of POs and PSOs having 5% weightage each.

Rubric for POs, PSOs Attainment (Direct Tools):

PO ATTAINMENT CALCULATION (DIRECT)

BATCH 2017-21

S.NO	Sem	COURSE CODE	COURSE TITLE	Avg CO %	PO Attainment level													
					PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
1	I	C101	English Communication Skills I															
2		C102	Engineering Mathematics I															
3		C103	Engineering Physics															
4		C104	Engineering Mechanics															
5		C105	Problem solving using C															
6		C106	Engineering Physics Lab															
7		C107	Problem solving using C Lab															
8		C108	Engineering Drawing															
9	II	C109	English Communication Skills II															
10		C110	Engineering Mathematics II															
11		C111	Engineering Chemistry															
12		C112	Basic Electrical Engineering															
13		C113	Environmental Studies															
14		C114	English Communication Skills Lab															
15		C115	Engineering Chemistry Lab															
16		C116	Engineering Workshop															
17	III	C201	Engineering Mathematics III															
18		C202	Circuit Theory															
19		C203	DC Machines															
20		C204	Electromagnetic Field Theory															
21		C205	Digital Electronics															
22		C206	Electronic Devices & Circuits															
23		C207	Digital Electronics Lab															
24		C208	Electronic Devices & Circuits Lab															
25		C209	Electrical Engineering Lab															
26	IV	C212	Linear IC Applications															
27		C213	Control Systems															
28		C214	Network Analysis & Synthesis															
29		C215	Transformers & Induction Machines															
30		C216	Power Plant Engineering & Economics															
31		C217	Electrical Measurements & Instrumentation															
32		C218	Linear IC Applications Lab															
33		C219	Electrical Measurements & Instrumentation Lab															
34		C220	DC Machines Lab															
35		C221	CC & EC Activities I															
36		C222	Employability Skills II															
37	V	C301	Object Oriented Programming															
38		C302	Power Electronics															
39		C303	Power Transmission & Distribution															
40		C304	Signal and Systems Theory															
41		C305	Synchronous & Special Machines															
42		C310	Automotive Electrical Engineering															
43		C306	Advanced Control Systems															
44		C307	AC Machines Lab															
45		C308	Term Paper															
46		C309	Summer Internship															
47	VI	C311	Discrete Signal Processing															
48		C312	Electrical Drives															
49		C313	Power System Analysis															
50		C314	Microprocessors & Microcontrollers															
51		C315	Database Management Systems															
52		C316	Renewable Energy Sources (open Elective)															
53		C317	Power Electronics Lab															
54		C318	Mini Project															
55		C319	Audit Course															
56		C320	CC & EC Activities II															
57		C321	Employability Skills IV															
58	VII	C401	Engineering Economics & Project Management															
59		C402	Power System Operation and Control															
60		C403	Electric Locomotives, Traction and Vehicles															
61		C404	PLCS & SCADA															
62		C405	Electrical Systems and Simulation Lab															
63		C406	Power Systems Lab															
64	VIII	C407	Ethics for Electrical Engineers															
65		C408	Power System Protection															
66		C409	Electrical Installation, Design & Estimation															
67		C410	Project															
68		C411	Power Quality															
					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
			Average PO Attainment %															
			Average PO Attainment Level															

Rubric for POs, PSOs Attainment (Indirect Tools):

1. Alumni Survey

The curriculum has been designed to ensure the PO and PSO attainment over the four-year duration of the program. Alumni feedback is solicited in the context of alignment of curriculum with the POs & PSOs for continuous improvement on a 5-point scale indicating alignment of curriculum with POs & PSOs.

Figure.3.3.1. Alumni Survey form

GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada

GMRIT Training Tomorrow's Engineers Today

ALUMNI: SURVEY FORM

Tittle of the Program: B.Tech/M.Tech	**Branch: EEE**	**Year of Graduation:**
Name of the Alumni:		**Designation:**
Name of the Employer:		
Email:		**Phone Number:**
City:	**State:**	**Country:**

Dear Alumni,

The curriculum has been designed to ensure the PO and PSO attainment over the four-year duration of the program. Your feedback is solicited in the context of alignment of curriculum with the POs & PSOs for continuous improvement. Please give the score on five-point scale indicating alignment of curriculum with POs & PSOs.

Further, alumni are also requested to give the feedback on the alignment of POs & PSOs with PEOs on the same five-point scale. A copy of the curriculum is attached for your quick reference:http://www.gmrit.org/resource_center.html

5: Excellent	**4: Very Good**	**3: Good**	**2: Average**	**1: Poor**

Survey on alignment of curriculum with POs & PSOs:

S. No.	Alignment of Curriculum with POs & PSOs ▶ / POs & PSOs ▼	5	4	3	2	1
a	**Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.					
b	**Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.					
c	**Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.					
d	**Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems					
e	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.					
f	**The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.					
g	**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.					
h	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.					

i	**Individual and Teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.					
j	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.					
k	**Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.					
l	**Life-long Learning:** Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.					
J	**PSO1:** Ability to Utilize statistics, transformation methods, discrete mathematics and application of differential equations in analyzing and design of electrical/electronic systems.					
K	**PSO2:** Capability to Analyze, design and implement control of electrical systems in any problem/application of electrical/electronic (s) engineering.					

Survey on alignment of POs & PSOs with PEOs:

S. No.	Alignment of Curriculum with POs & PSOs with PEOs▶ Programme Educational Objectives (PEOs)▼	5	4	3	2	1
a	Graduates with ability to solve core engineering problems through continuous self-paced learning in tune with changing technologies. (PEO1)					
b	Reinforce engineering skills, critical thinking and problem-solving skills in professional engineering practices and deal with socio-economical, technical and business challenges. (PEO2)					
c	Nurture professionalism with soft skills, managerial & leadership skills and ethical values. (PEO3)					

Your detailed comments based on your on campus experience

Mission of the Program

- To provide high-quality education in Electrical & Electronics Engineering, to prepare the graduates for a rewarding career in Electrical & Electronics Engineering and related industries, in tune with evolving needs of the industry.
- To prepare the students to become thinking professional and good citizens who would apply their knowledge critically and innovatively to solve professional and social problems.

Vision of the Program

To be a most preferred Electrical & Electronics Engineering department of learning for Students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking.

2. Employer survey:

The curriculum has been designed to ensure the PO and PSO attainment over the four-year duration of the program. Employer feedback is solicited in the context of alignment of curriculum with the POs & PSOs for continuous improvement on a 5-point scale indicating alignment of curriculum with POs & PSOs.

Figure.3.3.2. Employer Survey form

GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada

GMRIT Training Tomorrow's Engineers Today

Employer Survey

Name of the representative:		**Designation:**
Name of the Company:		
Email:		**Phone Number:**
City:	**State:**	**Country:**

Dear Employer,

The curriculum has been designed to ensure the PO and PSO attainment over the four-year duration of the program. Your feedback is solicited in the context of alignment of curriculum with the POs & PSOs for continuous improvement. Please give the score on five-point scale indicating alignment of curriculum with POs & PSOs.

Further, Employer are also requested to give the feedback on the alignment of POs & PSOs with PEOs on the same five-point scale. A copy of the curriculum is attached for your quick reference:http://www.gmrit.org/resource_center.html

5: Excellent	**4: Very Good**	**3: Good**	**2: Average**	**1: Poor**

Survey on alignment of curriculum with POs & PSOs:

S. No.	Alignment of Curriculum with POs & PSOs ▶ / POs & PSOs ▼	5	4	3	2	1
a	**Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.					
b	**Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.					
c	**Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.					
d	**Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems					
e	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.					
f	**The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.					
g	**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.					
h	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.					
i	**Individual and Teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.					
j	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective					

	presentations, and give and receive clear instructions.					
k	**Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.					
l	**Life-long Learning:** Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.					
J	**PSO1:** Ability to Utilize statistics, transformation methods, discrete mathematics and application of differential equations in analyzing and design of electrical/electronic systems.					
K	**PSO2:** Capability to Analyze, design and implement control of electrical systems in any problem/application of electrical/electronic (s) engineering.					

Survey on alignment of POs & PSOs with PEOs:

S. No.	Alignment of Curriculum with POs & PSOs with PEOs ▶ Programme Educational Objectives (PEOs)▼	5	4	3	2	1
a	Graduates with ability to solve core engineering problems through continuous self-paced learning in tune with changing technologies. (PEO1)					
b	Reinforce engineering skills, critical thinking and problem-solving skills in professional engineering practices and deal with socio-economical, technical and business challenges. (PEO2)					
c	Nurture professionalism with soft skills, managerial & leadership skills and ethical values. (PEO3)					

Your Suggestions &detailed comments about the Strengths, weaknesses:

Mission of the Program

- To provide high-quality education in Electrical & Electronics Engineering, to prepare the graduates for a rewarding career in Electrical & Electronics Engineering and related industries, in tune with evolving needs of the industry.
- To prepare the students to become thinking professional and good citizens who would apply their knowledge critically and innovatively to solve professional and social problems.

Vision of the Program

To be a most preferred Electrical & Electronics Engineering department of learning for students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking.

3. Student (Program exit) Survey:

The curriculum has been designed to ensure the PO and PSO attainment over the four-year duration of the program. Feedback from the Outgoing Students is solicited in the context of alignment of curriculum with the POs & PSOs for continuous improvement on a 5 point scale indicating alignment of curriculum with POs & PSOs.

Figure.3.3.3. Student (Program Exit) Survey form

GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada

GMRIT Training Tomorrow's Engineers Today

PROGRAM EXIT SURVEY

Tittle of the Program: B. Tech/M. Tech	**Branch:EEE**	**Year of Graduation:**
Name of the Student:		**Reg. No.:**
Email:		**Phone Number:**
City:	**State:**	**Country:**

Dear Student,

The curriculum has been designed to ensure the PO and PSO attainment over the four-year duration of the program. Your feedback is solicited in the context of alignment of curriculum with the POs & PSOs for continuous improvement. Please give the score on five-point scale indicating alignment of curriculum with POs & PSOs. A copy of the curriculum is attached for your quick reference: http://www.gmrit.org/resource_center.html .

5: Excellent	**4: Very Good**	**3: Good**	**2: Average**	**1: Poor**

Survey on alignment of curriculum with POs & PSOs:

S. No.	Alignment of Curriculum with POs & PSOs ▶ / POs & PSOs ▼	5	4	3	2	1
a	**Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.					
b	**Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.					
c	**Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.					
d	**Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems					
e	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.					
f	**The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.					
g	**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for					

	sustainable development.					
h	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.					
i	**Individual and Teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.					
j	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.					
k	**Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.					
l	**Life-long Learning:** Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.					
J	**PSO1:** Ability to Utilize statistics, transformation methods, discrete mathematics and application of differential equations in analyzing and design of electrical/electronic systems.					
K	**PSO2:** Capability to Analyze, design and implement control of electrical systems in any problem/application of electrical/electronic (s) engineering.					

After your graduation what do you wish to do: Please tick (✓) any one of the following

1	Pursue PG studies	( )	Go abroad (higher studies /job)	( )
2	Pursue research	( )	IES/IAS/IPS/IRS etc.	( )
3	Seek employment	( )	Any other (specify):	
4	Get self-employed	( )	.....	

Your detailed comments based on your skill till graduation (you can take home, answer and return):

Mission of the Program

- To provide high-quality education in Electrical & Electronics Engineering, to prepare the graduates for a rewarding career in Electrical & Electronics Engineering and related industries, in tune with evolving needs of the industry.
- To prepare the students to become thinking professional and good citizens who would apply

Vision of the Program

To be a most preferred Electrical & Electronics Engineering department of learning for students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking.

Overall PO-PSO attainment:

After evaluating the POs and PSOs using direct and indirect tools the overall attainment is calculated with 85% and 15% weightages respectively. For evaluating the POs and PSOs and their attainments, direct assessment tools and indirect assessment tools are used with a weightage of 85% and 15% respectively. The direct tools include continuous assessment and semester end assessment whereas the surveys from Alumni, Employer and Program exit surveys are taken as indirect tools.

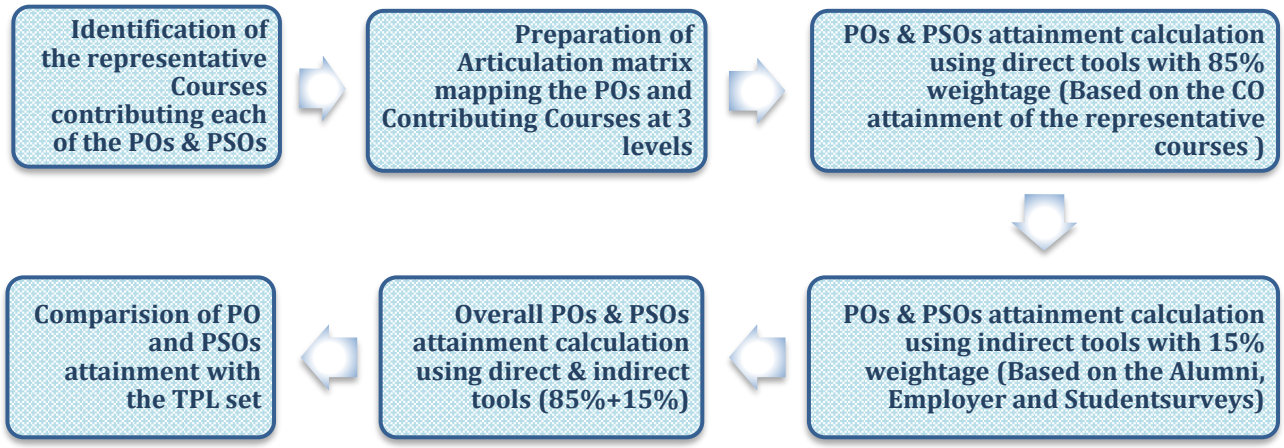

Figure 3.3.4. Process flow for POs attainment calculation

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

(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course-PO&PSO matrices as indicated).

Table B.3.3.2a: PO Attainment (Direct) (2016-20 Batch)

COURSE CODE	COURSE TITLE	PO Attainment level													
		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14
C101	English Communication Skills I										2				
C102	Engineering Mathematics I	2	2												
C103	Engineering Physics	2	2												
C104	Engineering Mechanics	3	2	2											
C105	Problem solving using C	3	3	3											
C106	Engineering Physics Lab				2										
C107	Problem solving using C Lab				2										
C108	Engineering Drawing				2					2	2				
C109	English Communication Skills II										3				
C110	Engineering Mathematics II	2	2												
C111	Engineering Chemistry	2	2												
C112	Basic Electrical Engineering	2	2												
C113	Environmental Studies	2		2			2	2							
C114	English Communication Skills Lab										2				
C115	Engineering Chemistry Lab				2										
C116	Engineering Workshop	2	2								2		2		

C201	Engineering Mathematics III	2	2												
C202	Circuit Theory	2	2											2	1
C203	DC Machines	2	2												1
C204	Electromagnetic Field Theory	2	2											1	1
C205	Digital Electronics	2	2	2											2
C206	Electronic Devices & Circuits	2	2	2											2
C207	Digital Electronics Lab				3										
C208	Electronic Devices & Circuits Lab				2										
C209	Electrical Engineering Lab				3										
C212	Linear IC Applications	2	2	2											2
C213	Control Systems	3	3	3	3	3								3	3
C214	Network Analysis & Synthesis	2	2											2	2
C215	Transformers & Induction Machines	2	2	2											2
C216	Power Plant Engineering & Economics		3				3	3							2
C217	Electrical Measurements & Instrumentation	2	2	2											2
C218	Linear IC Applications Lab				2										
C219	Electrical Measurements & Instrumentation Lab				2										
C220					3										
C221	CC & EC Activities I						3	2		3	3				
C222	Employability Skills II	2					3		2		3		2		
C301	Object Oriented Programming		2	2	2	2						1	2		
C302	Power Electronics		2	2										2	2
C303	Power Transmission & Distribution		2	2										2	2
C304	Signal and Systems Theory		2	2										2	2
C305	Synchronous & Special Machines	2	2	2											2
C306	Advanced Control Systems		2	2										2	2
C307	AC Machines Lab				2										
C308	Term Paper	2			2						3		3	3	3
C309	Summer Internship	3	2						3		3		3		
C311	Discrete Signal Processing		2	2										2	2
C312	Electrical Drives		2	2											2
C313	Power System Analysis		3	3		2									2
C314	Microprocessors & Microcontrollers	2	2	2	2	2					2				
C315	Database Management Systems		2	2											
C316	Renewable Energy Sources (open Elective)		2					3							
C317	Power Electronics Lab				2	1									
C318	Mini Project	2	2	2	2	2	2	2	2	2	2	2	2	2	2
C319	Audit Course												3		
C320	CC & EC Activities II						3	2		3	3				
C321	Employability Skills IV	2					3		2		3		2		
C401	Engineering Economics & Project Management	2	2	2						1		2			
C402	Power System Operation and Control		2	2										2	2
C403	Electric Locomotives, Traction and Vehicles		2				2								1
C404	Electrical Systems and Simulation Lab				2	2									

C405	Power Systems Lab				2										
C406	Ethics for Electrical Engineers						3	3	3				3		
C407	Power System Protection		2	2											2
C408	Electrical Installation, Design & Estimation		2	2			2						2		2
C409	Project	2	2	2	2	2	2	2	2	2	2	2	2	2	2
C410	Full Semester Internship	2	2			2			2	2	2			2	2
Direct Attainment		**2.13**	**2.10**	**2.12**	**2.20**	**2.00**	**2.55**	**2.38**	**2.29**	**2.14**	**2.47**	**1.75**	**2.36**	**2.07**	**1.93**

Table B.3.3.2b: PO Attainment (Indirect) (2016-20 Batch)

Survey	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
Program Exit Survey	2.38	2.43	2.45	2.41	2.49	2.48	2.64	2.50	2.48	2.43	2.48	2.56	2.27	2.66
Alumni Survey	2.75	2.54	2.44	2.45	2.50	2.36	2.60	2.69	2.73	2.56	2.47	2.54	2.45	2.66
Employer Survey	2.79	2.53	2.74	2.70	2.57	2.66	2.57	2.66	2.57	2.61	2.61	2.57	2.61	2.74
Indirect Attainment	2.64	2.50	2.54	2.52	2.52	2.50	2.61	2.61	2.59	2.53	2.52	2.56	2.45	2.69

Table B.3.3.2c: PO Attainment (Direct & Indirect) (2016-20 Batch)

PO Attainment Level	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
Direct Attainment	**2.13**	**2.10**	**2.12**	**2.20**	**2.00**	**2.55**	**2.38**	**2.29**	**2.14**	**2.47**	**1.75**	**2.36**	**2.07**	**1.93**
Indirect Attainment	2.64	2.50	2.54	2.52	2.52	2.50	2.61	2.61	2.59	2.53	2.52	2.56	2.45	2.69

Table B.3.3.3a: PO Attainment (Direct) (2017-21 Batch)

COURSE CODE	COURSE TITLE	PO Attainment level													
		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14
C101	English Communication Skills I										3				
C102	Engineering Mathematics I	2	2												
C103	Engineering Physics	2	2												
C104	Engineering Mechanics	2	2	2											
C105	Problem solving using C	2	2	2											
C106	Engineering Physics Lab				2										
C107	Problem solving using C Lab				2										
C108	Engineering Drawing				2					2	2				
C109	English Communication Skills II										3				
C110	Engineering Mathematics II	2	2												
C111	Engineering Chemistry	2	2												
C112	Basic Electrical Engineering	2	2												
C113	Environmental Studies	1		1			2	2							
C114	English Communication Skills Lab										2				
C115	Engineering Chemistry Lab				2										
C116	Engineering Workshop	2	2								2	2			
C201	Engineering Mathematics III	2	2												
C202	Circuit Theory	2	2											2	1
C203	DC Machines	2	2												1
C204	Electromagnetic Field Theory	2	2											1	1
C205	Digital Electronics	2	2	2											2
C206	Electronic Devices & Circuits	2	2	2											2

C207	Digital Electronics Lab				2										
C208	Electronic Devices & Circuits Lab				2										
C209	Electrical Engineering Lab				2										
C212	Linear IC Applications	2	2	2											2
C213	Control Systems	2	2	2	2	2								2	2
C214	Network Analysis & Synthesis	2	2											2	2
C215	Transformers & Induction Machines	2	2	2											2
C216	Power Plant Engineering & Economics		2				2	2							2
C217	Electrical Measurements & Instrumentation	2	2	2											2
C218	Linear IC Applications Lab				2										
C219	Electrical Measurements & Instrumentation Lab				2										
C220	DC Machines Lab				2										
C221	CC & EC Activities I						3	2		3	3				
C222	Employability Skills II	2					3		2		3		2		
C301	Object Oriented Programming		2	2	2	2						1	2		
C302	Power Electronics		2	2										2	2
C303	Power Transmission & Distribution		2	2										2	2
C304	Signal and Systems Theory		2	2										2	2
C305	Synchronous & Special Machines	2	2	2											2
C310	Automotive Electrical Engineering		3	3											2
C306	Advanced Control Systems		2	2										2	2
C307	AC Machines Lab				2										
C308	Term Paper	2			2						3		3		
C309	Summer Internship	3	2						3		3		3		
C311	Discrete Signal Processing		2	2										2	2
C312	Electrical Drives		2	2											2
C313	Power System Analysis		2	2										2	2
C314	Microprocessors & Microcontrollers	2	2	2	2	2					2				
C315	Database Management Systems		2	2											
C316	Renewable Energy Sources (open Elective)		2					3							
C317	Power Electronics Lab				2	1									
C318	Mini Project	2	2	2	2	2	2	2	2	2	2	2	2	2	2
C319	Audit Course												3		
C320	CC & EC Activities II						3	2		3	3				
C321	Employability Skills IV	2					3		2		3		2		
C401	Engineering Economics & Project Management	2	2	2						1		2			
C402	Power System Operation and Control		3	3										3	2
C403	Electric Locomotives, Traction and Vehicles		2				2								1
C404	PLCS & SCADA		2	2											
C405	Electrical Systems and Simulation Lab				2	2									
C406	Power Systems Lab				2										
C407	Ethics for Electrical Engineers						2	2	2				2		
C408	Power System Protection		2	2											2
C409	Electrical Installation, Design & Estimation		2	2			2						2		2
C410	Project	2	2	2	2	2	2	2	2	2	2	2	2	2	2
C411	Power Quality		3	3					3						2
Direct Attainment		**2.00**	**2.07**	**2.07**	**2.00**	**1.86**	**2.36**	**2.13**	**2.29**	**2.17**	**2.57**	**1.80**	**2.30**	**2.00**	**1.85**

Table B.3.3.3b: PO Attainment (Indirect) (2017-21 Batch)

Survey	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
Program Exit Survey	2.55	2.47	2.42	2.34	2.45	2.50	2.65	2.64	2.55	2.54	2.49	2.50	2.45	2.47
Alumni Survey	2.80	2.67	2.61	2.60	2.49	2.61	2.77	2.70	2.66	2.62	2.62	2.61	2.65	2.66
Employer Survey	2.86	2.68	2.58	2.65	2.68	2.61	2.65	2.68	2.65	2.61	2.68	2.72	2.58	2.65
Indirect Attainment	**2.74**	**2.61**	**2.53**	**2.53**	**2.54**	**2.57**	**2.69**	**2.67**	**2.62**	**2.59**	**2.6**	**2.61**	**2.56**	**2.59**

Table B.3.3.3c: PO Attainment (Direct & Indirect) (2017-21 Batch)

PO Attainment Level	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
Direct Attainment	**2**	**2.07**	**2.07**	**2**	**1.86**	**2.36**	**2.13**	**2.29**	**2.17**	**2.57**	**1.8**	**2.3**	**2**	**1.85**
Indirect Attainment	**2.74**	**2.61**	**2.53**	**2.53**	**2.54**	**2.57**	**2.69**	**2.67**	**2.62**	**2.59**	**2.6**	**2.61**	**2.56**	**2.59**

Table B.3.3.4a: PO Attainment (Direct) (2018-22 Batch)

Course Code	COURSE TITLE	PO Attainment level													
		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PO13	PO14
C101	English Communication Skills I (ECS-1)										3				
C102	Engineering Mathematics I (M-1)	2	2												
C103	Engineering Physics (EP)	2	2												
C104	Engineering Mechanics (EM)	2	2	2											
C105	Problem Solving using C (PSC)	2	2	2											
C106	Engineering Physics Lab (EP LAB)				2										
C107	Problem Solving using C Lab (PSC LAB)				2										
C108	Engineering Drawing (ED)				2					2	2				
C109	English Communication Skills II (ECS-II)										3				
C110	Engineering Mathematics II (M-II)	2	2												
C111	Engineering Chemistry (EC)	2	2												
C112	Basic Electrical Engineering (BEE)	2	2												
C113	Environmental Studies (ES)	1		1			2	3							
C114	English Communication Skills Lab (ECS-1 LAB)										2				
C115	Engineering Chemistry Lab (EC LAB)				2										
C116	Engineering Workshop (EWS)	2	2								2	2			
C201	ENGG.MATHEMATICS-III	2	2												
C202	CIRCUIT THEORY	2	2											2	1

C203	DC MACHINES	2	2												1
C204	ELECTROMAGNETIC FIELD THEORY	2	2											1	1
C205	DIGITAL ELECTRONICS	2	2	2											2
C206	ELECTRONIC DEVICES & CIRCUITS	2	2	2											2
C207	DIGITAL ELECTRONICS LAB				2										
C208	ELECTRONIC DEVICES & CIRCUITS LAB				2										
C209	ELECTRICAL ENGG. LAB				2										
C212	Linear IC Applications	2	2	2											2
C213	Control Systems (Integrated)	2	2	2	2	2								2	2
C214	Network Analysis & Synthesis	2	2											2	2
C215	Transformers and Induction Machines	2	2	2											2
C216	Power Plant Engineering & Economics		3				3	3							2
C217	Electrical Measurementss and Instumentation	2	2	2											2
C218	Linear IC Applications Lab				2										
C219	Electrical Measurementss and Instumentation Lab				2										
C220	DC Machines Lab				2										
C221	CC & EC Activities I						3	2		3	3				
C222	Employability Skills I	2					3		2		3		2		
C301	Object Oriented Programming		2	2	2	2						1	2		
C302	Power Electronics		2	2										2	2
C303	Power Transmission & Distribution		2	2										2	2
C304	Signal and Systems Theory		2	2										2	2
C305	Synchronous & Special Machines	2	2	2											2
C310	Electrical Machine Design	3	3	2											2
C306	Automotive Electrical Engineering		3	3											2
C307	Advanced Control Systems (Elective I / CC)		3	3										3	2
C308	AC Machines Lab				2										
C309	Term Paper	2			2						2		2		
C311	Summer Internship	3	2						3		3		3		
C312	Discrete Signal Processing		2	2										2	2
C313	Electrical Drives		2	2											2
C314	Power System Analysis		2	2										2	2
C315	Microprocessors & Microcontrollers	3	2	2	2	2					3				
C316	Database Management Systems		3	3											
C317	Computer Networks	2	3												
C318	Renewable Energy Sources (open Elective)		2					2							

C319	Power Electronics Lab				2	1									
C320	Mini Project	2	2	2	1	2	2	1	2	2	2	1	1	2	2
C321	Audit Course												3		
C322	CC & EC Activities II						3	2		3	3				
C323	Employability Skills IV	2					3		2		3		2		
C401	EEPM	2	2	2						1		2			
C402	Elective-IV,PSOC		2	2										2	2
C403	Elective-V, ELTV		2				2								1
C404	PLCs & SCADA		2	2											
C405	Electrical Systems and Simulation Lab				2	2									
C406	Power Systems Lab				2										
C407	Full Semester Internship	2	2						2		2		2		
C408	Ethics for Electrical Engineers						3	3	3				3		
C409	Power System Protection		2	2											2
C410	Elective-VI,EIDE		2	2			3						3		3
C411	Power Quality		2	2					2						2
C412	Project	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Direct Attainment		**2.06**	**2.13**	**2.07**	**1.95**	**1.86**	**2.64**	**2.25**	**2.25**	**2.17**	**2.53**	**1.60**	**2.27**	**2.00**	**1.89**

Table B.3.3.4b: PO Attainment (Indirect) (2018-22 Batch)

Survey	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
Program Exit Survey	2.53	2.45	2.40	2.38	2.43	2.48	2.55	2.53	2.44	2.51	2.45	2.47	2.42	2.38
Alumni Survey	2.80	2.67	2.61	2.60	2.49	2.61	2.77	2.70	2.66	2.62	2.62	2.61	2.65	2.66
Employer Survey	2.86	2.68	2.58	2.65	2.68	2.61	2.65	2.68	2.65	2.61	2.68	2.72	2.58	2.65
Indirect Attainment	**2.73**	**2.6**	**2.53**	**2.54**	**2.53**	**2.57**	**2.65**	**2.64**	**2.58**	**2.58**	**2.59**	**2.6**	**2.55**	**2.56**

Table B.3.3.4c: PO Attainment (Direct & Indirect) (2018-22 Batch)

PO Attainment Level	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
Direct Attainment	**2.06**	**2.13**	**2.07**	**1.95**	**1.86**	**2.64**	**2.25**	**2.25**	**2.17**	**2.53**	**1.60**	**2.27**	**2.00**	**1.89**
Indirect Attainment	**2.73**	**2.6**	**2.53**	**2.54**	**2.53**	**2.57**	**2.65**	**2.64**	**2.58**	**2.58**	**2.59**	**2.6**	**2.55**	**2.56**

Note: Add more columns as needed for *PSOs.*

Mention the type of survey conducted and the location of its source:

C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.

- Direct attainment level of a PO/PSO is determined by taking average across all courses addressing that PO/PSO.
- Indirect attainment level of a PO/PSO is determined based on the student exit surveys, employer surveys, co-curricular activities, extracurricular activities etc.

Criteria – 4
Students' Performance [100M]

Table 4.1

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	(2021-22)	CAY (20-21)	CAYm1 (19-20)	CAYm2 (18-19)	CAYm3 (17-18)	CAYm4 (16-17)	CAYm5 (15-16)	CAYm6 (14-15)
Sanctioned intake of the program (N)	120	120	120	120	120	120	120	120
Total number of students admitted in first year minus number of students migrated to other programs/institutions, plus no. of students migrated to this program (N1)	117	122	108	85	115	116	106	120
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	Yet to complete	18	15	29	27	27	27	23
Separate division students, if applicable (N3)	0	0	0	0	0	0	0	0
Total number of students admitted in the Program (N1 + N2 + N3)	117	140	123	114	142	143	133	143

Table 4.2

Year of entry	Total no of students admitted in the program N1 + N2 + N3	Number of students who have successfully graduated without backlogs in any semester/year of study (Without Backlog means no compartment or failures in any semester/year of study)			
		I Year	II Year	III Year	IV Year
2021-2022	117	91			
2020-2021 (CAY)	122	92	86		
2019-2020 (CAYm1)	123	76	68	65	
2018-2019 (CAYm2)	114	48	46	33	33
2017-2018 (CAYm3)	142	78	82	76	75
2016-2017 (LYG)	143	76	83	75	73
2015-2016 (LYGm1)	133	77	80	75	73
2014-2015	143	91	96	89	85

(LYGm2)					

Table 4.3

Year of entry	N1 + N2 + N3 (As defined above)	Number of students who have successfully graduated in stipulated period of study) [Total of with Backlog + without Backlog]			
		I Year	II Year	III Year	IV Year
2021-2022	117	116			
2020-2021 (CAY)	122	120	132		
2019-2020 (CAYm1)	123	107	118	117	
2018-2019 (CAYm2)	114	83	110	109	96
2017-2018 (CAYm3)	142	114	139	137	108
2016-2017 (LYG)	143	113	131	126	112
2015-2016 (LYGm1)	133	104	124	120	104
2014-2015 (LYGm2)	143	118	139	136	124

4.1 Enrolment Ratio (20)

Item	Sanctioned intake of the program (N)	Total number of students admitted in first year minus number of students migrated to other programs/institutions, plus no. of students migrated to this program (N1)	Enrolment Ratio= N1/N *100
2021-22	120	117	97.5
2020-21(CAY)	120	122	100
2019-20(CAYm1)	120	108	90
2018-19(CAYm2)	120	85	70.83
Average Enrolment ratio	Average [ER1+ER2+ER3]/3		95.83

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

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

Item	(2018-2019)	(2017-2018)	Last Year of Graduate, LYG (2016-2017)	Last Year of Graduate, LYG (2015-2016)	Last Year of Graduate, LYG (2014-2015)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	114	142	143	133	143

Number of students who have graduated without backlogs in the stipulated period	33	75	73	73	85
Success Index (SI)	0.29	0.53	0.51	0.55	0.59
Average SI (SI1+SI2+SI3)/3	0.4433				
Assessment: (Average SI)*15	6.65				

4.2.2 Success rate in stipulated period of study [Total of with backlog + without backlog] (5)

Item	(2018-2019)	(2017-2018)	Last Year of Graduate, LYG(2016-2017)	Last Year of Graduate, LYG(2015-2016)	Last Year of Graduate, LYG(2014-2015)
X=Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	114	142	143	133	143
Y=Number of students who have graduated without backlogs in stipulated period	96	108	112	104	124
Success Index [SI=Y/X]	0.84	0.76	0.78	0.78	0.87
Average Success Index	0.793				
Success rate	3.965				

4.3 Academic Performance in Second Year (10)

Academic Performance	2020-21	2019-2020	CAYm2 (2018-19)	CAYm3 (2017-18)	LYG (2016-17)
Mean of CGPA or Mean Percentage of all successful students (X)	7.57	7.47	7.79	7.56	7.4
Total no. of successful students (Y)	132	118	110	139	131
Total no. of students appeared in the examination (Z)	138	122	112	141	140
API = X* (Y/Z)	7.24	7.23	7.65	7.45	6.92
Average API = (AP1 + AP2 + AP3)/3	7.373				

4.4 Placement, Higher Studies and Entrepreneurship (30)

Assessment Points = 30 × average placement

Item	2018-19	(2017-18)	LYG (2016-17)	LYGm1 (2015-16)	LYGm2 (2014-15)
Total No. of Final Year Students (N)	109	137	126	120	136
No. of students placed in companies or Government Sector (x)	82	93	84	78	83
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (y)	1	5	2	3	8
No. of students turned entrepreneurs in engineering/technology (z)	1	2	3	2	2
x + y + z =	84	100	89	83	93
Placement Index : (x + y + z)/N	0.77	0.73	0.71	0.69	0.68
Average placement= (P1 + P2 + P3)/3	0.74				
Assessment Points = 30 × average placement	22.1				

4.4a. Provide the placement data in the format below with the name of the program and the assessment year

Program Name and Assessment Year: 2021-22				
Sl NO.	**Name of the student placed**	**Enrollment no.**	**Name of the Employer**	**Appointment letter reference no.**
1	ALLAM CHETHAN SAI	18341A0202	Cognizant GEN C	CognizantGENC-18341A0202-20182022
2	BALLA BHIMA LINGA SWAMY	18341A0209	Cognizant GEN C	CognizantGENC-18341A0209-20182022
3	GORU DINESHKUMAR	18341A0227	LnT	LnT-18341A0227-20182022
4	JINAGAM NITYASHREE	18341A0231	Cognizant GEN C	CognizantGENC-18341A0231-20182022
5	KUNA HARSHAVARDHAN	18341A0241	Cognizant GEN C	CognizantGENC-18341A0241-20182022
6	LOTTI KOTI	18341A0242	Cognizant GEN C	CognizantGENC-18341A0242-20182022
7	NARAMREDDY PARTHASARADHI	18341A0251	Cognizant GEN C	CognizantGENC-18341A0251-20182022
8	PITCHUKA YAMINI	18341A0256	Cognizant GEN C	CognizantGENC-18341A0256-20182022
9	PRATHIGULLA RAKESH	18341A0258	Cognizant GEN C	CognizantGENC-18341A0258-20182022
10	SATIPIDAKALA	18341A0268	Cognizant GEN C	CognizantGENC-

	SAIKUMAR			18341A0268-20182022
11	SOWMYA LOTHUGEDDA	18341A0270	Cognizant GEN C	CognizantGENC-18341A0270-20182022
12	TATIKONDA SREE TEJOMAYI YASASWINI	18341A0274	Wipro Turbo Upgrade	WiproTurboUpgrade-18341A0274-20182022
13	YABAJI RAJA SEKHAR	18341A0282	Cognizant GEN C	CognizantGENC-18341A0282-20182022
14	KARRI TEJA SRI LAKSHMI	19345A0204	Cognizant GEN C	CognizantGENC-19345A0204-20182022
15	YERIPINA SATEESH CHANDRA DEV	19345A0206	Cognizant GEN C	CognizantGENC-19345A0206-20182022
16	GEDELA BHANU PRAVEEN	18341A0225	LnT	LnT-18341A0225-20182022
17	JADDU VENKATESH	18341A0230	Cognizant GEN C	CognizantGENC-18341A0230-20182022
18	KOLLI CHAKRADHAR	18341A0237	Wipro Turbo Upgrade	WiproTurboUpgrade-18341A0237-20182022
19	MANTRALA MAHESH KUMAR	18341A0243	Wipro Turbo Upgrade	WiproTurboUpgrade-18341A0243-20182022
20	METTA VENKATA RAMANA MURTHY	18341A0246	Hexaware	Hexaware-18341A0246-20182022
21	NALLA TANUJA	18341A0249	Accenture ASE	AccentureASE-18341A0249-20182022
22	PASUPUREDDI AVINASH	18341A0253	Infosys	Infosys-18341A0253-20182022
23	SABBANA HARIKA	18341A0264	Wipro Turbo Upgrade	WiproTurboUpgrade-18341A0264-20182022
24	VANJARAPU JYOTHSNA	18341A0277	Wipro	Wipro-18341A0277-20182022
25	VAVILAPALLI SOUJANYA	18341A0278	Hexaware	Hexaware-18341A0278-20182022
26	VETSA SAI PRANEETH	18341A0281	Wipro	Wipro-18341A0281-20182022
27	YADLA PRIYANKA	18341A0283	TCS Digital	TCSDigital-18341A0283-20182022
28	ALLAMSETTI SAI TEJA	19345A0202	Cognizant GEN C	CognizantGENC-19345A0202-20182022
29	BANDARU DEVENDRA	18341A0210	Cognizant GEN C	CognizantGENC-18341A0210-20182022
30	BODDAPATI NIKHIL KUMAR	18341A0213	Cognizant GEN C	CognizantGENC-18341A0213-20182022
31	BUDIREDDY LAYLA SUDHA	18341A0217	Cognizant GEN C	CognizantGENC-18341A0217-20182022
32	CHINTHADA CHAKRADHAR	18341A0220	Cognizant GEN C	CognizantGENC-18341A0220-20182022
33	MAVUDURU SIVA SAI KRISHNA KANTH	18341A0245	Wipro Turbo Upgrade	WiproTurboUpgrade-18341A0245-20182022
34	TAMARANA SRIDEVI SATYA SIREESHA	18341A0272	Cognizant GEN C	CognizantGENC-18341A0272-20182022
35	GARIMELLA VENKATA SAI SUMANTH	19345A0207	Cognizant GEN C	CognizantGENC-19345A0207-20182022
36	GURRALA CHANDU	19345A0215	Cognizant GEN C	CognizantGENC-

	SRIKAR			19345A0215-20182022
37	GOTTAPU BHARGAV NAIDU	18341A0229	Hexaware	Hexaware-18341A0229-20182022
38	GODDU SARATH KUMAR	18341A0226	TCS Ninja	TCSNinja-18341A0226-20182022
39	NALLI CHAITANYA	18341A0250	TCS Ninja	TCSNinja-18341A0250-20182022
40	OTTIKALA GANESH	18341A0252	TCS Ninja	TCSNinja-18341A0252-20182022
41	ATLA BENARJI	18341A0207	Wipro Turbo Upgrade	WiproTurboUpgrade-18341A0207-20182022
42	VADIGI PRANEETH	18341A0275	Wipro Elite NTH	WiproEliteNTH-18341A0275-20182022
43	ANEM MADHU	18341A0205	Zensar Technologies	ZensarTechnologies-18341A0205-20182022
44	BONU VAMSI KRISHNA	18341A0216	Mphasis	Mphasis-18341A0216-20182022
45	KORIBILLI SRIKANTH	18341A0239	Mphasis	Mphasis-18341A0239-20182022
46	SAGI HARSHAVARDHAN RAJU	18341A0265	Mphasis	Mphasis-18341A0265-20182022
47	TAPPETLA TANUJKUMAR	18341A0273	Mphasis	Mphasis-18341A0273-20182022
48	SAMUDRALA AKHIL TEJA	19345A0201	Mphasis	Mphasis-19345A0201-20182022
49	MEESALA MANIKANTA	19345A0211	Zensar Technologies	ZensarTechnologies-19345A0211-20182022
50	MAHAMMAD RIYAZ	19345A0218	Mphasis	Mphasis-19345A0218-20182022
51	POTNURU VITHAL PRASADA RAO	18341A0257	HCL Technologies	HCLTechnologies-18341A0257-20182022
52	PAVAN KUMAR GADU	18341A0254	HCL Technologies	HCLTechnologies-18341A0254-20182022
53	DWARAPUREDDI PAVAN	19345A0216	Zensar Technologies	ZensarTechnologies-19345A0216-20182022
54	GADI SAI ABHIRAM	18341A0224	Pennant Technologies	PennantTechnologies-18341A0224-20182022
55	PENUMALLU PAWAN TEJA REDDY	19345A0210	Upgrade	Upgrade-19345A0210-20182022
56	ARCHANA YADAV	18341A0206	Verzeo	Verzeo-18341A0206-20182022
57	KANTA SURAJ VAMSI	18341A0234	Verzeo	Verzeo-18341A0234-20182022
58	REGIDI ANIL KUMAR	18341A0262	Verzeo	Verzeo-18341A0262-20182022
59	SASALA BHAVANI SANKAR	19345A0209	Verzeo	Verzeo-19345A0209-20182022
60	BADIJANA SANTHI SWAROOP	19345A0212	Verzeo	Verzeo-19345A0212-20182022
61	BALI SAIDEEP	18341A0208	Infosys	Infosys-18341A0208-20182022
62	RUNJALA VINOD	18341A0263	Infosys	Infosys-18341A0263-20182022

63	SAMANTHULA JHANSI RANI	18341A0267	Capgemini	Verzeo-18341A0267-20182022
64	KUPPILI BRAHMAJI	19345A0203	Infinite	Infinite-19345A0203-20182022
65	SINGUPURAM KOWSHIK	18341A0269	Wipro	Wipro-18341A0269-20182022
66	MEESALA NARENDRA	19345A0214	Wipro	Wipro-19345A0214-20182022
67	PINNINTI KAVYA	18341A0255	Wipro	Wipro-18341A0255-20182022
68	DARA SANDHYARANI	18341A0221	Wipro	Wipro-18341A0221-20182022
69	KALISETTI DAMODARA RAO	18341A0232	Capgemini	Verzeo-18341A0232-20182022
70	VAMSI KRISHNA NEELAPU	18341A0276	Capgemini	Verzeo-18341A0276-20182022
71	VAVILAPALLI TARUN	18341A0279	Capgemini	Verzeo-18341A0279-20182022
72	GOTTA BALAKRISHNA	18341A0228	GMR Group	GMRGroup-18341A0228-20182022
73	KORADA HEMANTH KUMAR	18341A0238	GMR Group	GMRGroup-18341A0238-20182022
74	MUDADLA ARAVIND	18341A0247	GMR Group	GMRGroup-18341A0247-20182022
75	RADA DEEPIKA	19345A0213	GMR Group	GMRGroup-19345A0213-20182022
76	GEDELA VIJAYA	19345A0224	GMR Group	GMRGroup-19345A0224-20182022
77	DUVVA YATHEEN KUMAR	19345A0226	GMR Group	GMRGroup-19345A0226-20182022
78	PUJARI NITHISH KUMAR	18341A0259	INFOSYS	INFOSYS-18341A0259-20182022
79	PARASANA SRUTHI	19345A0205	INFOSYS	INFOSYS-19345A0205-20182022
80	LANKALAPALLI VANI	19345A0208	INFOSYS	INFOSYS-19345A0208-20182022
81	CHINTHADA CHINNA RAO	19345A0221	INFOSYS	INFOSYS-19345A0221-20182022
82	BONU LOKESH	18341A0215	Aragon	Aragon-18341A0215-20182022

Program Name and Assessment Year: 2020-21				
Sl NO.	**Name of the student placed**	**Enrollment no.**	**Name of the Employer**	**Appointment letter reference no.**
1	YENDAPALLI UDAY KIRAN	17341A02B5	ACCENTURE	Accenture-17341A02B5-20172021
2	YANDAPALLI ADITYA SRI HARSHA	17341A02B1	CAPEGEMINI	CapeGemini-17341A02B1-20172021
3	YADLA THIRUPATHI RAO	17341A02A9	Infosys	Infosys-17341A02A9-20172021
4	VIJJAPU SAI MUKUND AMOGH	17341A02A8	Tudip Technolgies	Tudip Technolgies-17341A02A8-20172021

5	V.V.S. SIVA SAI	17341A02A7	Tech.Integ.Pvt.Ltd	Tech.Integ.Pvt.Ltd-17341A02A7-20172021
6	V.RUPAKALAVATHI	18345A0218	Prolifics	Prolifics-18345A0218-20172021
7	TUTIKA CHAITANYA SANGEETHA	17341A02A4	Infosys	Infosys-17341A02A4-20172021
8	Tumula Samyuktha	17341A02A3	TCS NQT	TCS NQT-17341A02A3-20172021
9	THOTA SAI AVINASH	17341A02A2	Wipro	Wipro-17341A02A2-20172021
10	SUJITH KUMAR DARAPUREDDI	17341A0299	MINDTREE	Mindtree-17341A0299-20172021
11	SUDIKONDA SANTOSH	17341A0298	TCS NQT	TCS NQT-17341A0298-20172021
12	SIMMA PARDHA SARADHI	17341A0295	Everest Industries	Everest Industries-17341A0295-20172021
13	SANKAR MAHARANA	17341A0294	MINDTREE	Mindtree-17341A0294-20172021
14	SANAPATHI RAMADEVI	17341A0293	Graphane Health Tech	Graphane Health Tech-17341A0293-20172021
15	SAI CHARAN	17341A0259	KPIT	DKPIT-17341A0259-20172021
16	RUKANANA SRAVAN KUMAR	17341A0291	ACCENTURE	Accenture-17341A0291-20172021
17	RATNALA PRANEETH	17341A0289	Lampex	Lampex-17341A0289-20172021
18	RAGOLU SRAVAN KUMAR	18345A0201	Infosys	Infosys-18345A0201-20172021
19	R. BALAJI CHOWDARY	17341A0288	Graphane Health Tech	Graphane Health Tech-17341A0288-20172021
20	PULAKHANDAM SIVA SANTHOSH	17341A0287	THIS	THIS-17341A0287-20172021
21	PRIYANKA GANDRETI	17341A0235	Graphane Health Tech	Graphane Health Tech-17341A0235-20172021
22	POTNURU SHYAM KUMAR	17341A0286	MINDTREE	Mindtree-17341A0286-20172021
23	POTNURU NAVYA	17341A0285	TCS NQT	TCS NQT-17341A0285-20172021
24	POTHURAJU MOHAN SAI	17341A0283	Tudip Technolgies	Tudip Technolgies-17341A0283-20172021
25	PISINI SEKHAR	17341A0282	Tudip Technolgies	Tudip Technolgies-17341A0282-20172021
26	PINNINTI DEEPIKA	17341A0281	Cognizant(GEN C)	Cognizant (GEN C)-17341A0281-20172021
27	PALAVALASA ASHAA SWAROOP	17341A0279	Tudip Technolgies	Tudip Technolgies-17341A0279-20172021
28	PALAVALASA AKHIL KUMAR	18345A0211	Diagonal	DIAGNOL-18345A0211-20172021
29	PALAPARTHI VENKAT SUDEEP	18345A0203	TCS NQT	TCS NQT-18345A0203-20172021
30	P.PRASUNA	17341A0280	Infosys	Infosys-17341A0280-20172021
31	NAYANA HARIKA	17341A0274	CAPEGEMINI	CapeGemini-17341A0274-20172021

32	NATTALA VINAY KUMAR	17341A0273	Diagonal	DIAGNOL-17341A0273-20172021
33	Narra Sai Keerthana Reddy	17341A0272	Decimal	Decimal-17341A0272-20172021
34	NAGIREDDI HIMAVARDHAN	18345A0217	TCS NQT	TCS NQT-18345A0217-20172021
35	MUPPIDI NAGA VARDHANREDDY	18345A0205	Everest Industries	Everest Industries-18345A0205-20172021
36	MIRIYALA RAMBABU	17341A0267	MINDTREE	Mindtree-17341A0267-20172021
37	METTA JASHMITHA	17341A0266	Cognizant (GEN C)	Cognizant (GEN C)-17341A0266-20172021
38	MERAKA MOUNIKA	17341A0265	Prolifics	Prolifics-17341A0265-20172021
39	MEESALA SURESH KUMAR	18345A0226	Synapse	Synapse-18345A0226-20172021
40	MARICHERLA PRASANNA	18345A0213	TCS NQT	TCS NQT-18345A0213-20172021
41	MAJJI MANIKANTA	17341A0263	TCS NQT	TCS NQT-17341A0263-20172021
42	M.BHAGAVAN SAI NAIDU	17341A0264	Whisk	Whisk-17341A0264-20172021
43	M Vinay	18345A0214	TCS NQT	TCS NQT-18345A0214-20172021
44	KOTTAPALLI INDUMATHI	18345A0216	Graphane Health Tech	Graphane Health Tech-18345A0216-20172021
45	KOLLA BHAVANA	17341A0257	HEXAWARE	Hexaware-17341A0257-20172021
46	KILARI MAHIMA CHOWDARY	17341A0256	TCS NQT	TCS NQT-17341A0256-20172021
47	KATHA HARSHITHA	18345A0212	BrightChamps	BrightChamps-18345A0212-20172021
48	Kanugula Ganesh	17341A0254	Wipro	Wipro-17341A0254-20172021
49	KANCHARLA NIKHIL	17341A0252	Global Logic	Global Logic-17341A0252-20172021
50	K. UDAYA KUMARI	17341A0261	Prolifics	Prolifics-17341A0261-20172021
51	K SANTOSH KUMAR	18345A0225	Diagonal	DIAGNOL-18345A0225-20172021
52	JANNI RAJKIRAN	17341A0251	ACCENTURE	Accenture-17341A0251-20172021
53	JAMI HEMKUMAR	17341A0249	KPIT	KPIT-17341A0249-20172021
54	JALUMURU AKHILA	17341A0248	TCS NQT	TCS NQT-17341A0248-20172021
55	JAGANA CHANDANA	17341A0247	TCS NQT	TCS NQT-17341A0247-20172021
56	Jaddu Eswara Narayana	17341A0246	Infosys	Infosys-17341A0246-20172021
57	Hanumanthu srinivas	17341A0245	ACCENTURE	Accenture-17341A0245-20172021
58	GURUGUBELLI BHARGAVI	17341A0244	ACCENTURE	Accenture-17341A0244-20172021

59	GULLIPALLI DILIP KUMAR	16341A0225	ACCENTURE	Accenture-16341A0225-20172021
60	GUDLA ASHOK	17341A0243	Wipro	Wipro-17341A0243-20172021
61	GUDLA ADITYA	17341A0242	Tudip Technolgies	Tudip Technolgies-17341A0242-20172021
62	GADHAMSETTI RANGA CHARAN	17341A0234	ACCENTURE	Accenture-17341A0234-20172021
63	G.REVANTH	17341A0239	KPIT	KPIT-17341A0239-20172021
64	G.MANIKANTA	17341A0236	KPIT	KPIT-17341A0236-20172021
65	EMANI VENKATA SOWMWIKA	17341A0232	TCS NQT	TCS NQT-17341A0232-20172021
66	E. SWAMY	17341A0233	TCS NQT	TCS NQT-17341A0233-20172021
67	DUNGA SHARMILA	17341A0231	Infosys	Infosys-17341A0231-20172021
68	DUDDE SAI PRANEETH	17341A0230	HCL TECHNOLOGIES	HCL-17341A0230-20172021
69	DUBA DINESH	17341A0229	Infosys	Infosys-17341A0229-20172021
70	DAMARASINGU THARUN SAI	17341A0226	HEXAWARE	Hexaware-17341A0226-20172021
71	D.SHALEM RAJ	17341A0227	Shripad	Shripad-17341A0227-20172021
72	CHONGA JASWANTH NAIDU	17341A0225	CAPEGEMINI	CapeGemini-17341A0225-20172021
73	CHENNAPRAGADA SURYATEJA	17341A0221	Cognizant(GEN C)	Cognizant (GEN C)-17341A0221-20172021
74	CHAMARATHI ADITHYA	17341A0219	TCS NQT	TCS NQT-17341A0219-20172021
75	CHALAMALA MAHESH	17341A0218	TCS NQT	TCS NQT-17341A0218-20172021
76	CH.RAM CHARAN TEJ	17341A0223	Prolifics	Prolifics-17341A0223-20172021
77	BYRA LAVA RAJU	17341A0217	TCS Codevita	TCS Codevita-17341A0217-20172021
78	BUSARI MADHUSUDHAN RAO	17341A0216	MINDTREE	Mindtree-17341A0216-20172021
79	BUKKA SNEHA	17341A0215	TCS NQT	TCS NQT-17341A0215-20172021
80	BUDUMURU BHANU KIRAN	18345A0222	Diagonal	DIAGNOL-18345A0222-20172021
81	BORA BHAVANI REDDY	17341A0214	Prolifics	Prolifics-17341A0214-20172021
82	BONDADA CHANDRA KIRAN	17341A0213	Infosys	Infosys-17341A0213-20172021
83	BHAVIRTHI GANESH	17341A0212	MINDTREE	Mindtree-17341A0212-20172021
84	BEVARA KALYAN CHAKRAVART	17341A0211	TCS NQT	TCS NQT-17341A0211-20172021
85	BERI BHAGYARAJU	17341A0210	Diagonal	DIAGNOL-17341A0210-20172021

86	BAMMIDI LIKHITHA	17341A0209	Infosys	Infosys-17341A0209-20172021
87	BAGADI SAIKUMAR	17341A0208	ACCENTURE	Accenture-17341A0208-20172021
88	B.HARISH KUMAR	18345A0221	adecco	Adecco-18345A0221-20172021
89	Asapu Mahendra Sai	17341A0207	Infosys	Infosys-17341A0207-20172021
90	ANDHAVARAPU MANOJ	17341A0205	Tudip Technolgies	Tudip Technolgies-17341A0205-20172021
91	AMPOLU RAKESH SAI	17341A0204	Tudip Technolgies	Tudip Technolgies-17341A0204-20172021
92	ALTHI VENKATA SURYA SATYA HARIKA	17341A0202	Diagonal	DIAGNOL-17341A0202-20172021
93	A SHIVAANI	17341A0201	Infosys	Infosys-17341A0201-20172021

Program Name and Assessment Year: 2019-20

S.No.	Name of the student placed	Enrollment no.	Name of the Employer	Appointment letter reference no.
1	BUKKURU POOJA	16341A0215	BEUMER	BEUMER-16341A0215-20162020
2	GOPALASETTI JAGANMOHANA RAO	16341A0223	BEUMER	BEUMER-16341A0223-20162020
3	GURUNA LATHA	16341A0227	BEUMER	BEUMER-16341A0227-20162020
4	CHINTALAPATI BHARAT VARMA	16341A0216	BEUMER	BEUMER-16341A0216-20162020
5	KATRAHADDA ROHITH KANTH	16341A0242	BEUMER	BEUMER-16341A0242 -20162020
6	LADE NAVYA	16341A0254	BEUMER	BEUMER-16341A0254-20162020
7	SETTI GANESH	17345A0220	BEUMER	BEUMER-17345A0220-20162020
8	YAMANA VENKATA SIVA PRASAD	16341A02B4	BEUMER	BEUMER-16341A02B4-20162020
9	SHAIK NASREEN	17345A0205	BEUMER	BEUMER-17345A0205-20162020
10	BANALA SUKANYA	17345A0217	BEUMER	BEUMER-17345A0217-20162020
11	BOMMANA BABJI	16341A0214	BYJU'S	BYJU-16341A0214-

				20162020
12	KONDAKA NITISH DAL	16341A0247	BYJU'S	BYJU-16341A0247-20162020
13	KUNUKU ACHYUTA RAO	16341A0252	BYJU'S	BYJU-16341A0252-20162020
14	NARAYANASETTY SAI CHARAN	16341A0270	BYJU'S	BYJU-16341A0270-20162020
15	VOLANGI VIKASH	16341A02B1	BYJU'S	BYJU-16341A02B1-20162020
16	ANUMALUSETTY MANIKANTA	16341A0205	CAPITALVIA	CAPITALVIA-16341A0205-20162020
17	R HARI KRISHNA	16341A0284	CAPITALVIA	CAPITALVIA-16341A0284-20162020
18	IPPILI NAVEEN	16341A0228	CERIUM	CERIUM-16341A0228-20162020
19	KATTA CHINNA RAJA	17345A0204	CERIUM	CERIUM-17345A0204-20162020
20	KROVVIDI SITA SRIVANI	16341A0251	CERIUM	CERIUM-16341A0251-20162020
21	MUKKAMULA SAGAR	16341A0265	CERIUM	CERIUM-16341A0265-20162020
22	TULUGU CHARAN BABU	16341A02A7	CERIUM	CERIUM-16341A02A7-20162020
23	PERURI BHARATH SANGAVEER	16341A0281	CGI	CGI-16341A0281-20162020
24	KANDREGULA SRINIVAS SHYAM	16341A0236	CTS	CTS-16341A0236-20162020
25	KAPU AVINASH	16341A0238	CTS	CTS-16341A0238-20162020
26	KONISA RAJESH	16341A0248	CTS	CTS-16341A0248-20162020
27	GANGISETTI VENKATESH	17345A0203	DIOGNAL	DIOGNAL-17345A0203-20162020
28	LOKAVARAPU SIVA	16341A0256	DIOGNAL	DIOGNAL-16341A0256-20162020
29	PULIBANTI ESWAR SAI	16341A0282	DIOGNAL	DIOGNAL-16341A0282-20162020
30	SABBAVARAPU AYYAPPA	16341A0287	DIOGNAL	DIOGNAL-16341A0287-20162020
31	SIMHADRI HEMANTH	16341A0293	DIOGNAL	DIOGNAL-16341A0293-20162020
32	KONNA RANI	16341A0249	GLOBAL LOGIC	GLOBALLOGIC-

				16341A0249-20162020
33	KARI PAVITRA	16341A0240	GLOBAL LOGIC	GLOBALLOGIC-16341A0240-20162020
34	PATHINA VENKATESH NAIDU	16341A0278	GLOBAL LOGIC	GLOBAL LOGIC-16341A0278-20162020
35	MUTTARALA RAHUL JENNY	16341A0267	GMR GROUP	GMRGROUP-16341A0267-20162020
36	RONGALI GOWRI SHANKAR SAI	16341A0285	GMR GROUP	GMRGROUP-16341A0285-20162020
37	APPIKONDA PAVAN KUMAR	16341A0206	GMR GROUP	GMRGROUP-16341A0206-20162020
38	BADAM MANIKANTA SATYA SAI	17345A0211	GMR GROUP	GMRGROUP-17345A0211-20162020
39	BADANA MANASA	16341A0207	GMR GROUP	GMRGROUP-16341A0207-20162020
40	BHADRAGIRI EESWAR	16341A0211	GMR GROUP	GMRGROUP-16341A0211-20162020
41	CHALLAPALLI SAI DURGA PRASAD	17345A0226	GMR GROUP	GMRGROUP-17345A0226-20162020
42	GONDELA UMAMAHESWARI	16341A0222	GMR GROUP	GMRGROUP-16341A0222-20162020
43	GORLE GANESH	16341A0224	GMR GROUP	GMRROUP-16341A0224-20162020
44	KAMUJU ESWARA RAGHU CHAITANYA	16341A0234	GMR GROUP	GMRGROUP-16341A0234-20162020
45	KANKANALA PURNA CHANDRA RAO	16341A0237	GMR GROUP	GMRGROUP-16341A0237-20162020
46	LAVETI JOGA RAO	16341A0255	GMR GROUP	GMRGROUP-16341A0255-20162020
47	MANISHA BEVARA	16341A0259	GMR GROUP	GMRGROUP-16341A0259-20162020
48	MANTRIPRAGADA RAVI TEJA	16341A0260	GMR GROUP	GMRGROUP-16341A0260-20162020
49	MEESALA GANESH	16341A0262	GMR GROUP	GMRGROUP-16341A0262-20162020
50	PALAVALASA BHAGYA SRI	16341A0271	GMR GROUP	GMRGROUP-16341A0271-

				20162020
51	SAGARAPU JAYANTH KUMAR	16341A0288	GMR GROUP	GMRGROUP-16341A0288-20162020
52	SURISETTY BHOJ RAJ	16341A0297	GMR GROUP	GMRGROUP-16341A0297-20162020
53	DUVVADA TARUN	16341A0218	HCL TECHNOLOGY	HCLTEC-16341A0218-20162020
54	PARUVADA BHAVANI SRI SRAVANTHI	16341A0276	HCL TECHNOLOGY	HCLTEC-16341A0276-20162020
55	GUNTAMUKKALA AMRUTHA	16341A0226	HCL TECHNOLOGY	HCLTEC-16341A0226-20162020
56	NALLA HARI CHANDANA	16341A0269	HCL TECHNOLOGY	HCLTEC-16341A0269-20162020
57	SOMARAJU NAVEEN	16341A0294	HCL TECHNOLOGY	HCLTEC-16341A0294-20162020
58	SAVIRIGANA MOHINI	17345A0208	HCL TECHNOLOGY	HCLTEC-17345A0208-20162020
59	VINNAKOTA MADHUMITHA	16341A02B0	HEXAWARE	HEXAWARE-16341A02B0-20162020
60	SUVVARI YAGNAPRIYA	17345A0214	HEXAWARE	HEXAWARE-17345A0214-20162020
61	A SAI SARAN	16341A0201	T TEC	TTEC-16341A0201-20162020
62	TELAPALLI MADHURI	16341A02A0	T TEC	TTEC-16341A02A0-20162020
63	TOLAPU NAVEEN KUMAR	16341A02A5	T TEC	TTEC-16341A02A5-20162020
64	MIDATANA ADITYA	16341A0264	T TEC	TTEC-16341A0264-20162020
65	BODDEDA VENKATA SAI PRANATHI	16341A0213	TCS NINJA	TCSNINJA-16341A0213-20162020
66	DURGA LAKSHMI PRASANNA	17345A0201	TCS NINJA	TCSNINJA-17345A0201-20162020
67	GADIYARAM SRI CHANDRALEKHA	16341A0220	TCS NINJA	TCSNINJA-16341A0220-20162020
68	MUKKU VENKATA DURGA PRASAD	16341A0266	TCS NINJA	TCSNINJA-16341A0266-20162020
69	PALEPU DEVI PRASANNA	16341A0272	TCS NINJA	TCSNINJA-16341A0272-20162020

70	THOTAKURA AYYAPPA	16341A02A2	TCS NINJA	TCSNINJA-16341A02A2-20162020
71	VANA LAXMAN	17345A0224	TCS NINJA	TCSNINJA-17345A0224-20162020
72	VEERAVALLI VISHNU VARDHAN BABU	16341A02A9	TCS NINJA	TCSNINJA-16341A02A9-20162020
73	VYSYARAJU LAVANYA	16341A02B2	TCS NINJA	TCSNINJA-16341A02B2-20162020
74	VADITHE BHAVANI SANKAR NAIK	16341A02A8	TOPPR	TOPPR-16341A02A8-20162020
75	YENNE RASMITHA	16341A02B6	TOPPR	TOPPR-16341A02B6-20162020
76	BARATAM SOMA SEKHAR	16341A0208	WIPRO	WIPRO-16341A0208-20162020
77	NADIPALLI SWETHA	16341A0268	WIPRO	WIPRO-16341A0268-20162020
78	SAI AMBHIKA KURADA	16341A0290	WIPRO	WIPRO-16341A0290-20162020
79	TELIKICHERLA KARTIK	16341A02A1	WIPRO	WIPRO-16341A02A1-20162020
80	KALYANA RAMU	16341A0233	XL DYNAMICS	XLDYNAMICS-16341A0233-20162020
81	KANDAPU RAJESWARI	16341A0235	XL DYNAMICS	XLDYNAMICS-16341A0235-20162020
82	LINGUBERI SRAVANI	17345A0218	XL DYNAMICS	XLDYNAMICS-17345A0218-20162020
83	PASAGADUGULA SURYA SAI KUMAR	16341A0277	XL DYNAMICS	XLDYNAMICS-16341A0277-20162020
84	SAGIRAJU NAVYA	16341A0289	XL DYNAMICS	XLDYNAMICS-16341A0289-20162020

Higher Education:

S.No	Name of student enrolling into higher education	Program graduated from	Name of institution joined	Name of programme admitted to
1	SIVA SAI KRISHNA KANTH MAVUDURU	2022	IIT-BHUBANESWAR	M.TECH(PED)
2	SAMANTHULA	2021	JNTU-K	M.TECH(PEDR)

	AMRUTHA			
3	REGIDI USHA RANI	2021	AU	M.TECH(CNTS)
4	PAIDI RAVI	2021	AU	M.TECH(CNTS)
5	SAI PRAKASH DEVIREDDY	2021	Wichita State University	Masters in Computer Science
6	SONTI SAI SATWIK	2021	TEXAS A&M UNIVERSITY COMMERCE	Masters in Computer Science
7	BHADRAGIRI EESWAR	2020	JNTUV	M.TECH
8	PAVAN KALYAN RAJU KURICHATE	2020	IIT KHARAGPUR	M.TECH

4.5 Professional Activities (20)

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

Indian Society for Technical Education (ISTE)

The Indian Society for Technical Education is a national, professional, non-profit Society registered under the Indian Societies Registration Act of 1860. ISTE has an Executive Council at National level. The major objective of the ISTE is to assist and contribute in the production and development of top-quality professional engineers and technicians needed by the industries and other organizations. Being the only national organization of educators in the field of Engineering and Technology, ISTE effectively contributes to various missions of the Union Government. The Ministry of Human Resource Development, CTE/Department of Science and technology/MIT/State governments are well associated with the ISTE for programmes relating to technical education. The ISTE Student Chapter of GMRIT regularly conducts various events for the benefit of student members. It arranges technical talks by prominent speakers in different fields of engineering & technology.

ISTE events conducted in AY:2021-22

S.No	Date	Name of the event	Number of participants
1	16.08.21	Techtalk	14
2	26.08.21	Debate	16
3	04.02.22	Technical writing	22
4	18.02.22	Group discussion	24
5	04.03.22	Technical quiz	20
6	25.03.22	Poster presentation	6
7	01.04.22	Circuithan	19
8	29.04.22	Ideathon	16
9	06.05.22	Talkathon	11

ISTE events conducted in AY:2020-21

S.No	Date	Name of the event	Number of participants
1	22.05.21	Tech Quiz	85
2	5.06.21	Circuit debugging	34
3	6.06.21	Guest lecture	132
4	12.06.21	Guest lecture	123

ISTE events conducted in AY:2019-20

S.No	Date	Name of the event	Number of participants
1	11.09.19	Guest lecture	86

List of Guest Lectures conducted in AY:2021-22

S.No	Date	Topic	Name of Resource Person	Number of participants
1	16/11/21	Challenges and Opportunities for electrical engineers	Mr. P. Ram Prasad	63
2	23-11-21	Importance of Competitive examinations	Mr. C. Kanakeyah Naidu	62
3	23-11-2021	Careers and Opportunities for Electrical engineers in Industries on	Mr. Riaz Ahmed	61
4	09-03-2022	Importance of Excitation systems in Industries	Mr P Nishanth	63
5	02-03-2022	Scopes and Prospects of Civil Services on	Mrs. Ramya Metta,	60

List of Guest Lectures conducted in AY:2020-21

S.No	Date	Topic	Name of Resource Person	Number of participants
1	29/8/20	Necessity of Skill Enhancement during new Normalcy of COVID-19	Mr. Sunil Kalepu	86
2	13/9/20	Project Management	Mr. Ravi Kota	92
3	27/9/20	Career Opportunities in Electrical Engineering	Mr. Bhaskararao Kilari	83
4	4/10/20	Career Opportunities in Electrical Engineering	Ms. Sweta Molugu	78
5	17/10/20	Wind Turbine and its application	Mr.Moghal Amjad Baig	66

List of Guest Lectures conducted in AY:2019-20

S.No	Date	Topic	Name of Resource Person	Number of participants
1	11/9/19	Maintenance and Operation of Electrical equipment used in Vizag steel plant	Sri M. Sridhar	192

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

Issues released: (Technical Magazine)

S. No.	Name of the Author	Title of the Technical Magazines/ Newsletters published	National / International	Name of the publisher	Name of the Editor	Year of publication	Affiliating Institute at the time of publication
1	Dr.K.Karthick	Newsletter - Vol 7 No.2	National	GMRIT	Dr.P.Ramana	2022	GMR Institute of Technology
2	Dr.K.Karthick	Newsletter - Vol 7 No.1	National	GMRIT	Dr.P.Ramana	2021	GMR Institute of Technology
3	Dr.K.Karthick	Newsletter - Vol 6 No.2	National	GMRIT	Dr.P.Ramana	2021	GMR Institute of Technology
4	Dr.K.Karthick	Newsletter - Vol 6 No.1	National	GMRIT	Dr.P.Ramana	2020	GMR Institute of Technology
5	Dr.K.Karthick	Newsletter - Vol 5 No.2	National	GMRIT	Dr.P.Ramana	2020	GMR Institute of Technology
6	Dr.K.Karthick	Newsletter - Vol 5 No.1	National	GMRIT	Dr.P.Ramana	2019	GMR Institute of Technology

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

Students are encouraged and motivated to participate in various contests at inter-institute level and won awards & rewards in various contests

AY	No. of students awards
2019-20	20

2019-2020 - List of Achievers

S.no	Name of the Student	Date of the event	Name of the Event/ Competition	Organized University/ Institute	Prize
1.	R.BHANU PRAKASH	31-01-20	SHORT FILM	VIGNAN'S UNIVERSITY, GUNTUR	2nd
2.	P.PAVAN KUMAR	31-01-20	SHORT FILM	VIGNAN'S UNIVERSITY,	2nd

				GUNTUR	
3.	U.PRAVEEN	31-01-20	SHORT FILM	VIGNAN'S UNIVERSITY, GUNTUR	2nd
4.	D.SUJITH KUMAR	03-01-10	PAPER PRESENTATIO N	USHA RAMA COLLEGE OF ENGINEERING AND TECHNOLOGY,TELAPROLU	2nd
5.	J.VISHNU TEJA	03-01-10	PROJECT EXPO	USHA RAMA COLLEGE OF ENGINEERING AND TECHNOLOGY,TELAPROLU	2nd
6.	J.VISHNU TEJA	03-01-10	PAPER PRESENTATIO N	USHA RAMA COLLEGE OF ENGINEERING AND TECHNOLOGY,TELAPROLU	2nd
7.	G.DILIP KUMAR	03-01-10	POSTER PRESENTATIO N	USHA RAMA COLLEGE OF ENGINEERING AND TECHNOLOGY,TELAPROLU	2nd
8.	G.DILIP KUMAR	03-01-10	PROJECT EXPO	USHA RAMA COLLEGE OF ENGINEERING AND TECHNOLOGY,TELAPROLU	2nd
9.	E.VENKATA SOUMIKA	20-21/12/2019	PROJECT DESIGN CONTEST	S.R.K.R.ENGINEERING COLLEGE,BHIMAVARAM	1st
10.	E.VENKATA SOUMIKA	20-21/12/2019	PAPER PRESENTATIO N	S.R.K.R.ENGINEERING COLLEGE,BHIMAVARAM	1st
11.	N.SAI KEERTHANA	20-21/12/2019	PROJECT EXPO	S.R.K.R.ENGINEERING COLLEGE,BHIMAVARAM	1st
12.	CH,ADITYA	20-21/12/2019	PROJECT DESIGN CONTEST	S.R.K.R.ENGINEERING COLLEGE,BHIMAVARAM	1st
13.	JANAKI RAJKIRAN	6-9/01/2010	TECHNICAL EVENT	RAGHU ENGINEERING COLLEGE,VISAKHAPATNAM	1st
14.	GUDLA ADITY	6-9/01/2010	TECHNICAL EVENT	RAGHU ENGINEERING COLLEGE,VISAKHAPATNAM	1st
15.	P.VENKAT SUDEEP	6-9/01/2010	TECHNICAL EVENT	RAGHU ENGINEERING COLLEGE,VISAKHAPATNAM	1st

16.	K.BHAVANA	6-9/01/2010	TECHNICAL EVENT	RAGHU ENGINEERING COLLEGE,VISAKHAPATNAM	1st
17.	CH.MAHESH	6-9/01/2010	TECHNICAL EVENT	RAGHU ENGINEERING COLLEGE,VISAKHAPATNAM	3rd
18.	CHONGA JASEANTH NAIDU	6-9/01/2010	TECHNICAL EVENT	RAGHU ENGINEERING COLLEGE,VISAKHAPATNAM	3rd
19.	MEESALA SURESH KUMAR	Oct-19	ON LINE CERTIFICATE	NPTERL ONLINE CERTIFICATION	45%
20.	YAMAKA THOSAMA	01-10-19	INTERNATIONAL JOURNAL OF RESEARCH IN ENGINEERING	JOURNAL	PARTICIPATION

Participation in other states-institute events by students of the program of study

AY	External Events	No. of students participated
2021-22	2	58
2020-21	6	109
2019-20	6	14

List of students participated in various events (other states) for the AY: 2021-2022

S.No	Admn.No	Student Name	PPT/WS/PDC/TE/IB/PE/Online Course	Title of PPT/WS/PDC/TE/IB/PE	Organized by	Date of the Event	Prize/Participation
1	19341A0215	SARATH CHANDRA BOKKELA	Online Course	Virtual workshop on Arduino	Kakatiya Institute of Technology and Sciences	30.05.2021	Participation
2	19341A0245	AASTHA KOTTEDA	Online Course	Virtual workshop on Arduino	Kakatiya Institute of Technology and Sciences	30.05.2021	Participation
3	20341A02A2	SANAGALA NAVEEN	Online Course	Blue Prism® Associate Developer (EN-2021) Learning Plan	Blue prism 04/04/2022	04.04.2022	Participation

4	20341A02B0	SONNAI HEMANTH	Online Course	Blue Prism® Associate Developer (EN-2021) Learning Plan	Blue prism 04/04/2022	04.04.2022	Participation
5	20341A02B5	USIRIKAY6ALA SAINADH	Online Course	Fundamentals of SOC	Palo Alto networks 20/04/2022	20.04.2022	Participation
6	20341A0206	ATTI ALEKYA	Online Course	Introduction to Cyber security	Palo Alto networks 04/04/2022	04.04.2022	Participation
7	20341A0212	BHOGI JAYARAM	Online Course	Introduction to Cyber security	Palo Alto networks 04/04/2022	04.04.2022	Participation
8	20341A0216	BONU YOGESH	Online Course	Introduction to Cyber security	Palo Alto networks 04/04/2022	04.04.2022	Participation
9	20341A0217	BUDDEPU HARIKA	Online Course	Fundamentals of SOC	Palo Alto networks 20/04/2022	20.04.2022	Participation
10	20341A0227	DARLA NAGA SAI KRISHNA	Online Course	Blue Prism® Associate Developer (EN-2021) Learning Plan	Blue prism 04/04/2022	04.04.2022	Participation
11	20341A0227	DARLA NAGA SAI KRISHNA	Online Course	Fundamentals of SOC	Palo Alto networks 20/04/2022	20.04.2022	Participation
12	20341A0236	DUBA SAI KIRAN	Online Course	Blue Prism® Associate Developer (EN-2021) Learning Plan	Blue prism 04/04/2022	04.04.2022	Participation
13	20341A0245	GORLE LALITHA	Online Course	Introduction to Cyber security	Palo Alto networks 04/04/2	04.04.2022	Participation

					022		
14	20341A0247	GUDLA SAI SUNDAR	Online Course	Fundamentals of SOC	Palo Alto networks 20/04/2022	20.04.2022	Participation
15	20341A0251	JADA SAI KIRAN	Online Course	Blue Prism® Associate Developer (EN-2021) Learning Plan	Blue prism 04/04/2022		Participation
16	20341A0256	JARJANA MURALI KRISHNA	Online Course	Fundamentals of SOC	Palo Alto networks 20/04/2022	04.04.2022	Participation
17	20341A0268	KOSIREDDY SANTOSH KUMAR	Online Course	Fundamentals of SOC	Palo Alto networks 20/04/2022		Participation
18	20341A0275	MADHA RISHIKA	Online Course	Introduction to Cyber security	Palo Alto networks 04/04/2022	20.04.2022	Participation
19	20341A0278	MANISH SANAPALA	Online Course	Introduction to Cyber security	Palo Alto networks 04/04/2022		Participation
20	20341A0281	MARTURU HINDUJA	Online Course	Fundamentals of SOC	Palo Alto networks 20/04/2022	20.04.2022	Participation
21	20341A0282	MATCHA DINESH	Online Course	Blue Prism® Associate Developer (EN-2021) Learning Plan	Blue prism 04/04/2022		Participation
22	20341A0291	PALLI HARI	Online Course	Introduction to Cyber security	Palo Alto networks 04/04/2022	04.04.2022	Participation
23	20341A0295	POREDDI MUKHESH	Online Course	Blue Prism® Associate Developer	Blue prism 04/04/2		Participation

				(EN-2021) Learning Plan	022		
24	19341A0269	P. UDAY KIRAN	Online Course	Python for beginners	Skillup 24/02/2022	04.04.2022	Participation
25	19341A0269	P. UDAY KIRAN	Online Course	A virtual community for startups	Udemy 08/10/2020		Participation
26	19341A0269	P. UDAY KIRAN	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022	20.04.2022	Participation
27	19341A0281	S N V D JAGADEESH	Online Course	Python for beginners	Skillup 24/02/2022		Participation
28	19341A0281	S N V D JAGADEESH	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022	04.04.2022	Participation
29	19341A0282	S. JYOSHNA	Online Course	Python for beginners	Skillup 24/02/2022		Participation
30	19341A0282	S. JYOSHNA	Online Course	Wind energy power conversion	Pantech solutions 19/06/2021	04.04.2022	Participation
31	19341A0283	S. SAI CHATURYA	Online Course	Python for beginners	Skillup 24/02/2022		Participation
32	19341A0286	SATYAVARAPU AKASH	Online Course	Python for beginners	Skillup 24/02/2022	04.04.2022	Participation
33	19341A0286	SATYAVARAPU AKASH	Online Course	30days master class on python programming	Pantech solutions 29/03/2022		Participation
34	19341A0286	SATYAVARAPU AKASH	Online Course	Wind energy power conversion	Pantech solutions 19/06/2021	24.02.2022	Participation
35	19341A0286	SATYAVARAPU AKASH	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022		Participation

36	19341A0289	S. NIKHILA	Online Course	Python for beginners	Skillup 24/02/2022	08.10.2020	Participation
37	19341A0290	S. SAI SATYA	Online Course	Python for beginners	Skillup 24/02/2022		Participation
38	19341A0283	S. SAI CHATURYA	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022	02.04.2022	Participation
39	19341A0286	SATYAVARAPU AKASH	Online Course	30days master class on artificial intelligence	Pantech solutions 04/01/2022		Participation
40	19341A0290	S. SAI SATYA	Online Course	30days master class on python programming	Pantech solutions 29/03/2022	24.02.2022	Participation
41	19341A0290	S. SAI SATYA	Online Course	Wind energy power conversion	Pantech solutions 19/06/2021		Participation
42	19341A0290	S. SAI SATYA	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022	02.04.2022	Participation
43	19341A0293	S. SAINADH	Online Course	Wind energy power conversion	Pantech solutions 19/06/2021		Participation
44	18341A0205	ANEM MADHU	Online Course	Python for beginners	Skillup 24/02/2022	24.02.2022	Participation
45	18341A0208	BALI SAIDEEP	Online Course	Python for beginners	Skillup 24/02/2022		Participation
46	18341A0215	BONU LOKESH	Online Course	Python for beginners	Skillup 24/02/2022	19.06.2021	Participation
47	18341A0224	GADI SAI ABHIRAM	Online Course	Python for beginners	Skillup 24/02/2022		Participation
48	18341A0229	GOTTAPU BHARGAV NAIDU	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2	24.02.2022	Participation

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49	18341A0230	JADDU VENKATESH	Online Course	Python for beginners	Skillup 24/02/2022		Participation
50	18341A0234	KANTA SURAJ VAMSI	Online Course	Foundations of Artificial Intelligence	Skillup 20/05/2021	24.02.2022	Participation
51	18341A0240	KORUPROLU SATYA SAI RAJ	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022		Participation
52	18341A0252	OTTIKALA GANESH	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022	29.03.2022	Participation
53	18341A0259	PUJARI NITHISH KUMAR	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022		Participation
54	18341A0263	RUNJALA VINOD	Online Course	How to Prepare for Software Interviews Bootcamp	Skill Academy 02/04/2022	19.06.2021	Participation
55	18341A0271	SURAGALA MANOJ	Online Course	Foundations of Artificial Intelligence	Skillup 20/05/2021		Participation
56	18341A0276	VAMSI KRISHNA NEELAPU	Online Course	Foundations of Artificial Intelligence	Skillup 20/05/2021	02.04.2022	Participation
57	18341A0279	VAVILAPALLI TARUN	Online Course	Foundations of Artificial Intelligence	Skillup 20/05/2021		Participation
58	19345A0220	NAMBARU SRINIVASU	Online Course	Foundations of Artificial Intelligence	Skillup 20/05/2021	24.02.2022	Participation

List of Students Participated in various events (other states) for the AY: 2020-2021

S.No	Admn.No	Student Name	PPT/WS/PDC/TE/IB/PE/Online Course	Title of PPT/WS/PDC/TE/IB/PE	Organized by	Date of the Event	Prize/Participation
1	17341A0201	A SHIVAANI	Online course	RPA technology	Blue Prism	20/08/2020	Participation

2	17341A0208	BAGADI SAI KUMAR	Online course	Cloud Computing Basics	AWS	31/07/2020	Participation
3	17341A0212	BHAVIRTHI.GANESH	Online course	Cloud Computing Basics	AWS	30/08/2020	Participation
4	17341A0213	BONDADA CHANDRA KIRAN	Online course	C- Language	Learn Vern	06-12-20	Participation
			Online course	Fundamentals Of Digital Marketing	Google Digital Unlocked	14/06/2020	Participation
			Online course	Data Science Math Skills	AWS	08-10-20	Participation
			Online course	RPA technology	Blue Prism	08-12-20	Participation
			Online course	Application of Geoinformatics in Ecological Studies	ISRO	09-11-20	Participation
5	17341A0215	B.SNEHA	Online course	Cloud Computing Basics	AWS	31/07/2020	Participation
6	17341A0216	B.MADHUSUDHAN RAO	Online course	Cloud Computing Basics	AWS	31/07/2020	Participation
7	17341A0217	BYRA LAVARAJU	Online course	Cloud Computing Basics	AWS	30/07/2020	Participation
8	17341A0219	CHAMARATHI ADITHYA	Online course	Machine Learning	AWS	31/07/2020	Participation
9	17341A0221	SURYATEJA CHENNAPRAGADA	Online course	Machine Learning	AWS	31/07/2020	Participation
10	17341A0225	CHONGA JASWANTH NAIDU	Online course	Cloud Computing Basics	AWS	31/07/2020	Participation
11	17341A0228	DEVIREDDY SAI PRAKASH	Online course	Machine Learning	AWS	30/07/2020	Participation
			Webinar	Electric Vehicle & Battery Technology	Sky Rider	29/07/2020	Participation
			Online course	Cloud Computing Basics	AWS	30/07/2020	Participation
			Online course	RPA technology	Blue Prism	08-12-20	Participation

			Online course	Python for Data science	Coogniti ve Class	08-01-20	Participa tion
			Online course	Fundamenta ls Of Digital Marketing	Google Digital Unlocke d	15/06/20 20	Participa tion
12	17341A022 9	D DINESH	Online course	RPA technology	Blue Prism	08-12-20	Participa tion
			Online course	Cloud Computing Basics	AWS	30/07/20 20	Participa tion
13	17341A023 2	E V SOWMWIKA	Online course	Cloud Computing Basics	AWS	30/07/20 20	Participa tion
14	17341A023 4	G. RANGA CHARAN	Online course	RPA technology	Blue Prism	19/8/202 0	Participa tion
15	17341A023 6	G.MANIKANTA	Online course	Cloud Computing Basics	AWS	08-01-20	Participa tion
16	17341A023 7	G.SAI GIRIDHAR	Online course	Cloud Computing Basics	AWS	30/07/20 20	Participa tion
17	17341A024 3	GUDLA ASHOK	Online course	RPA technology	Blue Prism	20/8/202 0	Participa tion
18	17341A024 4	G.BHARGAVI	Online course	Cloud Computing Basics	AWS	31/08/20 20	Participa tion
19	17341A024 5	SRINIVAS.H	Online course	RPA technology	Blue Prism	19/8/202 0	Participa tion
20	17341A024 6	JADDU ESWARA NARAYANA	Online course	RPA technology	Blue Prism	17/8/202 0	Participa tion
			Webinar	5G Technology	IIT	07-07-20	Participa tion
21	17341A025 1	JANNI RAJKIRAN	Webinar	5G Technology	IIT	07-07-20	Participa tion
			Online course	RPA technology	Blue Prism	17/8/202 0	Participa tion
			Online course	Cloud Computing Basics	AWS	08-01-20	Participa tion
22	17341A025 2	K.NIKHIL	Online course	Cloud Computing Basics	AWS	31/08/20 20	Participa tion
23	17341A025 2	K.NIKHIL	Webinar	5G Technology	IIT	07-07-20	Participa tion
24	17341A024 9	JAMI HEMKUMAR	Online course	Cloud Computing Basics	AWS	30/08/20 20	Participa tion

25	17341A0254	KANUGULA. GANESH	Online course	Cloud Computing Basics	AWS	31/08/2020	Participation
26	17341A0256	KILARI MAHIMA CHOWDARY	Online course	Cloud Computing Basics	AWS	30/07/2020	Participation
27	17341A0257	K.BHAVANA	Online course	Cloud Computing Basics	AWS	30/07/2020	Participation
			Online course	Pyhton	AWS	08-04-20	Participation
28	17341A0258	K. Yogeswara Rao	Online course	Python	Cognitive Class	09-03-20	Participation
29	17341A0260	K. Mouli Chandra	Online course	Python	Cognitive Class	09-04-20	Participation
30	18345A0201	R SRAVAN KUMAR	Online course	RPA technology	Blue Prism	17/8/2020	Participation
31	18345A0203	PALAPARTHI VENKAT SUDEEP	Online course	Cloud Computing Basics	AWS	30/07/2020	Participation
32	18345A0205	MUPPIDI NAGA VARDHAN REDDY	Online course	Python	Cognitive Class	30/08/2020	Participation
33	18345A0208	B. Bhav Singh	Online course	Python	Cognitive Class	09-03-20	Participation
34	18345A0213	ANIL VARMA	Online course	RPA technology	Blue Prism	08-11-20	Participation
35	18345A0214	P. AKHIL KUMAR	Online course	RPA technology	Blue Prism	17/8/2020	Participation
36	17341A0267	M.Rambabu	Work shop	Blue Prism Foundation Training	Blue prism University	19-08-2020	Participation
37	17341A0278	PAIDI RAVI	Work shop	blue prism foundation training	blue prism university	19-08-2020	participation
38	17341A0279	Palavalasa Ashaa Swaroopa Sai Sushma	Work shop	Blue Prism Foundation Training	BluePrism University	19 Aug 2020	Participation
39	17341A0281	PINNINTI DEEPIKA	Technical Event	Blue prism foundation training	Blue prism university	17 August	participation
40	17341A0282	Pisini Sekhar	Technical Event	Insolvency and Bankruptcy code	IBBI and MyGov	20 July 2020	Participation
			Technical Event	Blue Prism Foundation Training	BLUEPRISM University	17 Aug 2020	Participation

41	17341A0284	pothuraju sriharsha	Technical Event	Blue Prism Foundation Training	Blue prism University	18-08-2020	participation
42	17341A0285	Potnuru Navya	Work shop	Blue prism foundation training	Blue prism University	16 Aug 2020	Participation
43	17341A0286	Potnuru Shyam kumar	Technical Event	National level quiz on digital electronics	JNTUK,Vizayanagaram	16-07-2020	participation
44	17341A0287	Pulakhandam Siva Santhosh	Work shop	Blue Prism Foundation Training	Blue prism University	17 Aug 2020	Participation
45	17341A0289	RATNALA PRANEETH	Work shop	Blue prism foundation training	Blue prism University	16 Aug 2020	participation
46	17341A0290	R.Usharani	Work shop	Blue Prism Foundation training	Blue Prism University	19Agu2020	Participation
47	17341A0291	R.Sravankumar	Work shop	Blue prism foundation training	Blue prism University	18th Aug	Participation
48	17341A0292	S. Amrutha	Work shop	Blue Prism Foundation Training	Blue Prism University	19Agu2020	Participation
49	17341A0293	S. Ramadevi	Technical Event	Blue Prism Foundation Training	Blue Prism university	23-08-2020	participation
50	17341a0294	Sankar maharana	Work shop	Blue prism foundation training	Blue Prism University	18 Aug 2020	participation
			Work shop	RECENT DEVELOPMENTS IN 5G STANDARDIZATION IN 3GPP	IIT-BHUVANESHWAR	07 July 2020	participation
51	17341A0295	Simma Pardha Saradhi	Work shop	Blue Prism Foundation Training	Blue Prism University	17/08/2020	Participation
52	17341A0296	S. Sravani	Work shop	Blue prism foundation training	blue prism university	19Agu2020	participation

53	17341A0298	S. Santosh	Work shop	Bkue prism foundation training	Blue prism University	19Agu2020	participation
54	17341A0299	SUJITH KUMAR DARAPUREDDI	Work shop	Blue Prism Foundation Training	Blue prism University	19Agu2020	Participation
			Technical Event	Cloud computing and distribution systems	NPTEL-IIT Kanpur	jan-mar,2020	certification
55	17341A02A0	Tamminana supriya	Work shop	Blue prism foundation training	blue prism University	19Agu2020	participation
56	17341A02A3	Tumula samyuktha	Work shop	Blue prism foundation training	Blue prism University	19 Aug 2020	Participation
57	17341A02A4	T. Chaitanya Sangeetha	Work shop	Blue Prism Foundation Training	blue prism University	15th August 2020	Participation
58	17341A02A6	Varanasi Uday kumar	Technical Event	Blue prism foundation training	Blue prism university	18-08-2020	participation
59	17341A02A7	V. V S Siva sai	Technical Event	Blue prism foundation training	Blue prism University	18-08-2020	participation
60	17341A02A8	VIJJAPU SAI MUKUND AMOGH	Technical Event	Blue prism foundation training	Blue prism University	19 Aug 2020	Participation
			Work shop	RECENT DEVELOPMENTS IN 5G STANDARDIZATION IN 3GPP	IIT-BHUVANESHWAR	07 July 2020	Participation
61	17341A02A9	Y. Thirupathi Rao	Work shop	Blue Prism Foundation Training	Blue prism University	19Agu2020	Participation
62	17341A02B0	Y.Thoshma	Work shop	Blue Prism Foundation Training	Blue Prism University	17 Aug,2020	Participation
63	17341A02B1	Y Aditya sriharsha	Work shop	Blue prism foundation training	Blue prism University	19Agu2020	Participation

			Work shop	photogrametry and its application	IIRS-ISRO	29th july 2020	Participation
			Technical Event	recent advances in insulators	NPTEL - IISC	jan-feb 2020	certification
64	17341A02B4	Y.Mohan Krishna	Work shop	Blue prism foundation training	Blue prism University	23-08-2020	participation
65	17341A02B5	Y.UDAY KIRAN	Work shop	Blue prism foundation training	Blue prism University	21-8-2020	participation
66	18345A0212	Katha Harshitha	Work shop	Blue prism foundation training	Blue Prism University	16 Aug 2020	Participation
67	18345A0213	Maricherla prasanna	Work shop	Blue prism foundation training	Blue prism University	19 Aug 2020	Participation
			Work shop	Blue prism foundation training	Blue prism University	19-08-2020	Participation
68	18345A0216	Kottapalli Indumathi	Work shop	Blue prism foundation	Blue prism University	19Agu2020	Participation
69	18345A0217	NAGIREDDI HIMAVARDHAN	Work shop	Blue Prism Foundation Training	Blue prism University	18-08-2020	Participation
70	18345A0218	Vosetti Rupakalavathi	Work shop	Blue Prism Foundation Training	Blue Prism University	16 Aug 2020	Participation
71	18345A0223	J.VISHNU TEJA	Technical Event	Blue Prism Foundation training	Blue prism University	19-08-2020	Participation
72	18345A0224	JAKA TEJA	Work shop	Blue prism foundation training	Blue prism University	17 Aug 2020	Participation
73	18345A0226	MEESALA SURESH KUMAR	Technical Event	Electrical Machines-1	NPTEL-IIT Kharagpur	17-11-2019	Certification
			Work shop	Blue Prism Foundation Training	Blue Prism University	23-08-2020	Participation

74	19345A0212	BADIJANA SANTHI SWAROOP	Online course	RPA technology	Blue Prism	21-08-20	Participation
			Online course	Introduction to Digital Marketing	Great Learning Academy	01-07-20	Participation
			Online course	Java Programming	Great Learning Academy	01-07-20	Participation
			online Quiz	I.T.Skill	Janardhana Rai Nagar, Rajasthan	16.05.20	Participation
			Webinar	MHRD	MHRD	30.05.20	Participation
			Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
			Skill A Thon	Step into Robotic process automation	academic alliance	30.05.20	Participation
			Shaastra 2020	Circuit Simulation And PCB Design	IIT Madras	04.01.2020	Participation
75	19345A0207	GARIMELLA VENKATA SAI SUMANTH	Webinar	5G Technology	IIT	07-07-20	Participation
			Online course	RPA technology	Blue Prism	20.08.20	Participation
76	18341A0236	KENGUVA PAVAN SAI	Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
77	19345A0206	YERIPINA SATEESH CHANDRA DEV	Online course	RPA technology	Blue Prism	20.08.20	Participation
			Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
78	19345A0203	KUPPILI BRAHMAJI	Online course	RPA technology	Blue Prism	19.08.20	Participation
			online Quiz	Technical Quiz	BITS	25.07.20	Participation
			Work	SDP	GMRIT	14-08-20	Participa

			shop				tion
			Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
79	18341A0241	KUNA HARSHAVARDHAN	Online course	RPA technology	Blue Prism	19.08.20	Participation
			industrial training	Renewable Energy Systems	RCSS Enerzies Nashik	28.07.20	Participation
80	18341A0231	JINAGAM NITYASHREE	QUIZ	Test Your Knowledge	Bet your brain	25-05-20	Participation
			Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
			Online course	RPA technology	Blue Prism	19.08.20	Participation
81	18341A0227	GORU DINESHKUMAR	Online course	RPA technology	Blue Prism	19.08.20	Participation
			Work shop	Highter Education 2020	IQAC,TPCT	08.07.20	Participation
			Webinar	Role of Intellectual Property in Technological Innovation	Gandhi Institute of Baniatangi,Bhubaneswar	08.07.20	Participation
			Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
			online	Intelligence & Machine Learning	North Orissa University	16.07.20	Participation
82	18341A0226	GODDU SARATH KUMAR	Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
			Online course	RPA technology	Blue Prism	19.08.20	Participation
83	18341A0224	GADI SAI ABHIRAM	Webinar	Climate Assessment	Gandhi Institute of	20.07.20	Participation

					Baniatangi,Bhubaneswar		
84	18341A0211	BANGARU HIMA BINDU	Online course	RPA technology	Blue Prism	19.08.20	Participation
			Webinar	MHRD	MHRD	30.05.20	Participation
			Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
85	18341A0205	ANEM MADHU	Online course	Advanced Consolidation Exercise	Blue Prism	15.08.20	Participation
			Online course	Learning Plan	Blue Prism	16.08.20	Participation
			Online course	Basic Awareness	Blue Prism	15.08.20	Participation
			Online course	Blue prism developer Mandatory Training	Blue Prism	16.08.20	Participation
			Online course	Surface Automation	Blue Prism	15.08.20	Participation
			Online course	Robotic Operating Model	Blue Prism	17.08.20	Participation
			Work shop	Handling Covid-19 using AI/Machine Learing	Gandhi Institute of Baniatangi,Bhubaneswar	13.08.20	Participation
			Online course	Foundation Training	Blue Prism	15.08.20	Participation
86	18341A0250	NALLI CHAITANYA	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
87	18341A0252	OTTIKALA GANESH	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
88	18341A0253	PASUPUREDDI AVINASH	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
89	18341A0254	PAVAN KUMAR GADU	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
90	18341A0255	PINNINTI KAVYA	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation

91	18341A0257	POTNURU VITHAL PRASADA RAO	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
92	18341A0259	PUJARI NITHISH KUMAR	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
93	18341A0265	SAGI HARSHAVARDHAN RAJU	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
94	18341A0266	SAKE NAMRUTH SAI	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
95	18341A0267	SAMANTHULA JHANSI RANI	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
96	18341A0268	SATIPIDAKALA SAIKUMAR	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
97	18341A0270	SOWMYA LOTHUGEDDA	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
98	18341A0273	TAPPETLA TANUJKUMAR	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
99	18341A0274	TATIKONDA SREE TEJOMAYI YASASW	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
100	18341A0276	VAMSI KRISHNA NEELAPU	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
101	18341A0277	VANJARAPU JYOTHSNA	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
102	18341A0278	VAVILAPALLI SOUJANYA	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
103	18341A0280	VEGIREDDY BHASKARARAO	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
104	18341A0281	VETSA SAI PRANEETH	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
105	19345A0215	GURRALA CHANDU SRIKAR	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
106	19345A0216	DWARAPUREDDI PAVAN	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
107	19345A0218	MAHAMMAD RIYAZ	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation
108	19345A0219	DARRU CHANAKYA	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation

109	19345A0220	NAMBARU SRINIVASU	Technical Event	Blue Prism Foundation training	Blue Prism	10-22aug20	Participation

List of Students Participated in various events (othe states) for the AY: 2019-2020

S.No	Admn. No.	Student Name	PPT/WS/PDC/TE/IB	TITLE OF PPT/WS/PDC/TE/IB	ORGANIZATION	DATE	PRIZE/PARTICIPATION
1.	17341A0297	Sonti Sai Sathwik	work shop	introduction to Python and Machine Learning	Shaastra 2020, IIT Madras	06-01-20	Participation
2.	17341A0297	Sonti Sai Sathwik	work shop	Hovercraft	Shaastra 2020, IIT Madras	06-01-20	Participation
3.	17341A0272	N.Sai Keerthna Reddy	work shop	introduction to Python and Machine Learning	Shaastra 2020, IIT Madras	06-01-20	Participation
4.	17341A0270	N.Vijaya Ratnam Naidu	work shop	10T challenge	IIT Madras	14-16/02/2020	Participation
5.	18341A0278	soujanya Vavilapalli	work shop	Circuits Simulation and PCB Design	Shaastra 2020, IIT Madras	04-01-20	Participation
6.	18345A0210	D.Anil Varma	TE	Elan and Nvision 2020	IIT Madras	14-16/02/2020	I
7.	18341A0274	Tatikonda Yasaswini	work shop	robot operating system	Shaastra 2020, IIT Madras	06-01-10	Participation
8.	18345A0210	D.Anil Varma	work shop	Quacopter challenge	IIT Hyderabad	14-15/02/2020	III
9.	18345A0210	D.Anil Varma	PPT	smart frid	IIT Hyderabad	14-15/02/2020	I
10.	17341A0204	A.Rskesh Sai	work shop	Digital Marketing Program	Digital Medha and advertising	14-02-20	Participation
11.	18341A0274	Tatikonda Yasaswini	work shop	Technlogy Optimization Workshops	Shaastra 2020, IIT Madras	06-01-10	Participation
12.	18341A0285	Yandava Srinavya	work shop	sixth sense robotics	IIT Bombay	22-25/02/2020	Participation

13.	18341A0275	V.Praneeth	work shop	Android Workshop	Shaastra 2020, IIT Madras	04-01-10	Participation
14.	18341A0273	D.Yatheen Kumar	work shop	Android Workshop	Shaastra 2020, IIT Madras	04-01-10	Participation

Participation in within the state-institute events by students of the program of study

AY	Internal Events	No. of students participated
2020-21	6	23
2019-20	6	39

List of Students Participated in various events (with in the state) for the AY: 2020-2021

S. No	Admn. No.	Student Name	PPT/WS/PDC/TE/IB/PE/Online Course	Title of PPT/WS/PDC/TE/IB/PE	Organized by	Date of the Event	Prize/Participation
1.	17341A0264	mandala bhagavan sai naidu	Technical Event	National level Quiz on Digital Electronics	JNTUK - Vizianagaram	16 July 2020	Participation
2.	17341A0274	N. Harika	Technical Event	National level Quiz on Digital Electronics	JNTU - Vizayanagaram	16 July 2020	Participation
3.	17341A0279	Palavalasa Ashaa Swaroopa Sai Sushma	Technical Event	National level Quiz on Digital Electronics	JNTUK-Vijayanagaram	16 July 2020	Participation
4.	17341A0280	P. Prasuna	Technical Event	National level Quiz on Digital Electronics	JNTU - Vizayanagaram	16 July 2020	Participation
5.	17341A0281	PINNINTI DEEPIKA	Technical Event	AC -DC drives	APSSDC	27 July	participation
			Technical Event	National level Quiz on Digital Electronics	JNTU - Vizayanagaram	16 July	participation
6.	17341A0282	Pisini Sekhar	Technical Event	National level Quiz on Digital Electronics	JNTUK - Vizianagaram	16 July 2020	Participation
			Technical Event	AR&GE	TSKC, gov. degree college	12 Jun 2020	Participation
			Technical Event	Insolvency and Bankruptcy	IBBI and MyGov	20 July 2020	Participation

				code			
			Work shop	pannel discussion on successful startup incubation	APSSDC	15-07-2020	participation
7.	17341A0285	Potnuru Navya	Technical Event	National level quiz on digital electronics	JNTUK-vijayanagarm	16 July 2020	Participation
8.	17341A0286	Potnuru Shyam kumar	Technical Event	National level quiz on digital electronics	JNTUK,Vizayanagaram	16-07-2020	participation
9.	17341A0287	Pulakhandam Siva Santhosh	Technical Event	National level Quiz on Digital Electronics	JNTUK - Vizianagaram	16 July 2020	Participation
10.	17341A0290	R.Usharani	Technical Event	National level Quiz on Digital Electronics	JNTU-Vijayanagaram	16 July 2020	Participation
11.	17341A0291	R.Sravankumar	Technical Event	National level Quiz on Digital Electronics	JNTU - VZM	16th - july	Participation
12.	17341A0292	S. Amrutha	Technical Event	National Level Quiz On Digital Electronics	JNTUK-Vijayanagaram	16 July,2020	Participation
13.	17341A0297	Sonti sai satwik	Work shop	AC-DC drives	APSSDC	03-08-2020	participation
14.	17341A0298	S. Santosh	Technical Event	National level Quiz on digital electronics	Jntu-vzm	16 July 2020	partcipation
15.	17341A0299	SUJITH KUMAR DARAPUREDDI	Work shop	AC-DC Drivers	APSSDC	27-07-2020	Participation
16.	17341A02A4	T. Chaitanya Sangeetha	Technical Event	National Level Quiz On Digital Electronics	JNTUK-Vijayanagaram	16 July,2020	Participation
17.	17341A02A9	Y. Thirupathi Rao	Technical Event	AR&GE	TSKC, gov. degree college	12 June 2020	Participation
18.	17341A02B1	Y Aditya sriharsha	Work shop	plc and scada	AVN institue of technology	3rd july 2020	Participation

19.	18345A0217	NAGIREDDI HIMAVARDHAN	Technical Event	National Level Quiz On Digital Electronics	JNTUK-vijayanagarm	16 July 2020	Participation
20.	19345A0212	BADIJANA SANTHI SWAROOP	Techocal Event	National Level Technical Conpest on Web Designing	late Sau.K.B.J. college of engineering,chandwad	13-05-20	Participation
			Skill A Thon	Step into Robotic process automation	academic alliance	30.05.20	Participation
21.	18341A0224	GADI SAI ABHIRAM	quiz	database management System	Jaywant College of Engineering And Management	22.06.20	Participation
22.	19341A0215	BOKKELA SARATHCHANDRA	QUIZ COOMPITATION	NATIONAL LEVEL QUIZ COMPITAION	Dr.lankapalli Bullayya collage of engineering (EEE)	06-05-20	Participation
23.	19341A0203	AMANANA ANIL	QUIZ COOMPITATION	Engineering thermodynamics	ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES	24-07-20	Participation

List of Students Participated in various events (with in the state) for the AY: 2019-2020

S.No	Admn. No.	Student Name	PPT/WS/PDC/TE/IB	TITLE OF PPT/WS/PDC/TE/IB	ORGANIZATION	DATE	PRIZE/PARTICIPATION
1.	18345A0223	J.Vishnu Teja	Project Expo	Your Fest	Usha Rama College of Engineering & Technology	03-01-20	II

2.	18345A0223	J.Vishnu Teja	PPT	micro grid controllers	Usha Rama College of Engineering & Technology	03-01-20	II
3.	17341A0272	N.Sai Keerthna Reddy	work shop	Protein Memory	JNTUV	10-11/02/2020	Participation
4.	17341A0272	N.Sai Keerthna Reddy	work shop	fair of wonders	JNTUV	10-11/02/2020	Participation
5.	17341A0272	N.Sai Keerthna Reddy	work shop	Varnaka	SRKR Engg.College	20-21/12/2019	I
6.	17341A0272	N.Sai Keerthna Reddy	PPT	DFIG controllers	JNTUK	22-23/02/2020	Participation
7.	18345A0214	M.Vinay	work shop	hyperloop	JNTUV	10-11/02/2020	Participation
8.	18345A0214	M.Vinay	ppt	power quality issues	REC,Vizag	6th to 9th Jan 2020	Participation
9.	17341A0221	CH.Surya Teja	work shop	fair of wonders	JNTUV	10-11/02/2020	Participation
10.	17341A0221	CH.Surya Teja	work shop	Prezentare	JNTUV	10-11/02/2020	Participation
11.	17341A0219	CH.Aditya	work shop	Prezentare	JNTUV	10-11/02/2020	I
12.	17341A0219	CH.Aditya	PPT	DFIG controllers	JNTUK	22-23/02/2020	Participation
13.	17341A0219	CH.Aditya	work shop	Varnaka	SRKR Engg.College	20-21/12/2019	I
14.	17341A0219	CH.Aditya	work shop	Prezentare	JNTUV	10-11/02/2020	I
15.	17341A0232	E.Venkata Sowmwika	work shop	Varnaka	SRKR Engg.College	20-21/12/2019	Participation
16.	17341A0232	E.Venkata Sowmwika	work shop	microbial fuel	JNTUV	10-11/02/2020	Participation
17.	17341A0232	E.Venkata Sowmwika	work shop	fair of wonders	JNTUV	10-11/02/2020	Participation

18.	17341A0230	D.Sai Praneeth	ppt	cloud computing	Usha Rama College of Engineering & Technology	03-01-20	Participation
19.	17341A0230	D.Sai Praneeth	work shop	Digital Marketing Program	Digital Medha and advertising	14-02-20	Participation
20.	17341A0218	CH.Mahesh	ppt	MPPT Techniques	JNTUK	22-23/02/2020	Participation
21.	17341A0218	CH.Mahesh	TE	Tech quiz	REC,Vizag	6th to 9th Jan 2020	III
22.	17341A0251	Janni Raj Kiran	work shop	robo race	REC,Vizag	6th to 9th Jan 2020	I
23.	18345A0203	P.Venkat Sudeep	work shop	robo race	REC,Vizag	6th to 9th Jan 2020	I
24.	17341A0228	D.Sai Prakash	ppt	six phase distribution systems	JNTUV	6-7/02/2010	Participation
25.	17341A0228	D.Sai Prakash	work shop	Augumented Reality	JNTUV	6-7/02/2010	Participation
26.	17341A0228	D.Sai Prakash	ppt	contol for real life	MVGR	20-22/02/2020	I
27.	17341A0232	E.Venkata Sowmwika	work shop	pragnya	SRKR Engg.College	20-21/12/2019	Participation
28.	17341A0224	CH.Krishna Vamsi	PPT	Multi Level Converters	JNTUK	22-23/02/2020	II
29.	17341A0204	A.Rskesh Sai	work shop	Digital Marketing Program	Digital Medha and advertising	14-02-20	Participation
30.	17341A0213	B.Chandra Kiran	work shop	Prezentare	JNTUV	10-11/02/2020	Participation
31.	17341A0248	J.Akhila	work shop	Varnaka	SRKR Engg.College	20-21/12/2019	Participation
32.	17341A0247	J.Chandana	work shop	Varnaka	SRKR Engg.College	20-21/12/2019	Participation

33.	17341A0207	A.Mshendra Sai	work shop	Augumented Reality	JNTUV	6-7/02/2010	Participation
34.	17341A02A2	Sai Avinash Thota	TE	National Level Technical symposiunm	AUCE	26-29/02/2020	Participation
35.	17341A0287	P.S.Santosh	ppt	hvdc links	Usha Rama College of Engineering & Technology	03-01-20	Participation
36.	17341A0290	R.usha Rani	PE	National Level Technical symposiunm	AUCE	26-29/02/2020	Participation
37.	17341A0291	R.Sravan Kumar	ppt	bldc motor control	AUCE	26-29/02/2020	Participation
38.	17341A02A4	T.Sangeetha	ppt	optimization techniques	JNTUV	10-11/02/2020	Participation
39.	17341A02A4	T.Sangeetha	PE	National Level Technical symposium	AUCE	26-29/02/2020	Participation

Criteria – 5
Faculty Information and Contributions [200M]

2021-2022

S. No	Name	PAN No.	University Degree	Date of receiving Degree	Area of specialization	Research Paper Publications (no. of papers published in AY:2021-22)	Ph. D Guidance	Ph. D Granted	Current Designation	Date of Joining	Date on which Designated as Professor/Associate Professor	Currently Associated (Y/N)	Nature of Association (Regular/Contact/ Adjunct)	If contractual mention Full time or part time	Date of Leaving (in case currently Associated is "No")	Is HoD?
1.	Dr.P.Bharani Chandra Kumar	ARVPK7559A	Ph.D.	11/07/2013	Control Systems	4			Professor	16.06.2016	16.06.2016	No	Regular		30.11.2021	
2.	Dr. M.Venkateswara Rao	AGMPM3178M	Ph.D.	23/01/2018	Power Systems	0			Professor	05.01.2000	24.01.2018	No	Regular		31.3.2019	
3.	Dr. Ramana P	AKJPP3601M	Ph.D.	2.2.2018	Electrical Power Engg.	10	1		Professor	09.08.2001	01.03.2019	Yes	Regular			Y
4.	Dr. Chandra Sekhar . G	AGEPG6767A	Ph.D.	16.1.2015	Power systems	3			Professor	04.04.2015	04.04.2015	Yes	Regular			
5.	Dr. Srinivasa Kishore T	BNVPS7777R	Ph.D.	20.11.2015	Power Systems	3	1		Associate Professor	30.06.2006	01.09.2016	Yes	Regular			
6.	Dr. Rajesh Kumar Patnaik	ASQPP7600P	Ph.D.	11.3.2016	Power systems	3	1		Associate Professor	18.05.2017	18.05.2017	Yes	Regular			
7.	Dr. Karthick K	AUGPK8883R	Ph.D.	15.3.2018	Power electronics and Drives	6			Associate Professor	01.02.2018	15.05.2018	Yes	Regular			
8.	Dr. D Danalakshmi	ANTPD3023E	Ph.D.	29.9.2017	Power systems	3			Associate Professor	29.05.2018	29.05.2018	Yes	Regular			
9.	Dr. Ch. Hemanth Kumar	ALUPC9363M	Ph.D.	2.7.2019	Power Systems	2			Assistant Professor	25.10.2010		Yes	Regular			
10.	Dr. Indira Kishore G	ARVPK7642Q	Ph.D.	25.10.2019	Power Electronics				Assistant Professor	04.05.2006	4/5/2006	Yes	Regular			
11.	Dr. Ayya Rao T.S.L.V.	AIUPA5805B	Ph.D.	24.12.2019	Power System operation and control	3			Assistant Professor	29.08.2005		Yes	Regular			
12.	Dr. L.V. Suresh Kumar	AERPL5124K	Ph.D.	17.9.2020	Power electronics, Power and energy systems	2			Assistant Professor	26.07.2010		Yes	Regular			
13.	Dr.	ASPPP816	Ph.D.	27.10.20	Power	1			Assista	09.03.2		Yes	Regular			

	P.Upendra Kumar	4M		20	Sysetms Control & Automation				nt Professor	015						
14.	Mr. Siva Kumar J.S.V	AHDPJ9348J	M.E/ M.Tech	11.06.2005	Power Electronics	1			Associate Professor	11.05.2007	16.09.2022	Yes	Regular			
15.	Dr. Rambabu M	AHDPJ9348J	Ph.D.	22.11.2021	Power Systems	4			Assistant Professor	04.05.2006		Yes	Regular			
16.	Dr. M. Vinay Kumar	AXXPM3186F	Ph.D.	23.04.2021	Power Systems	2			Assistant Professor	17.06.2011		Yes	Regular			
17.	Mr. I. Ravi Kiran	ABXPI4459H	M.E/ M.Tech	20/05/2011	Power Electronics	0			Assistant Professor	26.11.2011		No	Regular		20.3.2019	
18.	Dr. Sthita Prajna Mishra	AYHPM8152C	Ph.D.	04.10.2018	Machine Learning in Renewable Energy application	4	2		Assistant Professor	07.01.2019		Yes	Regular			
19.	Mr. R Ramakrishna	AUNPR4859B	M.E/ M.Tech	20.05.2010	Power Systems	2			Assistant Professor	18.06.2012		Yes	Regular			
20.	Dr. P Praveen Kumar	ATUPP7658Q	Ph.D.	26.8.2021	Renewable Energy	3			Assistant Professor	29.05.2013		Yes	Regular			
21.	Mr. NSS Ramakrishna	AOZPN6739E	ME/ M.Tech	03.07.2014	Power systems	5			Assistant Professor	15.06.2016		Yes	Regular			
22.	Dr. M. Prem Kumar	AZGPP9729G	Ph.D.	15/03/2019	Power Electronics	35			Assistant P	01.10.2016		No	Regular		30.4.2021	
23.	Dr. N.V.A. Ravikumar	AHSPN1362K	Ph.D.	12.2.2021	Control system	2			Assistant Professor	05.01.2016		Yes	Regular			
24.	Mr. Vijaya Krishna Rayi	ARIPR7976F	M.E/ M.Tech	4-08-2010	Power Electronics & Drives	2			Assistant Professor	19.02.2015		Yes	Regular			
25.	Mr. Srikanth Babu V	ALRPV5937B	M.E/ M.Tech	24.07.2009	Power Systems				Assistant Professor	02.06.2011		No	Regular		23.05.2022	
26.	Mr. D Rajesh Babu	BZFPD2162M	M.E/ M.Tech	02.12.2013	Energy Systems	2			Assistant Professor	06.06.2014		Yes	Regular			
27.	Mr. Ravi Kumar Jalli	ARCPJ0371J	M.E/ M.Tech	23.07.2014	Power systems	2			Assistant Professor	18.01.2016		Yes	Regular			

28.	Mr. V. Manoj	ASVPV3925A	M.E/ M.Tech	23-06-2012	Power systems and automation	2			Assistant Professor	28.05.2013		Yes	Regular			
29.	Mr. P.V.V Pawan Kumar	AZDPP6877A	M.E/ M.Tech	19.05.2015	Alternate Hydro Energy Systems				Assistant Professor	01.09.2015		No	Regular		06.05.2022	
30.	S.D Kaushik	EPWPS3338G	M.E/ M.Tech	21.05.2015	Power Electronics & Drives				Assistant Professor						27.11.2019	

Table B.5

Note: *Please provide details for the faculty of the department, cumulative information for all the shifts forall academic years starting from current year in above format in Annexure - II.*

5.1. Student-Faculty Ratio (SFR) (20)

(To be calculated at Department Level)

No. of UG Programs in the Department (n): __01____

No. of PG Programs in the Department (m): __01____

No. of Students in UG 2nd Year= **u1**

No. of Students in UG 3rd Year= **u2**

No. of Students in UG 4th Year= **u3**

No. of Students in PG 1st Year= **p1**

No. of Students in PG 2nd Year= **p2**

No. of Students = Sanctioned Intake + Actual admitted lateral entry students

(The above data to be provided considering all the UG and PG programs of the department)

S=*Number of Students in the Department = UG1+UG2+UG3+PG1+PG2*

F = *Total Number of Faculty Members in the Department (excluding first year faculty)*

Student Faculty Ratio (SFR) = S / F

	(2021-22)		**CAY (2020-21)**		**CAY m1(2019-20)**		**CAY m2(2018-19)**	
	Sanction intake	**Actual admitted through lateral entry student**	**Sanction intake**	**Actual admitted through lateral entry student**	**Sanction intake**	**Actual admitted through lateral entry student**	**Sanction intake**	**Actual admitted through lateral entry student**
2nd year	120	12	120	15	120	29	120	27
3rd year	120	15	120	29	120	27	120	27
4th year	120	29	120	27	120	27	120	27
Sub-total	**360**	**56**	**360**	**71**	**360**	**83**	**360**	**81**
Total	**416**		**431**		**443**		**441**	

Grand Total	**416**	**431**	**443**	**441**

PG

Power and Industrial Drives				
	(2021-22)	**CAY (2020-21)**	**CAY m1 (2019-20)**	**CAY m2 (2018-19)**
	Sanction Intake	**Sanction Intake**	**Sanction Intake**	**Sanction Intake**
1st year	12	18	18	18
2nd year	18	18	18	18
Total	**30**	**36**	**36**	**36**

Description	**(2021-22)**	**CAY(2020-21)**	**CAYm1(2019-20)**	**CAY m2 (2018-19)**
Total No. of Students in the Department(S)	446	467	479	477
No. of Faculty in the Department(F)	25	27	27	30
Student Faculty Ratio(SFR)	17.84	17.3	17.74	15.90
Average SFR	**17.2**			

Marks to be given proportionally from a maximum of 20 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

< = 15 - 20 Marks
< = 17 - 18 Marks
< = 19 - 16 Marks
< = 21 - 14 Marks
< = 23 - 12 Marks
< = 25 - 10 Marks
> 25.0 - 0 Marks

Note:

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

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

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

	Total number of regular faculty in the department	**Total number of contractualfaculty in the department**
2021-22	25	0
CAY(2020-21)	27	0
CAYm1 (2019-20)	27	0
CAYm2 (2018-19)	30	0

Table 5.1.1

5.2. Faculty Cadre Proportion (20)

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

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

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

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

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
2021-22	2	2	5	4	15	19
CAY(2020-21)	2	3	5	4	15	20
CAYm1 (2019-20)	2	3	5	4	15	20
CAYm2 (2018-19)	2	3	5	5	15	22
AverageNumbers	RF1=2	AF1=2.75	RF2=5	AF2=4.25	RF3=15	AF3=20.25

Table B.5.2

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 10 : 20.0

- If AF1 = AF2= 0 then zero marks
- Maximum marks to be limited if it exceeds 20

Example: Intake = 60 (i.e. total no. of students= 180); Required number of Faculty: 9; RF1= 1, RF2=2 and RF3=6

Case 1: AF1/RF1= 1; AF2/RF2 = 1; AF3/RF3 = 1; Cadre proportion marks = (1+0.6+0.4) x 10 = 20

Case 2: AF1/RF1= 1; AF2/RF2 = 3/2; AF3/RF3 = 5/6; Cadre proportion marks = (1+0.9+0.3) x 10 = limited to 20

Case 3: AF1/RF1=0; AF2/RF2=1/2; AF3/RF3=8/6; Cadre proportion marks = (0+0.3+0.53) x 10 = 8.3

5.3. Faculty Qualification (20)

FQ = 2.0 x [(10X +4Y)/F)] where x is no. of regular faculty with Ph.D.., Y is no. of regular faculty with M. Tech., F is no. of regular faculty required to comply 20:1 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)

	X	Y	F	FQ = 2.0 x [(10X +4Y)/F)]
2021-22	16	09	23	17.04
CAY (2020-21)	14	13	23	16.7
CAYm1(2019-20)	10	17	23	14.61
CAYm2(2018-19)	9	21	23	15.13
Average Assessment				**15.87**

5.4. Faculty Retention (10)

No. of regular faculty members in CAYm1=29 CAY (2020-21)=27 CAY= 27

Item (% of faculty retained during the period of assessment keeping CAYm1(2019-20) asbase year)	Marks
>= 90% of required Faculty members retained during the period of assessment keeping CAYm2 as base year	10
>=75% of required Faculty members retained during the period ofassessment keeping CAY*m2* as base year	08

>= 60% of required Faculty members retained during the period ofassessment keeping CAY*m2* as base year	06
>= 50% of required Faculty members retained during the period ofassessment keeping CAY*m2* as base year	04
< 50% of required Faculty members retained during the period of assessmentkeeping CAY*m2* as base year	0

Description	2021-2022	CAY (2020-2021)	CAY m1(2019-20)
Number of Faculty Retained	25	27	27
Total Number of Faculty	27	30	30
% of Faculty Retained	92.6	90	90

Table B.5.4

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

(List the program specific criteria and the competencies (specialization, research publications, course developments etc.,) of faculty to correlate the program specific criteria and competencies.)

The department of EEE having 16 doctorates, and most of them done their Ph.D.s from reputed institutions like IITs and NITs.

- Most of the faculties are members of professional bodies like IEEE, ISTE etc.
- Dr. P. Ramana published twelve text books.
- The faculty members of EEE department have 51 SCI publications and nearly 121 Scopus publications in last three years.
- Our faculty members participated in various international conferences, Dr. S. P. Mishra went to Malaysia to present the paper at International conference, "Artificial Intelligence and Data Science
- (AiDAS 2019)", Ipoh, Perak, Malaysia on 19th September 2019.
- Dr. G. Chandra Sekhar acted as a session chair to an IEEE international conference TENCON -2017.
- Dr. Hemanth Kumar got Commonwealth Split-site award in 2015 and studies in Durham University UK for a period of one year.
- Dr. Hemanth Kumar acted as a session chair for the IEEE International conference named Electrical Power and Energy Systems (ICEPES 2021) jointly organized by MANIT Bhopal and SLIET Longwal.
- Dr. LV Suresh delivered several guest lectures at various institutions.
- Most of the faculties have developed video lectures and uploaded in Institution website.

The Courses offered to analyze and design complex electrical and electronic devices, software, and systems are grouped into five clusters namely, Electrical Machinery, Power systems, Power Electronics, Control Systems and Electronics.

Program specific criteria suggested by IEEE Lead society of Electrical and Electronics Engineering (EEE), the curriculum must include

- **Statistics, transformation methods, discrete mathematics and application of differential equations appropriate to the EEE Program.**

Concepts of transformation methods and stochastic process required for applications such as Signal processing, are offered in the courses titled Signals and Systems Theory.

- **Mathematics through differential and integral calculus.**

Concepts of differential and integral calculus are offered through courses Engineering Mathematics –I, Engineering Mathematics –II, Computational Mathematics which are required for core courses such as Electromagnetic Field theory, Electrical Circuits-1, Electrical Circuits-2 etc.,

- **Engineering Concepts necessary to analyse and design complex electrical and electronic devices, software, and systems containing hardware and software components**

The Courses offered to analyse and design complex electrical and electronic devices, software, and systems are grouped into five clusters namely, Electrical Machinery, Power systems, Power Electronics, Control Systems and Electronics.

Faculty Competencies correlated with the above cited clusters along with their specializations, research publications, conferences attended, and products developed in specific domains are shown below.

Signals and Systems theory, Control Systems

PSC suggested by IEEE	Correlated courses	Name of the faculty	Specialization	Research Contribution Courses Developed
Signals and Systems theory, Control Systems	Signals and Systems Theory, Control Systems, Modern Control Theory , Discrete Signal Processing	Dr. P. Bharani Chandra Kumar	Control Systems	Publications-65 Books/Chapters-8/4 Courses Developed-11 FDPs Attended-68
		Dr.P. Upendra Kumar	Power systems control and automation	
		Dr. Ch. Hemanth Kumar	Power Systems	
		Dr. P. Ramana	Electrical Power Engg.	
		Dr. Rajesh Kumar Patnaik	Power Systems	
		Dr. D. Danalakshmi	Power Systems	
		Dr. TSLV Ayya Rao	Power system operation and control	
		Dr. NVA Ravi Kumar	Control System	

Electrical Machinery:

PSC suggested by IEEE	Correlated courses	Name of the faculty	Specialization	Research Contribution Courses Developed
Electrical Machinery	DC Machines and Transformers, AC Machines, Synchronous and Special Machines, Basics of Engineering.	Dr. P.Ramana	Electrical Power Engg	Publications-63 Books/Chapters-8/4 Courses Developed -7 FDP attended-60
		Dr. K. Karthick	Power Electronics and Drives	
		Dr. V. Srikanth Babu	Power Systems	
		Mr. R.Rama Krishna	Power Systems	
		Dr. NVA Ravi Kumar	Control System	
		Dr. M. Venkateswara Rao	Power Systems	
		Dr. Ch. Hemanth Kumar	Power Systems	

Power Systems:

PSC suggested by IEEE	Correlated courses	Name of the faculty	Specialization	Research Contribution Courses Developed
Power Systems	Power Transmission and Distribution, Modern Power System Analysis,	Dr. G. Chandra Sekhar	Power systems	Publications-113 Books/Chapters-1 Courses Developed-14 FDPs attended-131
		Dr. D. Danalakshmi	Power Systems	
		Dr. LV Suresh	Power and Energy System	
		Dr. P. Upendra Kumar	Power systems control and automation	
		Mr. M. Rambabu	Power Electronics	

	Power Plant Engineering and Economics, Power System Operation and Control, Power System Analysis, HV Transmission, High Voltage DC Transmission (FSI), Electrical Distribution systems, Switch Gear and Protective Devices, Operation and Control of Power System, Smart Grid Technology, Power Plant Economics and Tariff Regulation, Power quality	Mr. V. Srikanth Babu	Power systems	
		Mr. R. RamaKrishna	Power systems	
		Mr. N.S.S.Ramakrishna	Power and Energy System	
		Dr. R. K Patnaik	Power systems	
		Dr. SP Mishra	Power systems	
		Dr. T.S Kishore	Power Systems	
		Dr. G. Indira Kishore	Power Electronics	
		Mr. V Manoj	Power Systems	

Power Electronics:

PSC suggested by IEEE	Correlated courses	Name of the faculty	Specialization	Research Contribution Courses Developed
Power Electronics	Electrical Drives, Power Electronics	Dr. TSLV Ayya Rao	Power System operation and control	Publications-52 Courses Developed- 3 FDPs attended-40
		Dr. M. Prem Kumar	Power Electronics	
		Dr. JSV Shiva Kumar	Power Electronics	

Circuits and Field theory:

PSC suggested by IEEE	Correlated courses	Name of the faculty	Specialization	Research Contribution Courses Developed
Circuits and Field theory	Circuit Theory, Electrical Circuits I, Electrical circuits –II, Network Analysis and Synthesis, Electromagnetic field theory	Dr. G. Chandra Sekhar	Power Systems	Publications-100 Books/Chapters-8/4 Courses Developed 9 FDPs attended-86
		Dr. P. Ramana	Electrical Power Engg	
		Dr. T. S Kishore	Power Systems	
		Dr. K. Karthick	Power Electronics and Drives	
		Dr. D Danalakshmi	Power Systems	
		Dr. TSLV Ayyarao	Power System operation and control	
		Dr. Ch. Hemanth Kumar	Power Systems	
		Dr.P. Upendra Kumar	Power systems control and automation	
		Dr. Vijaya Krishna	Power Electronics	
		J. Ravi Kumar	Power systems	

Electronics, Ethics, Instrumentation, and Renewable energy:

PSC suggested by IEEE	Correlated courses	Name of the faculty	Specialization	Research Contribution Courses Developed
Electronics, Ethics, and Instrumentation	Measurement and Instrumentation, Semiconductor Devices and Circuits, Linear and Digital Integrated Circuits, Ethics for Electrical Engineers, Electric Locomotives, Linear Circuit Analysis, Renewable Energy Sources, Power Plant Instrumentation and Control, Electrical Measurements &	Dr. Indira Kishore	Power Electronics	Publications-78 Courses Developed- 10 FDPs attended-96
		Dr. Vinay Kumar	Power Systems	
		Mr. PVV Pawan Kumar	Alternate Hydro Energy Systems	
		Mr. D Rajesh Babu	Energy Systems	
		Dr. G. Chandra Sekhar	Power Systems	
		J.Ravi Kumar	Power systems	
		Dr. K. Karthick	Power Electronics and Drives	
		Mr. N.S.S.Ramakrishna	Power and Energy System	
		Dr.N.V.A.Ravi Kumar	Control Systems	
		Mr. V. Manoj	Power Systems and Automation	

	Power Plant Instrumentation, PLC & SCADA , Micro controller and Microprocessor,			

Faculty competencies to correlate the program specific criteria

Sl. No	Program specific Criteria		Competent Faculty specialized in the area
a.	**Depth in Electrical Engineering**		
1	*Electrical Machines*		
	Breath of Electrical Engineering	• AC Machines • DC Machines and Transformers • Electrical Circuits I • Electrical Circuits II • Electromagnetic Field Theory • Ethics for Electrical • Engineers • Electrical Installation, Design & Estimation • Network Analysis & Synthesis • Transformers and Induction Machines • Electrical Measurements and Instrumentation • Electrical Drives • Renewable Energy Sources • Synchronous & Special Machines • Automotive Electrical Engineering • Electric Locomotives, Traction and Vehicles • Machine Modeling and steady state analysis	Dr. G. Chandra Sekhar Dr. P. Ramana Dr.T.S.Kishore Dr. D. Dana Lakshmi Dr. S P. Mishra Dr.K.Karthick Dr.Ch.Hemanth Kumar Mr. R. Rama Krishna Mr.J.Ravi Kumar Mr. D.Rajesh Babu Mr.L.V. Suresh Kumar Mr.T.S.LV. Ayya Rao Mr. M. Vinay Kumar Mr.P.Upendra Kumar Mr.N.S.S.Ramakrishna Dr. M. Venkateswara Rao
2	*Power Systems*		
		• Power Generation, Transmission and Distribution • Power System Protection • Power Plant Engineering and Economics • Power System Analysis • Power system operation and Control • Electrical Distribution systems • PLCs & SCADA	Dr. Rajesh Kumar Patnaik Dr. T.S. Kishore Mr. R. Vijaya Kishna Mr. N S S. Rama Krishna Dr.S.P.Mishra Mr.R.Rama Krishna Mr. V. Srikanth Babu Dr.D.Dana Lakshmi Dr.G.Chandra Sekhar Mr. J. Ravi Kumar Mr. P.V.V.Pawan kumar Dr. CH. Hemanth Kumar
3	*Control Systems*		
		• Signals and Systems Theory • Control Systems	Dr. P. Bharani Chandra Kumar Dr.P.Ramana Dr.P.Upendra Kumar

		• Advanced Control Systems	Mr. J.S.V. Siva Kumar Mr.I.Ravi Kiran Dr. TSLV Ayyarao
4	*Power Electronics*		
		• Linear and Digital Integrated Circuits • Semiconductor Devices and Circuits • Power Quality • Power Electronics	Dr. K. Karthick Dr. G. Indira Kishore Mr. M. Rambabu Mr.J.S.V.Siva Kumar Dr.M.Prem Kumar Mr.T.S.L.V.Ayyarao Mr. M. Vinay Kumar
5	*High Voltage Engineering*		
		• High Voltage DC Transmission • HV Transmission	Mr.M.Rambabu
b	**Engineering sciences to analyze and design complex electrical and electronic devices, software**		
		• Linear IC Applications • Microprocessors & Microcontrollers • Digital Electronics • Electronic Devices & Circuits	Dr.T.S.L.V.Ayyarao Mr. PVV Pawan Kumar Mr. V. Manoj Dr. K. Karthick
c	**Engineering sciences to analyze and design software and hardware components**		
		• DC Machines Lab • AC Machines Lab • Measurements and Instrumentation Lab • Linear IC Applications Lab • Power Electronics Lab • Electrical Engineering Lab • Electrical Systems and Simulation Lab • Power Systems Lab • Microprocessor & Microcontrollers • Electronics and Device Lab	Mr.J.Ravi Kumar Mr. P. Upendra Kumar Dr.S.P.Mishra Mr. R. Rama Krishna Mr. N S S. Rama Krishna Mr. M. Rambabu Dr D. Danalakshmi Dr. Ch Hemanth Kumar Mr. D Rajesh Babu Dr. G. Indira Kishore Mr. J.S.V. Siva Kumar Dr.T.S.LV. Ayya Rao Mr.L.V.Suresh Kumar Mr.M.Vinay Kumar
d	**Knowledge of Advanced Mathematics Differential equations, linear algebra, complex variables discrete Mathematics**		
		• Discrete Signal Processing • Electrical Circuits	Dr. G Chandrasekhar Dr T S Kishore Dr. D. Danalakshmi Mr. P. Upendra Kumar

Other Relevant Information:

S.No.	Books (2021-22):
1.	Ramana Pilla and G.T. Chandar Sekhar, "Electrical Appliances", Shree Publishing House, October 2021 (ISSN No. 9788195166114)
2.	Ramana Pilla and G.T. Chandar Sekhar, "Circuit Theory and Electronic Devices", Shree Publishing House, October 2021 (ISSN No. 9789391117092)
3.	K.Chitambara Rao, Ramana Pilla and G.T. Chandar Sekhar, "Digital Electronics", Shree Publishing House, October 2021 (ISSN No. 9789391117344)

List of Book/ Book Chapter Publications in CAYm2 (2018-2019)

Sl. No.	Books (2018-19):
1	Kumar P Bharani Chandra and Da-Wei Gu, "Nonlinear filtering: Methods and Applications", Springer International, New York, 2019.https://www.springer.com/us/book/9783030017965
2	Ramana Pilla, M. Surya Kalavathi & G.T. Chandar Sekhar, published a text book titled, "Basic Electrical Engineering (As per revised AICTE model curriculum)", SChand Publications, New Delhi, India, November 2018 (ISBN No: 9789352834846)
3	Ramana Pilla and H.D. Mehta, published a text book titled, "Basic Electrical Engineering(As per GTU, Gujarat syllabus) by SChand Publications, New Delhi, India , November2018 (ISBN No: 9789352835287)
4	Ramana Pilla, "A text book on Network Analysis and Synthesis", Universities Press (India) Pvt. Limited, Hyderabad, India, Published during September 2018.(ISBN No: 9789386235664)
5	Ramana Pilla, M. Surya Kalavathi and G.T. Chandar Sekhar, "A text book on Basic Electrical Engineering (As per JNTUH, Hyderabad syllabus)", SChand Publications, New Delhi, India, Published during September 2018. (ISBN No: 9789352835072)

Guest Lectures delivered:

1. Dr. L.V. Suresh Kumar delivered lecture on "Solar geometry and solar thermal photovoltaic systems" July 28 2021, at GCSR college, Rajam.
2. Dr. L.V. Suresh Kumar delivered lecture on 'Advanced smart automation Technologies in mechatronics' in Online AICTE-ISTE sponsored refresher course on "RECENT TRENDS IN MECHATRONICS", 18-24 March 2021, Kamala Institute of Technology & Science, Karimnagar, Telangana.
3. Dr. P. Bharani Chandra Kumar delivered guest lecture on " State estimation of Aerospace vehicle" 31 July 2019, Dept. of Aerospace engineering, IIT, Kanpur
4. Dr. P. Bharani Chandra Kumar delivered a lecture on "Controls and State Estimation: Past, present and Future" as a webinar organized by IEEE Madras Section, May 02, 2020.
5. Dr. P. Bharani Chandra Kumar delivered lecture on "Introductory lecture on fundamental of control systems" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, May 25, 2020.
6. Dr. P. Bharani Chandra Kumar delivered lecture on "Model control concepts" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, May 26, 2020.
7. Dr. P. Bharani Chandra Kumar delivered lecture on "Modern reference adaptive controllers" as a part of FDP on one-week unique hands-on international online FDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, May 27,2020.
8. Dr. P. Bharani Chandra Kumar delivered lecture on "Kalman filters" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, May 28, 2020.
9. Dr. P. Bharani Chandra Kumar delivered lecture on "Combined controller and estimator" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, May 29,2020.
10. Dr. P. Bharani Chandra Kumar delivered lecture on "Dynamic inversion and feedback linearization" as a part of FDP on one-week unique hands-on international online FDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, May 30,2020.

11. Dr. P. Bharani Chandra Kumar delivered a lecture on "Research Papers, Sponsored Projects and Indexing" as a webinar organized by GMR Institute of Technology, June 07, 2020.
12. Dr. P. Bharani Chandra Kumar delivered a lecture on "Present control systems in Industry and Research perspective" as a part Three day Faculty Development Program organized by SVCET, Srikakulam, June 21, 2020.
13. Dr. P. Bharani Chandra Kumar delivered lecture on "Fundamentals of Control Systems" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 2.0 organized by GMR Institute of Technology, Rajam, July 05, 2020.
14. Dr. P. Bharani Chandra Kumar delivered lecture on "Sliding Mode Control" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 2.0 organized by GMR Institute of Technology, Rajam, July 06, 2020.
15. Dr. P. Bharani Chandra Kumar delivered lecture on "Fault detection and reconstruction" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 2.0 organized by GMR Institute of Technology, Rajam, July 07,2020.
16. Dr. P. Bharani Chandra Kumar delivered lecture on "Back stepping control" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 2.0 organized by GMR Institute of Technology, Rajam, July 08, 2020.
17. Dr. P. Bharani Chandra Kumar delivered lecture on "LQG control" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 2.0 organized by GMR Institute of Technology, Rajam, July 09, 2020.
18. Delivered lecture on "Summary of classical and modern controllers" as a part of FDP on one week unique hands-on international online FDP on control systems design – from a beginner to an expert – 2.0 organized by GMR Institute of Technology, Rajam, July 10, 2020.
19. Dr. P. Bharani Chandra Kumar delivered lecture on "Introductory lecture on fundamental of control systems" as a part of SDP on one week uniquehands-on international online SDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam,July 20, 2020.
20. Dr. P. Bharani Chandra Kumar delivered lecture on "PID Control – Part 1" as a part of SDP on one week unique hands-on international online SDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, July 21, 2020.
21. Dr. P. Bharani Chandra Kumar delivered lecture on "PID Control – Part 2" as a part of SDP on one week unique hands-on international online SDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, July 22, 2020.
22. Dr. P. Bharani Chandra Kumar delivered lecture on "PID Control – Part 3" as a part of SDP on one week unique hands-on international online SDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, July 23, 2020.
23. Dr. P. Bharani Chandra Kumar delivered lecture on "Pole Placement Controller" as a part of SDP on one week unique hands-on international online SDP on control systems design – from a beginner to an expert – 1.0 organized by GMR Institute of Technology, Rajam, July 24, 2020.
24. Dr. P. Bharani Chandra Kumar delivered a lecture on "Control Strategies for Sustainable Energy" as a part of Advances in Teaching and Research in the Field of Green Energy and Sustainable Development, organized by JNTUA College of Engineering, Kalikiri, and November 07, 2020.
25. Dr. P. Bharani Chandra Kumar delivered lecture on "Advanced Control Strategies for Renewable Energy" as a part of AICTE sponsored two week FDP organized by VV Institute of Technology, Guntur, November 13, 2020.
26. Dr. G Chandra Sekhar delivered guest lecture on "Multi Phase transmission system" at Sree data Engg. college, Hyderabad, on 24-6-21.
27. Dr. G Chandra Sekhar delivered guest lecture on "Multi Phase transmission system" at Sree Venkateswara Engg. college, Etcherla on 29-6-21.

28. Dr. P. Ramana delivered a guest lecture at Avanthi's St. Theressa Institute of Engineering & Technology, Garividi to ECE/EEE students on thesubject 'Control Systems' on 05-09-2019.
29. Dr. P. Ramana delivered a guest lecture at Avanthi's St. Theressa Institute of Engineering & Technology, Garividi to ECE/EEE students on the subject 'Power System Analysis' on 10-03-2020.
30. Dr. T S Kishore Served as resource person and delivered an expert talk on "Sustainable Transportation" at AICTE Training and Learning (ATAL)Academy Sponsored One Week Online Faculty Development Program on "Electric Vehicles" during 16th to 20th November, 2020 organized by Aditya Institute of Technology and Management, Tekkali, AP.
31. Dr. T S Kishore Served as resource person and delivered an expert talk on "Small Hydro Power Development" at AICTE sponsored One Week Online Faculty Development Program on "Advances in Teaching and Research in the Field of Green Energy and Sustainable Development" during 2nd to7th November, 2020 organized by Department of EEE, JNTUA College of Engineering, Kalikiri, Chittoor (Dist), AP, INDIA & Directorate of Faculty Development & IQAC, JNTUA, Ananthapuramu.
32. Dr. T S Kishore delivered a talk on "Energy conservation, management and auditing for Sustainable Energy Future" at the Two day online workshop on Present Scenario of Power Systems and Basic Programming with MATLAB, organized by Sri Venkateswara College of Engineering and Technology, Etcherla, Srikakulam Dist., AP during 1st – 2nd June 2020.
33. Dr.L.V. Suresh Kumar delivered lecture on Advanced smart automation Technologies in mechatronics' in Online AICTE-ISTE sponsored refresher course on "RECENT TRENDS IN MECHATRONICS", 18-24 March 2021, Kamala Institute of Technology & Science, Karimnagar, Telangana.
34. Dr.L.V. Suresh Kumar delivered lecture on "Renewable energy sources and SPV systems for final BSC physics" 30th feb 2019, at GCSR college, Rajam.
35. Dr.L.V. Suresh Kumar delivered lecture on "Solar geometry and solar thermal photovoltaic systems" July 28 2021, at GCSR college, Rajam.

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

Innovations by the Faculty in teaching and learning shall be summarized as per the following description.

Contributions to teaching and learning are activities that contribute to the improvement of student learning. These activities may include innovations not limited to, use of ICT, instruction delivery, instructional methods, assessment, evaluation and inclusive class rooms that lead to effective, efficient and engaging instruction. Any contributions to teaching and learning should satisfy the following criteria:

- The work must be made available on Institute website
- The work must be available for peer review and critique
- The work must be reproducible and developed further by other scholars

The department/institution may set up appropriate processes for making the contributions available to the public, getting them reviewed and for rewarding. These may typically include statement of clear goals, adequate preparation, use of appropriate methods, significance of results, effective presentation, and reflective critique

To keep up in pace with the technology development and various innovative teaching and learning pedagogies, continuous faculty capacity building programs play a vital role to maintain the reputation of the institution. Having said that, the Institute has started introducing several best practices to enhance the quality of education offered and creating an enabling environment for both teachers and students for their holistic growth. Having all these challenges in mind in the last decade, several initiatives were introduced to motivate faculty members and promote philosophy of continuous professional development. A policy document with the well-defined SOP has been brought into existence enabling all the faculty members to get aligned with the system. The following activities contribute the innovations towards the teaching and learning, and assessment methods.

Cohesive Teaching Learning Practices

With regard to the Teaching – learning process, to break the monotony of regular lecture based teaching model, an innovative Student centric teaching – learning (T – L) model viz. Cohesive Teaching Learning Practices (CTLP) is introduced to align the classroom delivery in accordance with the Outcome Based Education (OBE). Before the commencement of the class work, academic calendar is prepared well in advance and the compliance is periodically reviewed and ensured by the members of IQAC with the help of various committees (Academic Monitoring Committee) to ensure the systems and process are intact. Nearly 100 courses in-line with CTLP materials are made available to the students in the portal http://117.239.50.214/wbc/index.aspx

CTLP:

Code	Course Title	Year	Name of the Faculty
19EE304	Electromagnetic Field Theory	II	Hemanth kumar chappa
19EE401	AC machines	II	Dr.P.Ramana
19EE402	Electrical Circuits-II	II	Dr.G.Chandra Sekhar
19EE403	Linear and Digital Integrated Circuits	II	Karthick
19EE404	Power Generation Transmission and Distribution	II	Srinivasa Kishore T
19EE405	Signals and Systems Theory	II	Hemanth kumar chappa
20EE302	DC Machines and Transformers	II	Dr.P.Ramana
20EE303	Electrical Circuit analysis	II	Dr.G.Chandra Sekhar
20EE304	Electromagnetic Field Theory	II	Hemanth kumar chappa
20EE305	Measurement and Instrumentation	II	Dr.Rajeshkumar Patnaik
20EE306	Semiconductor Devices and Circuits	II	Dr.Karthick
20EE401.	AC machines	II	Dr.P.Ramana
20EE402	Linear and Digital Integrated Circuits	II	Dr.Karthick
20EE403	Power Electronics	II	J.S.V.Siva Kumar
20EE404	Power Generation Transmission and Distribution	II	Dr.Rajeshkumar Patnaik
20EE405	Signals and Systems Theory	II	Hemanth kumar chappa
20MA302	Engineering Mathematics-III	II	Dr.Y.Aditya
21EE302	DC Machines and Transformers	II	Dr.G.Chandra Sekhar
21MA302	Engineering Mathematics III (Integrated)	II	Dr.Y.Aditya
20EEC21	Green Energy Technology	III	Sthita Prajna Mishra
20EE503	Electrical Drives	III	T.S.L.V.Ayya Rao
20EEC11	Electrical Vehicle Technologies	III	V Manoj
19EEC22	Power Electronic Applications to Green Energy Systems	III	G.Indra Kishore
19IT306A	OOPs through Java	III	V S K Chaitanya
19EE504	Power System Protection	III	G.Indra Kishore
19EE505	Power Electronics	III	J.S.V.Siva Kumar
19EE602	Electrical Drives	III	T.S.L.V.Ayya Rao
19EE603	Power Systems Analysis and Control	III	Dr. D.Danalakshmi
19EEC11	Electrical Vehicle Technologies	III	V Manoj
19EEC12	Electric Vehicle Drive Train Systems	III	J.S.V.Siva Kumar
19EEC21	Green Energy Technologies	III	P.Praveen Kumar
19EE502	Control Systems Integrated Course	III	N V A Ravikumar
19EE002	Renewable Energy Sources	III	D.Rajesh Babu
16EE603	Power System Analysis	III	V.Srikanth Babu
19EE001	Electrical Installation Safety and Auditing	III	Ramakrishna Raghutu
19EE001	Ethics for Electrical Engineers,	III	M.Vinay Kumar
19EE001	Electrical Installation Safety and Auditing	III	M.Vinay Kumar

Code	Course Title	Year	Name of the Faculty
16CS307	Object Oriented Programming	III	Abhisek Sethy
16EC603	Microprocessors and Microcontrollers	III	P V V Pawan Kumar
16EC603	Microprocessors and Microcontrollers	III	M.Vinay Kumar
16EE002	Automotive Electrical Engineering	III	L V Suresh Kumar
16EE004	Renewable Energy Sources	III	D.Rajesh Babu
16EE601	Discrete Signal Processing	III	L V Suresh Kumar
16EE602	Electrical Drives	III	J.S.V.Siva Kumar
16EE015	Power Quality	IV	M.Rambabu
16EE015	Power Quality.	IV	G.Indra Kishore
16EE009	Electric Locomotives, Traction & Vehicles	IV	m.venkatesh
16EE010	PLCs & SCADA	IV	N V A Ravikumar
16EE013	Electrical Installation, Design & Estimation	IV	Ramakrishna Raghutu
16EE013.	Electrical Installation, Design & Estimation.	IV	L V Suresh Kumar
16EE008	Power System Operation and Control	IV	M.Rambabu
16HSX04	Engineering Economics and Project Management	IV	K.V.S.Prasad
16HSX04-2	Engineering Economics and Project Management	IV	K.V.S.Prasad
16HSX04-2	Engineering Economics and Project Management	IV	K.V.S.Prasad
16EE801	Ethics for Electrical Engineers	IV	G.Indra Kishore
16EE801	Ethics for Electrical Engineers	IV	M.Vinay Kumar
16EE802	Power System Protection	IV	Vijaya Krishna Rayi
19EEC13	Battery Management System	IV	Sthita Prajna Mishra

Autonomous courses:

Code	Course Title	Year	Name of the Faculty
ECE2413	Digital Electronics & Microprocessors	II	P.Ravi Kumar
EE.2402	Circuit Theory	II	J.S.V.Siva Kumar
EEE-2406	Power Generation And Distribution	II	M.Vinay Kumar
EEE2403	DC Machines	II	Ramakrishna Raghutu
EEE2405	linear System Analysis	II	J.S.V.Siva Kumar
EEE2407	Transformers and Induction Machines	II	Dr.P.Ramana
EEE2407	Transformers & Induction Machines	II	m.venkatesh
MA2403	Complex Analysis	II	Dr.K.Dasu Naidu
MAT-2403	Complex Analysis	II	Dr.R.Suryanarayana
ME2416	Basic Prime Movers and Pumps	II	S.Ravi Babu
ME2416	BASIC PRIME MOVERS AND PUMPS	II	Ch Vinod Babu
ME3416	BPMP	II	Ch Vinod Babu
EEE4437	Machine Modeling And Steady State Analysis	III	Vijaya Krishna Rayi
IT2405EE	Database Management systems	III	G Veerraju
EEE3422	Electrical Drives	III	T.S.L.V.Ayya Rao
EEE3424	SWITCH GEAR & PROTECTIVE DEVICES	III	M.Rambabu
EEE3425	High Voltage Engineering	III	D.Rajesh Babu
EEE3426	Utilization of Electrical Energy	III	Srinivasa Kishore T
EEE3427	Renewable Energy Sources	III	M.Vinay Kumar
EEE314	Power Electronics	III	T.S.L.V.Ayya Rao
EEE3318	Electrical Power Transmission	III	M.Vinay Kumar
EEE3416	Electrical Measurements and	III	T Satyanarayana

Code	Course Title	Year	Name of the Faculty
	Instrumentation		
EEE3417	Electrical Power Transmission	III	M.Rambabu
EEE3417.	Electrical Measurements & Instrumentation	III	B Harish
EEE3420	SYNCHRONOUS AND SPECIAL MACHINES	III	Ramakrishna Raghutu
ECE3421	DIGITAL SIGNAL PROCESSING	III	M.Bala Krishna
EEE3416	High voltage transmission	IV	Dr.G.Chandra Sekhar
EEE-4431	Power System Operation and Control	IV	Srinivasa Kishore T
EEE4430	Power System Analysis	IV	M.Rambabu
EEE4432	Digital Control Systems	IV	P.Upendra Kumar
EEE4436	Electrical Machine Design	IV	V.Srikanth Babu

Archives (JNTUK and Other courses)

Code	Course Title	Year	Name of the Faculty
19EE304	Electromagnetic Field Theory	II	Hemanth kumar chappa
19EE401	AC machines	II	Dr.P.Ramana
19EE402	Electrical Circuits-II	II	Dr.G.Chandra Sekhar
19EE403	Linear and Digital Integrated Circuits	II	Karthick
19EE404	Power Generation Transmission and Distribution	II	Srinivasa Kishore T
19EE405	Signals and Systems Theory	II	Hemanth kumar chappa
20EE302	DC Machines and Transformers	II	Dr.P.Ramana
20EE303	Electrical Circuit analysis	II	Dr.G.Chandra Sekhar
20EE304	Electromagnetic Field Theory	II	Hemanth kumar chappa
20EE305	Measurement and Instrumentation	II	Dr.Rajeshkumar Patnaik
20EE306	Semiconductor Devices And Circuits	II	Karthick
20EE401	AC machines	II	Dr.P.Ramana
20EE402	Linear and Digital Integrated Circuits	II	Karthick
20EE403	Power Electronics	II	J.S.V.Siva Kumar
20EE404	Power Generation Transmission and Distribution	II	Dr.Rajeshkumar Patnaik
20EE405	Signals and Systems Theory	II	Hemanth kumar chappa
20MA302	Engineering Mathematics-III	II	Dr.Y.Aditya
21EE302	DC Machines and Transformers	II	Dr.G.Chandra Sekhar
21MA302	Engineering Mathematics III (Integrated)	II	Dr.Y.Aditya
20EEC21	Green Energy Technology	III	Sthita Prajna Mishra
20EE503	Electrical Drives	III	T.S.L.V.Ayya Rao
20EEC11	Electrical Vehicle Technologies	III	V Manoj
19EEC22	Power Electronic Applications to Green Energy Systems	III	G.Indra Kishore
19IT306A	OOPs through Java	III	V S K Chaitanya
19EE504	Power System Protection	III	G.Indra Kishore
19EE505	Power Electronics	III	J.S.V.Siva Kumar
19EE602	Electrical Drives	III	T.S.L.V.Ayya Rao
19EE603	Power Systems Analysis and Control	III	Danalakshmi
19EEC11	Electrical Vehicle Technologies	III	V Manoj
19EEC12	Electric Vehicle Drive Train Systems	III	J.S.V.Siva Kumar
19EEC21	Green Energy Technologies	III	P.Praveen Kumar
19EE502	Control Systems Integrated Course	III	N V A Ravikumar
19EE002	Renewable Energy Sources	III	D.Rajesh Babu

Code	Course Title	Year	Name of the Faculty
16EE603	Power System Analysis	III	V.Srikanth Babu
19EE001	Electrical Installation Safety and Auditing	III	Ramakrishna Raghutu
19EE001	Ethics for Electrical Engineers,	III	M.Vinay Kumar
19EE001	Electrical Installation Safety and Auditing	III	M.Vinay Kumar
16CS307	Object Oriented Programming	III	Abhisek Sethy
16EC603	Microprocessors and Microcontrollers	III	P V V Pawan Kumar
16EC603	Microprocessors and Microcontrollers	III	M.Vinay Kumar
16EE002	Automotive Electrical Engineering	III	L V Suresh Kumar
16EE004	Renewable Energy Sources	III	D.Rajesh Babu
16EE601	Discrete Signal Processing	III	L V Suresh Kumar
16EE602	Electrical Drives	III	J.S.V.Siva Kumar
16EE015	Power Quality	IV	M.Rambabu
16EE015	Power Quality.	IV	G.Indra Kishore
16EE009	Electric Locomotives, Traction & Vehicles	IV	M.Venkatesh
16EE010	PLCs & SCADA	IV	N V A Ravikumar
16EE013	Electrical Installation, Design & Estimation	IV	Ramakrishna Raghutu
16EE013	Electrical Installation, Design & Estimation.	IV	L V Suresh Kumar
16EE008	Power System Operation and Control	IV	M.Rambabu
16HSX04	Engineering Economics and Project Management	IV	K.V.S.Prasad
16HSX04-2	Engineering Economics and Project Management	IV	K.V.S.Prasad
16HSX04-2	Engineering Economics and Project Management	IV	K.V.S.Prasad
16EE801	Ethics for Electrical Engineers	IV	G.Indra Kishore
16EE801	Ethics for Electrical Engineers	IV	M.Vinay Kumar
16EE802	Power System Protection	IV	Vijaya Krishna Rayi
19EEC13	Battery Management System	IV	Sthita Prajna Mishra
R22022	Power Systems-1	II	M.Rambabu
R22024	Electrical Machines-II	II	Dr.P Kanta Rao
R22026	Control Systems	II	S Lalitha Kumari
07A3021	Electrical Machines-1	II	J.S.V.Siva Kumar
07A30401	Pulse and Digital Circuits	II	D.Venkata Ramana
07A3EC02	Fluid Mechanics and Hydraulic Machines	II	Dr.Gvss Sharma
07E3020	ElectricalMachines-1	II	G.Indra Kishore
07E3021	Electrical Machines-I	II	T.S.L.V.Ayya Rao
07EE3021	Electrical Machines-1	II	M. Suresh Kumar
10A2EE01	Electrical Circuit Analysis-II	II	J Usha Rani
10A2EE02	Electromagentic Fields	II	Satishgmmd
10AEC201	Electrical Circuit Analysis-1	II	J Usha Rani
10B2EE03	Switching theory and logic design	II	K.Chiranjeevi
10B2EE05	Control System	II	J.S.V.Siva Kumar
A4EE02	Linear and Digital IC Applications	II	K.Krishna Kisohre
EE05149	Control System	II	Dr.P.Ramana
EE05468	Power Systems-1	II	G.Indra Kishore
EE2092	Electrical Machines-II	II	Hemanth Kumar Chappa
EE21111	Electrical Circuit Analysis-I	II	Dr.P.Ramana
EEC02	Electrical Machines-II	II	T.S.L.V.Ayya Rao
EM1R10	Electrical Machines I	II	M.Vinay Kumar

Code	Course Title	Year	Name of the Faculty
M-III	Mathematics-III	II	Dr.K.Dasu Naidu
R10	Managerial Economics and Financial Analysis	II	Dr.D.Srinivasakumar
R102033	Electrical Circuit Analysis-II	II	Dr.P.Ramana
R10204	Electromagnetic fields	II	S Lalitha Kumari
R102101	Fluid Mechanics & Hydraulic Machinery	II	S.Ravi Babu
R10EE003	pulse and digital circuits	II	K.Chiranjeevi
R10EEEDC	Electronic Devices and Circuits	II	N.V.Lalitha
R10EEE13	Utilization of Electrical Energy	III	M.Vinay Kumar
MPMCR10	Microprocessors and Microcontrollers	III	N.V.Lalitha
EE2703	Instrumentation	III	Hemanth Kumar Chappa
EE07303	Electrical Machines-3	III	Hemanth Kumar Chappa
EE05321	Instrumentation	III	G.Indra Kishore
EE05404	Microprocessors and Microcontrollers	III	Gbsr Naidu
7A5EC02	Power Electronics	III	T.S.L.V.Ayya Rao
10EE407	Linear Digital IC Applications	III	K.Chiranjeevi
310206	Power Electronics	III	R Srinivasa Rao
10A5EE02	Power System Analysis	III	G.Indra Kishore
07EE5204	Linear Systems Analysis	III	M. Suresh Kumar
07A6ECE3	VLSI Design	III	D.Venkata Ramana
07A50201	Electrical Measurements	III	M.Rambabu
07A50202	Power Systems-II	III	M.Rambabu
07A50204	Linear Systems Analysis	III	Dr.P.Devendra
07A5EC02	Power Electronics	III	J.S.V.Siva Kumar
07A6E202	Switchgear and Protection	III	M.Rambabu
07A6EC02	Microprocessors and Microcontrollers	III	Anil Kumar B
07A6EC03	VLSI Design	III	P.Devi Pradeep
R7A6EC03	VLSI Design	III	G.Suresh
07A10201	Electrical Measurements	III	V.Srikanth Babu
R32021	Electrical Machine Design	III	V.Srikanth Babu
R32025	Power Semiconductor Drives	III	J.S.V.Siva Kumar
R31022	Electrical Measurements	III	V.Srikanth Babu
R310255	EM-3	III	Dr.P.Ramana
R10MS	Management Science	III	K.V.S.Prasad
R10MPMC	Microprocessors & microcontrollers	III	P.Ravi Kumar
R42024	Special Electrical Machines	IV	T Satyanarayana
R4102A	Electrical Distribution Systems	IV	P.Praveen Kumar
R42024	Special Electrical Machines	IV	Balajivenkateswaran.V
07A70202	Power System Analysis	IV	M.Rambabu
07A702E4	HVDC Transmission	IV	M.Rambabu
07A7EC01	Neural Networks and Fuzzy Logic	IV	Satishgmmd
10A70202	High Voltage Engineering	IV	D.Rajesh Babu
10A80205	NON CONVENTIONAL SOURCES OF ENERGY	IV	P.Praveen Kumar
10A70203	Switch Gear Protection	IV	M.Rambabu
10A80201	Digital Control Systems	IV	M.Rambabu
CS05159	Database management Systems	IV	V.Srinadh
E05568	Utilization of Electrical Energy	IV	T.S.L.V.Ayya Rao
EE05439	Optimization Techniques	IV	Dr.P.Govinda Rao
EE05568	Utilization of Electrical Energy	IV	Dr.M.Venkateswara Rao
EE05465	Power System Analysis	IV	Dr.P.Ramana

Code	Course Title	Year	Name of the Faculty
EE05466.	Power System Operation and Control	IV	Dr.P Kanta Rao
EEE41E41	Artificial Intelligent Technique	IV	Ajit Kumar Rout
EE4105	Non-Conventional Sources of Energy	IV	L V Suresh Kumar
EE5464	Power Semiconductor Drives	IV	T.S.L.V.Ayya Rao
R07201	Digital Control systems	IV	Dr.P.Ramana
M0223	Power System Operation and control	IV	S Lalitha Kumari
R07NNFL	Neural Networks & Fuzzy Logic	IV	Dr.Sasanko Sekhar Gantayat
R07UEE	Utilization of Electrical Energy	IV	M.Vinay Kumar
EEO5467	Power System Analysis	IV	G.Indra Kishore
EEEJAVA	Object Orient Programming	IV	K.Lakshmana Rao
EEL407	Non-Conventional Sources of Energy	IV	J Usha Rani
HVE2010	High Voltage Engineeeering	IV	M.Vinay Kumar
K0223	Digital Control Systems	IV	M.Rambabu
K0226	Object Oriented Programming Through JAVA	IV	G.Narasinga Rao
K0228	OOPs Through JAVA	IV	G.Anu Radha

Video Lectures

In supplement with the classroom delivery, the faculty members are motivated towards developing e-content in the video format. In one of initiatives of IQAC, i.e. FADS, it was incentivized and being regularly monitored and now, the members are volunteering seeing the impact of these **video courses** among the students during the COVID-19 season where the education system realized the importance of digital learning. The students who are unable to attend a particular class due to valid reasons and those who are preparing for backlog examination will be getting benefited by learning using the video lecture available in the portal. A complete set-up towards capturing the video lecture and editing software is available. The video capturing is organized in a scheduled manner based on the availability of resources and camera man. The courses are made available to the students in the portal http://172.30.4.23/vbc/eee/eee.aspx

Sl. No	Course Title	Name of the Faculty
1.	Control Systems	Dr .P.Ramana
2.	Circuit Theory	Dr. G.Chandra Sekhar
3.	Power System Analysis	Dr. D.Danalakshmi
4.	Power Plant Engineering and Economics	Dr. S.P.Mishra
5.	Automotive Electrical Engineering	Dr. T. S. Kishore
6.	Synchronous Machines	Dr. M. Prem kumar
7.	Power system operational control	Dr. L V Suresh Kumar
8.	Basic Electrical Engineering	Mr.N.S.S.Rama Krishna
9.	Power electronics	Dr.TSLV.Ayya Rao

Flipped Learning

In every class, a few or more students will be more active compared to their peers. Towards motivating the active learners, flipped learning was introduced as one of the exciting teaching methodologies. A few topics are chosen and the respective learning materials such as lecture notes and presentations are provided to the students to be viewed before the classroom delivery. By this, the students could be able to learn of their own style. It also improves their self-learning ability. They could be able to raise more doubts during the regular classes.

Integrated Course

Integrated courses are exclusively designed to provide a unique learning experience to the students with the concept of layered learning where the students have the chances to practice while learning. These courses are designed by blending both theory and laboratory components in their core curriculum and will be evaluated for 130 marks.

Open Book Examination

To assess the solid understanding of the subject, Open Book Examinations are included as a part of assessment. The students will be given challenging questions where the answers are not available simply/ directly in the book. The students are allowed to carry the book or other approved material to the exam hall. The questions are prepared such that the students could be able to answer in more critical and analytical ways which is based on their understanding of the course content. This method of assessment motivates the students towards learning in-depth and encourages higher order thinking. The challenging part is the question setting. The teachers have been given special training on how to set questions for open book examinations.

ICT tools

Faculty are well versed with the usage of ICT tools such as Graphic tablets, Projector, Active-pen, Interactive projectors, etc., to facilitate easy learning and to present the information in different interactive modes. This visually attractive method of teaching becomes appealing to students. The students can easily relate the concepts with the animated visuals and the audio-visual senses of students are targeted to grab the information effectively.

Activity based learning

Co-curricular and extracurricular activities are conducted every weekend to motivate the students and to improve problem solving capabilities, leadership abilities, co-operation in teamwork, consciousness in professional ethics and administering critical situations. These activities include Webinar, Aptitude Training, Social Welfare Camp, Problem solving, Entrepreneurship Development Programs, Critical Thinking, Group Discussion. etc.

Tutorial sessions for Analytical and Programming subjects

Tutoring programs can help the students to develop study and learning skills that will help set up for their lifetime success. There are many advantages of tutoring services:
Individual and unique learning experience, One-on-one attention, improves academic performance, improves attitude towards learning, encourages self-paced and self-directed learning, improves self-esteem and confidence, encourages independence and responsibility, helps overcome learning obstacles and encourages the freedom to ask questions

Assignments

Assignments are given based on the real-time engineering problems to the students to understand and come out with the solutions. Group assignments are also given to improve the self-learning and teamwork of students.

Project-based learning

The Department frames its curriculum in such a way that students acquire the skills to design and create complex hardware solutions through various activities including main and mini projects and hobby projects. Project based learning also tends to encourage the teamwork among the students.

Value Added Courses

Apart from the core curriculum, these courses are conducted by department to give key knowledge to students in a specific advance in core field. It improves the employability skills and promote professional and life-oriented skills of the students.

Seminars and Technical Presentation

Students are encouraged to give presentation on any technical topic in their area of interest in various National and International Technical Events, which will serve for knowledge transfer and to overcome stage fear. Term Paper is introduced in the curriculum in order to improve their communication skills which play a significant role in their career growth.

Full Semester Internship

Full Semester Internship is introduced in the curriculum to bridge the gap between theoretical learning and practical training in a real-time environment. The students are able to understand the industrial practices and organizational hierarchy during the training.

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

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

Name of the Faculty	Max. 5 per Faculty			
	2021-22	CAY(2020-21)	CAYm1(2019-20)	CAYm2(2018-19)
Dr.P. Bharani Chandra Kumar				
Dr.G.Chandra Sekhar	5	5	5	5
Dr. M. Venkateswara Rao				
Dr. P. Ramana	5	5	5	3
Dr. T. Srinivas Kishore	5	5	5	3
Dr.Rajesh Kumar Patnaik	5	5	5	5
Dr.K.Karthick	5	5	3	3
Dr.D.Danalakshmi	5	5	3	
Dr.M.Prem Kumar		5	5	3
Dr. Ch. Hemanth Kumar	5	5	5	
Dr. G. Indira Kishore	5	5	3	
Dr.T.S.L.V. Ayya Rao	5	5	3	3
Dr. L.V. Suresh Kumar	5	5	5	5
Dr.P.Upendra Kumar		5	5	
Mr. J.S.V. Siva Kumar	5	5	5	5
Mr. M. Rambabu	5	5	5	3
Mr. V.Srikanth Babu	5	5	5	5
Mr. M.Vinay Kumar	5	5	3	5
Dr. Sthita Prajna Mishra	5	5	5	3
Mr. R.Rama Krishna	5	5	5	3
Mr. I.Ravi Kiran				5
Mr.N.S.S. Ramakrishana	5	5	5	

Name of the Faculty	Max. 5 per Faculty			
	2021-22	CAY(2020-21)	CAYm1(2019-20)	CAYm2(2018-19)
Mr. D. Rajesh Babu	5	5	3	5
Mr. R. Vijaya Krishna	5	5	5	3
Mr.Ravi Kumar Jalli	5	5	5	3
Dr.N.V.A.Ravi Kumar	5	5	5	5
Mr.V.Manoj	5	5	5	5
Mr.P.V.V.Pawan Kumar	5	5		5
Sum	115	125	108	85
***RF*= Number of Faculty required to complywith 20:1 Student-Faculty ratio as per 5.1**	23.00	23.00	23.00	23.00
Assessment = 3 × (Sum/0.5 RF) (Marks limited to 15)	30	32.60	28.17	22.17
Average assessment over last three years (Marks limited to 15) =			15	

Table B.5.7

5.8. Research and Development (75)

5.8.1.Academic Research (20)

Academic research includes research paper publications, Ph.D. guidance, and faculty receiving Ph.D. during the assessment period

- Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc. (15)
- Ph.D.. guided /Ph.D. awarded during the assessment period while working in the institute

All relevant details shall be mentioned.

Total No. of Publications by Faculties

Academic Year	(2021-2022)	CAY (2020-21)	CAYm1(2019-20)	CAYm2(2018-19)
No. of Publications	69	85	59	51
No of Citations	213	76	163	189

No. of publications

Sl. No.	Name of the faculty	CAYm2(2018-19)				CAYm1(2019-20)				CAY (2020-21)				(2021-22)			
		J	C	B/Bc	Oth	J	C	B/Bc	Oth	J	C	B/Bc	Oth	J	C	B/Bc	Oth
1.	Dr.P. Bharani Chandra Kumar	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
2.	Dr.G.Chandra Sekhar	1	0	0	1	2	0	0	0	4	0	0	0	3	0	0	0
3.	Dr. P. Ramana	4	0	4	0	4	3	0	0	2	0	3	0	3	0	7	0
4.	Dr. T. Srinivas Kishore	1	1	0	0	2	2	0	0	1	0	0	1	2	1	0	0
5.	Dr.Rajesh Kumar Patnaik	1	1	0	0	2	0	0	0	4	0	0	0	3	0	0	0

6.	Dr.K.Karthick	2	0	0	2	1	2	0	0	5	0	0	0	6	0	0	0
7.	Dr.D.Danalakshmi	1	0	0	0	4	1	0	0	2	0	0	1	3	0	0	0
8.	Dr. Sthita Prajna Mishra	0	0	0	0	2	3	0	0	0	4	0	0	1	2	1	0
9.	Dr. P. Prem Kumar	9	0	0	0	17	2	0	0	7	0	0	0	2	0	0	0
10.	Dr. Ch. Hemanth Kumar	0	0	0	0	0	0	1	0	2	0	0	0	2	0	0	0
11.	Dr. G. Indira Kishore	1	0	0	0	3	0	0	0	1	1	0	0	0	0	0	0
12.	Dr.T.S.L.V. Ayya Rao	2	0	0	0	2	1	0	0	0	0	0	0	3	0	0	0
13.	Dr. L.V. Suresh Kumar	1	0	0	0	3	2	0	0	1	0	0	0	2	0	0	0
14.	Dr.P.Upendra Kumar	1	1	0	0	3	0	0	0	1	0	0	0	0	1	0	0
15.	Mr. J.S.V. Siva Kumar	0	0	0	0	2	1	0	0	5	0	0	0	1	0	0	0
16.	Mr. M. Rambabu	1	1	0	1	1	0	0	0	4	1	0	0	3	1	0	0
17.	Mr. V.Srikanth Babu	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
18.	Dr. M.Vinay Kumar	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
19.	Mr. R.Rama Krishna	1	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0
20.	Mr.P.Praveen Kumar	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0
21.	Mr.N.S.S. Ramakrishana	2	0	0	0	1	0	0	0	0	0	0	0	4	1	0	0
22.	Mr. D. Rajesh Babu	1	0	0	0	2	0	0	0	1	0	0	0	1	1	0	0
23.	Mr. R. Vijaya Krishna	0	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
24.	Mr.Ravi Kumar Jalli	0	0	0	1	2	1	0	0	1	0	0	0	2	0	0	0
25.	Dr.N.V.A.Ravi Kumar	1	0	0	0	3	0	0	0	1	0	0	0	1	1	0	0
26.	Mr.V.Manoj	2	0	0	0	3	0	0	0	1	0	0	0	2	0	0	0
27.	Mr.P.V.V.Pawan Kumar	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

J – Indexed Int. Journal, C – Indexed Int. Conference, B/Bc – Indexed Book/ Book Chapter, Oth – Others

Details of Ph.D. guidance

Assessment Year	Supervisor(s)	Title	Name of Scholar	Reg. No	University	Status till AY:2021-22
2018-19	Dr. P.Ramana	Design and Performance Evaluation of Active Power Filter for Micro Grid Connected Distribution System	Mr. V.Manoj	SSSEE1902	Sri Satya Sai University of Technology & Medical Sciences, Bhopal	Pursuing
2018-19	Dr.Rajesh Kumar Patnaik	Analysis of HVDC Transmission	Mr. D.Rajesh Babu	180506202001	Centurion University of Technology and	Pursuing

		line by TKEO algorithm			management , Perlakhemundi, Odisha	
2017-18	D Elangovan T S Kishore	Techno Economic Analysis for A Hybrid Micro Grid System	Mr.NSS Rama Krishna	17PHD0104	VIT Vellore	Pursuing
2018-19	Dr. S P Mishra	DC Microgrid	Mr. Vijay Krishna	1881001040	SOA University	Pursuing
2018-19	Dr. S P Mishra	Microgrid and Renewable energy	Mr.J.Ravi Kumar	1881001030	SOA University	Pursuing

List of Faculties Awarded Ph.D.

Sl. No.	Name of the Faculty	University	Year of award	AY
1	Dr P Praveen Kumar	IIT Roorkee	2021	21-22
2	Dr. M. Rambabu	JNTU, Kakinada	2021	21-22

Details of Ph.D. Pursuing

Sl. No.	Name	Reg. No.	University	Supervisor Details	Month, Year of Reg.	Research Area
1.	Mr. V. Srikanth Babu	14022P0233	JNTU, Kakinada	Dr. T. Suresh Kumar Professor Department of EEE, Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad, Telangana	September 2014	Power Systems
2.	Mr. R. Ramakrishna	Y15EER005	ANU, Guntur	Dr.PV Ramanarao, ANU, Guntur	December 2014	Micro grid controllers (Power systems)
3.	Mr.NSS Ramakrishna	17PHD0104	Vellore Inst. of Technology, Vellur	Dr. D.Elangovan, Associate Prof. and head, School of Electrical Engg., TIFAC CORE	August 2017	Renewable energy
4.	Mr. R. Vijaya Krishna	1881001040	Siksha O Anusandhan	Prof. PK Dash	August 2018	DC Microgrid
5.	Mr.J.Ravi Kumar	1881001030	Siksha O Anusandhan	Prof. PK Dash	August 2018	Microgrid, PV , Wind Power
6.	Mr. D. Rajesh Babu	180506202001	Centurion University of Technology and management ,	1.Dr. Abhinna Chandra Biswal (Internal Supervisor) 2. Dr. Rajesh Kumar	September 2018	Fault Analysis on HVDC Transmission link

Sl. No.	Name	Reg. No.	University	Supervisor Details	Month, Year of Reg.	Research Area
			Perlakhemundi, Odisha	Patnaik (External Supervisor)		
7.	Mr. V. Manoj	SSSEE1902	Sri Satya Sai University of Technology and Medical Sciences, Bhopal	1. Dr. Prabodh Khampariya 2. Dr. P.Ramana, Professor and Head of EEE, GMRIT (CO-supervisor)	January 2019	Design and Performance Evaluation of Active Power Filter for Micro Grid Connected Distribution System
8.	Mr. J.S.V. Siva Kumar	74642	Andhra Univerisy, Visakhapatnam	Prof.P.Mallikarjunarao	April 2014	Control of DC-DC converters in EV

5.8.2.Sponsored Research (20)

- Funded research from outside:
  (Provide a list with Project Title, Funding Agency, Amount and Duration) Funding Amount (Cumulative during CAY (2020-21), CAYm2 and CAYm3):
  Amount > 50 Lakh – 20 Marks,
  Amount > 40 and < 50 Lakh – 15 Marks, Amount > 30 and < 40 Lakh – 10 Marks, Amount > 15 and < 30 Lakh – 5 Marks, Amount < 15 Lakh – 0 Marks

The details sponsored research projects comprising the total amount of funds are shown in table

2019-2020

Project Title	Duration	Funding Agency	Amount (in Rupees)
Enhancing the Quality of Life of SC community in Rajam Block (Srikakulam District) of Andhra Pradesh through establishment of a Common Facility Centre for Bamboo Processing	3 Years	DST	15954000.00

2018-2019

Project Title	Duration	Funding Agency	Amount (in Rupees)
FIST	5 Years	DST	5449245.00

2017-2018

Project Title	Duration	Funding Agency	Amount (in Rupees)
Control Oriented Air-breathing Scramjet Engine Propulsion System Model for TSTO mission	3 years	ISRO-RESPOND	1704000

5.8.3.Development activities (15)

Provide details:

- Product Development
- Research laboratories
- Instructional materials
- Working models/charts/monograms etc.

Product development

S.No	Dept.	Academic year	Title of the project/Product	Guide Name
1	EEE	2021-22	Mechanical footstep power generation by using rack and pinion	Dr. G Chandra Sekhar
2	EEE	2021-22	Automatic Solar Tracking Based Food Dehydrator	Mr. J Ravi kumar
3	EEE	2018-19	Arduino Based Dual Axis Solar Tracking System Using Servo Mechanism	Dr Rajesh Kumar Patnaik
4	EEE	2018-19	Design of Solar Umbrella	Dr. G. Chandra Sekhar
5	EEE	2018-19	Smart brick making machine	Mr. M. Premkumar
6	EEE	2019-20	Electric Bicycle Using IOT	Dr.LV. Suresh Kumar
7	EEE	2019-20	Solar Electric Vehicle	Mr.NSS. Ramakrishna
8	EEE	2020-21	Arduino controlled Robotic Arm using Bluetooth	Dr.S P Mishra
9	EEE	2020-21	Autonomous car using machine learning	Dr.T.S.L.V.Ayyarao

Research laboratories

Details of Available Equipment and Software for research

S.No.	Equipment / Software	Cost in (INR)	Utilization
1.	OPAL-RT	58,43,863	To conduct various hardware implementation of novel algorithms
2.	dSPACE DS 1103	15,05,000	PG - Power Electronics & Drives Lab
3.	MATLAB-2012	12,59,728	UG & PG - Simulation Lab
4.	PSCAD 4.1.2 Software	2,92,500	UG & PG - Simulation Lab
5.	MATLAB 7.04 Software	2,82,385	UG & PG - Simulation Lab
6.	NI ELVIS II	2,50,264	PG - Power Electronics & Drives Lab
7.	Spectrum Analyser	2,96,000	PG - Power Electronics & Drives Lab

Instructional materials

Instructional materials are provided to the students and faculty members in various forms such as:

- LAN Courses
  With regard to the Teaching – learning process, to break the monotony of regular lecture based teaching model, an innovative Student centric teaching – learning (T – L) model viz. Cohesive Teaching Learning Practices (CTLP) is introduced to align the classroom delivery in accordance with the Outcome Based Education (OBE). Before the commencement of the class work, academic calendar is prepared well in advance and the compliance is periodically reviewed and ensured by the members of IQAC with the help of various committees (Academic Monitoring Committee) to ensure the systems and process are intact.
  The resources are available in the following link
  http://117.239.50.214/wbc/it/eeesubjects.aspx
- Lab Manuals
  - Lab manuals are made available for the students to improve their practical skills
- Video Lectures
  - To enhance the availability of learning resources to the students, the video lectures are covered and made available in the following link
    http://172.30.4.23/vbc/eee/eee.aspx

Working models, charts, Monograms are available in all the laboratories for the reference of student's.

5.8.4.Consultancy (from Industry) (20)

(Provide a list with Project Title, Funding Agency, Amount and Duration)
Funding Amount (Cumulative during CAY (2020-21), CAYm1 and CAYm3):
Amount >10 Lacs – 20 Marks,
Amount <10 and > 8 Lakh – 15 Marks,
Amount < 8 and > 6 Lakh – 10 Marks,
Amount < 6 and > 4 Lakh – 5 Marks,
Amount < 4 and > 2 Lakh – 2 Marks,
Amount < 2 Lakh – 0 Mark
The details of the consultancy projects executed by the department are depicted in Table
2019-20

Project Title	Duration	Funding Agency	Amount
Online Exams	1	TCS ion	200010

2018-19

Project Title	Duration	Funding Agency	Amount
Power bill auditing	2 months	Black cactus Global	10000

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

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

- A well-defined system for faculty appraisal for all the assessment years (5)
- Its implementation and effectiveness (5)

For continuous review of the performance and the capacity building, an annual appraisal system is in place. All the staff members have a mandate of submitting a self-appraisal highlighting the various credentials acquired in academic, research and admin domain which in turn will be reviewed by the respective HoDs for the appropriate recommendations. Self-appraisal form having 29 different parameters is available at Link: http://61.246.187.116/gmritnew/nba/rubric self-appraisal Form.pdf. The self-appraisal format enables and provides a scope to all the staff members for enhancing their performance quality under various heads. Annual increment for all the staff members is recommended based on both quantitative and qualitative metrics.
Beyond the annual increment to motivate and promote overall professional growth, an incentive scheme is introduced in line with API. The scheme in the name of Faculty Assessment and Development Scheme (FADS) was introduced as a part of the HR policy. A copy of the scheme is available at Link: http://61.246.187.116/gmritnew/nba/Policy%20on%20FADS.PDF. The points accrued under FADS have provision to get redeemed for the monitory benefit.

S. No.	Item	2021-22	2020-21	2019-20	2018-19
1.	No. of Journals	52	66	50	42
2.	No. of conferences	09	18	05	04
3.	No. of patents	--	--	--	-
4.	Projects submitted	10	10	07	07
5.	Projects Sanctioned	--	--	--	1
6.	Books/Book chapter	08	01	04	05
	Total (Journal + conferences + B/BC)	69	85	59	51

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

Adjunct faculty also includes Industry experts. Provide details of participation and contributions in teaching and learning and /or research by visiting/adjunct/Emeritus faculty etc. for all the assessment years:

- Provision of visiting/adjunct faculty (1)
- Minimum 50 hours per year interaction with adjunct faculty from industry/retired professorsetc.(9)

(Minimum 50 hours interaction in a year will result in 3 marks for that year; 3marks x 3years=9marks)

Visiting Faculties for (2018 – 2019)

Sl. No.	Name of the Faculty	Organization	Designation	Visiting/ Adjunct/ Emeritus	No. of hours handled	Subject(s) handled
1	Dr.R.P.Dahiya	IIT Delhi	Professor	Distinguish Professor	60	Research
2	Mr. Narvaraj singh	GMR Energy Development Centre, Kamalanga Energy Limited	Manager	Visiting	60	Renewable and Non Energy Power plants

Visiting Faculties for (2019 – 2020)

Sl. No.	Name of the Faculty	Organization	Designation	Visiting/ Adjunct/ Emeritus	No. of hours handled	Subject(s) handled
1	Dr.R.P.Dahiya	IIT Delhi	Professor	Distinguish Professor	60	Research
2	Mr. Narvaraj singh	GMR Energy Development Centre, Kamalanga Energy Limited	Manager	Visiting	60	Renewable and Non Energy Power plants

Visiting Faculties for (2020 – 2021)

Sl. No.	Name of the Faculty	Organization	Designation	Visiting/ Adjunct/ Emeritus	No. of hours handled	Subject(s) handled
1	Mr. Narvarasingh	GMR Energy Development Centre, Kamalanga Energy Limited	Manager	Visiting	60	Renewable and Non-Energy Power plants

Criteria – 6
Facilities and Technical Support [80M]

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

S. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the Important equipment	Weekly utilization status (all the courses for which the labs utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1	Electrical Measurement & Instrumentation Lab	3	1. 725 VA inverter(01no) 2. Digital earth resistance measuring kit(02no) 3. phase induction motor(cut type) (01no) 4. Kelvin Double Bridge 5. Phase shifting transformer 6. Measurement of Iron loss kit 7. Motorized Oil Set Kit 8. Potentiometer 9. Kelvin Double Bridge 10. AC bridge (Maxwell Bridge) 11. L.V.D.T 12. Wheatstone Bridge 13. Anderson Bridge 14. strain gauge kit 15. Schering Bridge 16. Schering Bridge 17. Potentiometer	Utilized (12 Hours)	Mr. A. Damodhara Rao	Lab-Technician	Diploma

2.	Machines Lab	3	1. DC Shunt Motor-(3Nos) 2. DC Series Motor-(1No) 3. DC Compound Motor-(1Nos) 4. DC Shunt Generator-(2Nos) 5. DC Series Generator-(2No) 6. DC Compound Geerator-(1No) 7. Single phase Induction motor-(1No) 8. Slip ring Induction motor-(1No) 9. Squirrel cage Induction motor-(1No) 10. 3 phase Alternator-(2Nos) 11. Cascaded induction motor set-(1No) 12. Single phase Transformer-(8Nos)	Utilized (12 Hours)	Mr. S. Kamesh	Lab-Technician	B.Tech
3.	Simulation of Electrical Systems Lab	1	1.Dell Optiplex 3010, 4GB RAM, 500GB HDD Systems 2. 4 GB, 256 MB 3.0 GHz Mother Board Ram1.44MB Intel P4-Systems. 3. ACER INTEL Pentium-IV, C-1, 4GB RAM, 500GB HARD DISK Systems 4. PSCAD 4.1.2 5. PSPICE 16.0 6.Wonderware(SCADA) 7. LabVIEW 8. PSIM 8.0	Utilized (12 Hours)	Mr. D. Durga Rao	Sr. Lab-Assistant	Diploma
4.	Power Electronics Lab	3	1. Study of Characteristics of SCR,MOSFET and IGBT Gate Firing Circuits of SCR's(2 No) 2. Single phase AC voltage controller	Utilized (12 Hours)	Mr. A. Damodhara Rao	Lab-Technician	Diploma

			R&RL Loads(2No) 3. Single phase fully controlled bridge converter with R & RL loads(2 No) 4. Forced commutation circuits class A,B,C,D,E(2 No) 5. Class A commutation Chopper with R & RL Loads (Motor) 6.Single phase parallel inverter with R & RL Loads 7. Single Phase Half controlled Bridger converter with R & RL Loads 8. Three Phase Half Controlled bridge converter R load 9. Single Phase series inverter with R & RL Loads 8.Gate Firing circuits for SCR's using R & RC Firing Circuit 9.Gate Firing for SCR's using UJT Fiing Circuit 10. Gate Firing Circuits for SCR's Single Phase Cycle Converter Firing Circuit 11. Single Phase Cyclo Power circuit with built in required meter 12. Voltage Stabilizer 13. Cathode Ray Oscilloscopes				
5.	Power Systems Lab	3	1. Electro mechanical Earth fault relay –(1) 2. Electro mechanical attraction type relay-(1) 3. Electro mechanical over current relay-(1) 4. Electro mechanical	Utilized (12 Hours)	Mr. Ch.V.S. Srinivasa Murthy	Sr. Lab-Technician	Diploma

			under voltage relay-(1) 5. % Differential relay-(1) 6. Micro based impedance relay-(1) 7. Directional over current relay-(1) 8. 0-60kv.Transformer oil test kit-(1) 9. Fuse testing kit –(1)				
6.	Power electronics and Drives lab	3	1. 3 Phase Half Controlled and Full Controlled Bridge Converter 2. 3 HP DC Motor With Spring Balance Load Setup 3. 3 Phase IPM Based Power Model 4. 3 HP Slip Ring Induction Motor Spring Balance Load Setup With QEP Sensor 5. DSPIC 30F4011 Based Controller Card Pin-(2) 6. 3 Phase IGBT Power Module (VEPT 106A) 13. 30 MHz Dual Trace Oscilloscope 7. TMS 320LF2407A based DSP Trainer 8. TMS 320LF2407A Based DSP Trainer 9. VFD For AC Induction Motor 10. NI ELVIS II Hardware Only 11. HP PRO 3330 MT PC 15-2400 Systems 12. 3 Phase Variac 415V,15A 13. DSPACE Ds 1103r & D Controller Board (With Hardware & Software Accessories) 14. SPARTAN6 FPGA Development Board SPARTAN6XILINIX Spartan 6 FPGA 15. OPAL -RT	Utilized (3 Hours)	Mr. T Subramanyam	Senior Engineer	Diploma
7.	Electrical Circuits Lab	3	1. Three Phase	Utilized	Mr. Ch.V.S. Srinivasa	Sr. Lab-Technician	Diploma

			Loading rheostat 2. Single Phase load ing rheostat 3. Measuring equipment 4. Rheostats 5. Signal Generators 6. Regulated Power supply 7. Transformers	(12 Hours)	Murthy		

Table B.6.1

6.2. Laboratories Maintenance and Overall Ambiance (10)

To upkeep the uninterrupted laboratory functioning without having any impact in conducting the laboratory classes, all the laboratories in the department ensures different types of maintenance processes viz. Periodic maintenance, Preventive maintenance and Breakdown maintenance.
Before the commencement of every semester, the lab technicians and lab in-charge, ensures the functioning of the different lab equipment. Preventive maintenance is done for all the essential equipment (Laboratory equipment/Experimental setups) before the commencement of the semester, whereas periodic maintenance is done for all the supporting equipment. The stock of the spare components of the essential equipment are maintained to reduce the breakdown time.

General guidelines for the maintenance of Laboratory Equipment:

- Laboratory technical staff shall check the working condition of the equipment's on daily basis
- All the labs and equipment are dusted at the end of the day
- The consumption of laboratory consumables is recorded on daily basis
- In the context of all the equipment under warranty and AMC, the lab in-charge/staff shall ensure the periodic visit and maintenance as per the terms
- All the laboratory technicians/staff are trained for essential and minor maintenance jobs to run the class work uninterruptedly
- At the beginning & end of semesters, all the equipment's are inspected and ensure the working condition by engaging the concerned agency if needed.
- The raw material, tools and scrap in all the laboratories are stacked in the appropriate spaces earmarked for easy retrieval and disposal
- In case of computer labs, the technicians/programmers shall ensure the networking and functioning of all the systems. At the end of every laboratory class, the programmer ensures the proper shutdown of the systems.
- Preventive maintenance is carried out in case of UPS and updating of the Firewalls
- 5S practices are followed in maintaining and upkeeping of the laboratories
- All the measuring and testing instruments in the labs are calibrated on the need basis
- Stock registers for both consumables and lab equipment are maintained laboratory wise and stock verification is done once in a year

Ambience

- Signages related to laboratory layouts are prominently displayed
- List of experiments, COs, List of equipment, Dos & Don'ts and equipment name plate details are displayed
- Signages for the power conservation, safety precautions, fire extinguishers and first aid box are provided in each of the laboratories
- Dress code/uniform for students is maintained in the laboratory
- Proper lighting and ventilation is provided in all the laboratories ensuring the physical comfort for the students while performing experiments.

- 5S practices are followed in the laboratories to enhance the ambience
- For effective movement and safety, pathways are indicated with proper legend in each of the labs
- Working models and devices in the form of charts are displayed in the laboratories.

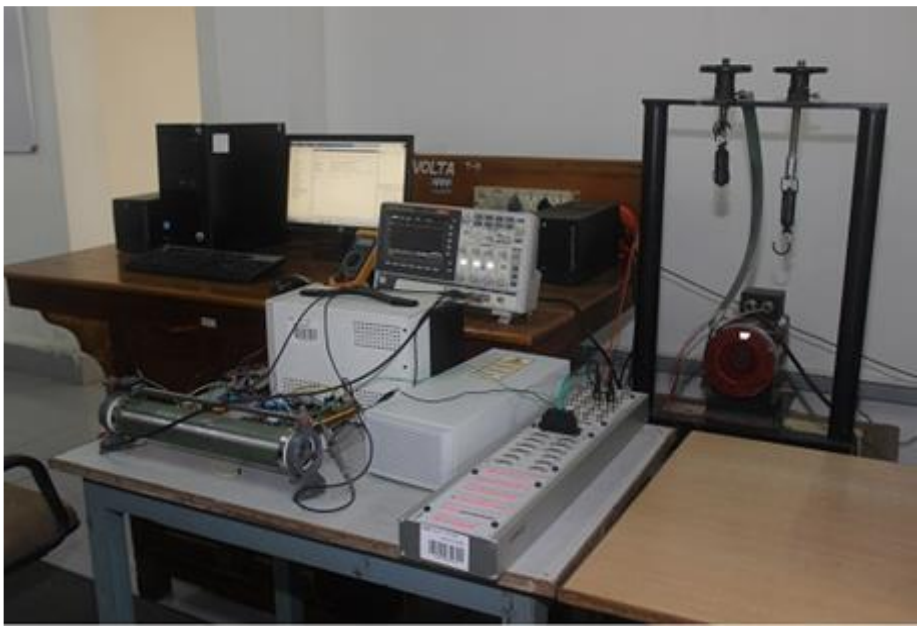
Overall Ambiance

SIMULATION LAB

POWER ELECTRONICS LAB

MACHINES LAB

MEASUREMENTS LAB



DSPACE 1103 WITH FOUR CHANNEL DSO

THREE PHASE ENERGY METER CALIBRATOR

TRANSMISSION LINE SIMULATOR

Project Laboratory

Department has adequate facilities to provide project-based learning. Curriculum has ample scope to provide hands-on training in the form of augmented experiments, Mini-Projects, Project work, Hobby projects. Students are encouraged to develop prototype/working models/ simulation analysis and exhibit their projects in various competitions across the country. Several successful projects have been carried out by students at the project laboratory. These facilities are available beyond working hours to enable and motivate the students for their active participation.

Facilities:

S.No	Name of the Equipment	Cost in Rupees
1	OPAL -RT	58,48,863.00
2	DSPACE Ds 1103r & D Controller Board (With Hardware & Software Accessories)	1505000.00
3	NI ELVIS II Hardware Only	250264.00
4	3 Phase IPM Based Power Model (3)	230100.00
5	IPM Power Model(for 3hp motor) IPM Power Module(2)	197259.00
6	DSO 200 Mhz,4 Channel Display Color	144685.00
7	HP PRO 3330 MT PC 15-2400 Systems(4)	116000.00
8	IPM Power Model(for 3hp motor) TMS 320F28335 Based DSP Controller Micro 28335	78912.00
9	TMS 320LF2407A Based DSP Trainer(2)	70800.00
10	3 HP BLDC Motor With Spring Balance Load	68395.00
11	Voltage Transducer(Model : VMT 500V)	2898
12	Digital Multi Meters(4)	7368
13	1 Phase Loading Rheostat	10620
14	Current Transducer(Model : CMT 10/5)	8694
15	PMMDC Motor 24V PECLVACC3B	8903

16	1 Phase Loading Inductive	10620
17	DC Servo Motor Controller (ITBFE)	14000
18	3 Phase IGBT Power Module (VEPT 106A)	14682
19	3 Phase Loading Rheostat	14160
20	3 Phase Variac 415V,10A	36244
21	1 Phase Variac 240V,8A (3)	16279
22	3 HP DC Motor With Spring Balance Load Setup	35152
23	1 HP 3 Phase AC Induction Motor Coupled with DC Generator	21240
24	DS PIC 30F4011 Based Controller	23600
25	DSPIC 30F4011 Based Controller Card Pin	23600
26	3 Phase Half Controlled and Full Controlled Bridge Converter	29500
27	Digital Storage Oscilloscope (25Mhz)(2)	33512
28	Oscilloscope (30Mhz)(2)	32875

Titles of the projects done:

S.No	Name of the Project
1	Fully automated solar grass cutter
2	Intillegent priority control for traffic light of VIP Vehicloes and ambulance
3	Mechanical footstep power generation by using rack and pinion
4	Automatic Traffic control using machine learning and Image processign
5	Arduino based solar charger controller using mppt for 12v lead acid battery with pv system.
6	An innovative wearable technology for visually impaired people
7	Smart Class Monitoring System
8	GSM-Based Smart Energy Meter with Arduino Uno
9	Lpg gas leakage detector using Arduino
10	Smart irrigation management using iot
11	Agriculture robot
12	IOT based Smart Agriculture using Renewable energy Source
13	power generation by using solar and wind hybrid system
14	Underground cable fault detection and distance locator using Arduino and Global system for Mobile communication
15	IOT based automated table lamp using wifi module

Publications:

All UG, PG students and faculty members have utilized the laboratory for doing research activity. Especially the faculty who are pursuing Ph.D have utilized effectively. Some are completed Ph.D with quality publications and some are pursuing. Few Doctorates are utilizing this lab for writing their research proposals.

S.No	Name of the Faculty	Facility	Utilization	Number of Publications
1	Dr.P.Ramana	dSPACE DS1103 controller	Utilized for hardware implementation	1

2	Dr.T.S.L.V.Ayyarao	dSPACE DS1103 controller, OPAL-RT	Utilized for hardware implementation	2
3	Dr.Hemanth Kumar	OPAL-RT	Utilized for hardware implementation	1
4	Dr.S.P.Mishra	OPAL-RT	Utilized for hardware implementation	1
5	Dr.J.S.V.Siva Kumar	OPAL-RT	Utilized for hardware implementation	1
6	Dr.G.Indira Kishore	OPAL-RT	Utilized for hardware implementation	1

Criteria 7
Continuous Improvement [75M]

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

Identify the areas of weaknesses in the program based on the analysis of evaluation of COs, POs & PSOs attainment levels. Measures identified and implemented to improve Pos & PSOs attainment levels for the assessment year including curriculum intervention, pedagogical initiatives, support system improvements, etc.

POs & PSOs Attainment Levels and Actions for improvement 2019-20 (2016-20 Batch)

POs	Target Level	Attainment Level	Observations
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems			
PO1	2.09	2.18	1. Though the overall attainment level met the target level, still there is scope for improvement.
Action 1: After the mid exams, slow learners are identified, and extra classes were conducted. **Action 2:** Students with backlogs were identified, and remedial classes were held to teach fundamental concepts. **Action 3:** The feedback on AR-12/AR-13 curriculum from various stake holders such as alumni, industry peers and academic peers are received and analyzed. Almost all the suggestions were included in AR-16 regulations wherever possible.			
PO2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences			
PO2	2.09	2.16	1. Though the overall attainment level met the target level, still there is scope for improvement.
Action 1: After the mid exams, slow learners were identified, and extra classes are held. **Action 2:** Students with backlogs are identified, and remedial classes were held to teach fundamental concepts. **Action 3:** The feedback on AR-12/AR-13 curriculum from various stake holders such as alumni, industry peers and academic peers were received and analyzed. Almost all the suggestions were included in AR-16 regulations wherever possible. **Action 4:** Term paper and mini project were introduced to the AR-16 curriculum.			
PO3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations			
PO3	2.00	2.15	1. Though the overall attainment level met the target level, still there is a scope for improvement
Action 1: Students were encouraged to develop mini project beyond the AR-16 curriculum. **Action 2:** Term paper and mini project were introduced to the AR-16 curriculum. **Action 3:** In place of Microprocessors, Microprocessors & Microcontrollers is added with some application in 6th semester. **Action 4:** One credit Industry driven course is added in the AR-16 curriculum.			

PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusion			
PO4	2.13	2.25	1. Though the overall attainment level met the target level, still there is a scope for improvement
Action 1: Term paper and mini project were introduced to the AR-16 curriculum **Action 2**: Augmented experiments were introduced in the AR-16 curriculum to investigate complex engineering problems.			
PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations			
PO5	2.11	2.08	1. Electrical Systems and Simulations lab handles the experiments related to four different areas such as electrical circuits, power systems, power electronics and control systems which they studied in second and third year. The students lost the continuity in solving the problems. Because of which, the CO attainment has come down. 2. Also, due to COVID pandemic situation and lock down, the students practice towards problem solving is reduced. 3. Since they are final years, most of the students gave priority towards placement activities.
Action 1: Integrated courses have been added to the curriculum, and students have now become acquainted with modern simulation tools. **Action 2:** Engineering Mathematics-III Course is converted into integrated course, by incorporating programming component. **Action 3:** More problems will be solved in the coming academic year to help students understand the principle behind the problem. **Action 4:** More practice will be given towards solving the problem and simulation; thereby the target level will be increased.			
PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the professional engineering practice			
PO6	2.00	2.54	1. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Course Ethics is included in the curriculum to help students become more responsible members of society. **Action 2:** Electrical engineer design/code rules are added to the existing courses.			
PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development			
PO7	1.98	2.41	1. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: For sustaining the attainment, the subjects like Environmental Studies should be taught by citing the impact of environmental issues in line with Electrical Engineering specific problems.			
PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice			

PO8	2.15	2.33	1. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Course Ethics was included in the curriculum to help students become more responsible members of society.			
PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary setting			
PO9	2.10	2.21	1. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Term paper and mini project were introduced to the AR16 curriculum. **Action2:** Students were encouraged to develop hubby projects beyond the curriculum. **Action 3:** Students were encouraged by providing incentives for paper presentations and other group tasks.			
PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instruction			
PO10	2.17	2.48	1. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Employability courses are introduced in the curriculum to improve the communication skill of the students **Action 2:** Soft skill course is added to the existing curriculum **Action 3:** Aptitude ability and campus training is provided to the students **Action 4**: Extra and co-curriculum courses were introduced in the AR-16 curriculum			
PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments			
PO11	1.91	1.87	The following observations are made subject wise: Mini Project: 1. Because the class average in mini project is very high, students achieving more than the class average is difficult Project: 2. COVID lockdown and online project viva voce has much impact on the student performance. 3. Few students lack good understanding of the problem. 4. Few students exhibited a lack of fundamental knowledge about the project Internship: 5. A few students were unable to perform well in Assessment 1, which was conducted by industry Supervisors 6. Few students' performance in creative thinking and problem-solving skills is unsatisfactory 7. Few students' communication skills performance is not commendable.
The following actions are planned subject wise: **Mini Project:** **Action 1:** Though students done very good project their presentation skills was not good so they lose some marks, more internal reviews will be planned to improve their presentation skills.			

Action 2: To improve their documentation skills, students were given more time to complete the document, and guides were instructed to assign the documentation to each student in a batch, and more revisions were made before the report was finalized.
Action 3: Students may achieve full marks by improving their presentation skills and documentation if the aforementioned changes are implemented.
Project:
Action 4: Train students in the usage of advanced presentation tools during the internal presentation
Action 5: Undertaking industry related problem with physical exposure.
Action 6: Train the weaker students on the basics at various levels.
Internship:
Action 7: It is planned to reveal the major attributes of the assessment tool to students prior to the start of the full semester internship.
Action 8: The students will be instructed to have frequent interaction with both industry and institute supervisors. The student's diary should be updated and submitted to Institute supervisor via email / online mode for every two weeks.
Action 9: The problem-solving skills and communication skills can be improved through various best practices like open book examination (OBE) and EC/CC activities respectively. Now OBE is available with new academic regulations AR19 & AR20.

PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

PO12	2.22	2.39	1. Though the overall attainment level met the target level, still there is a scope for improvement.

Action 1: Self-study topics were added in every course to improve the self-learning capability of the students.
Action 2: MOOCs was introduced in the curriculum to nurture the self-learning ability among students.

PSO1: Utilize statistics, transformation methods, discrete mathematics, and application of differential equations in analyzing and design of electrical/electronic system

PSO1	2.11	2.13	1. Though the overall attainment level met the target level, still there is a scope for improvement.

Action 1: Students were encouraged to work on industry-related problems that require physical exposure.

PSO2: Analyze, design, and implement control of electrical systems in any problem/application of electrical/electronic (s) engineering

PSO2	2.13	2.04	The following observations are made subject wise: Advanced Control Systems: 1. Basic knowledge of control systems and z-transforms is not well understood. 2. Students find it difficult to solve problems on controller and observer design 3. As it a problematic course and it needs lot of practice on daily basis, students might not fulfill this. Project: 4. COVID lockdown and online project viva voce has much impact on the student performance. 5. Lack of good understanding of the problem among few students. 6. Lack of basic/knowledge on the project dome in few

			students
The following actions are planned subject wise: Advanced Control Systems: **Action 1:** Additional classes to be conducted to give more emphasis on applications of z-transformers in discrete time systems. **Action 2:** More problems will be given as assignments for practice. **Action 3:** More emphasis will be given on the design of controller and observer. Project: **Action 4:** Train students in the usage of advanced presentation tools during the internal presentation **Action 5:** Undertaking industry related problem with physical exposure. **Action 6:** Train the weaker students on the basics at various level.			

Table B.7.1

POs & PSOs Attainment Levels and Actions for improvement 2020-21 (2017-21 Batch)

POs	Target Level	Attainment Level	Observations
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems			
PO1	2.14	2.11	2. Lack of fundamental knowledge in mathematics and physics. 3. Corona pandemic period has resulted in reduced attainment levels. 4. Poor internet connectivity during online classwork has reduced understanding capacity of the student.
Action 1: Extra classes need to be conducted for slow learners after sessional examinations. **Action-2:** Students are instructed to practice more number of numerical problems.			
PO2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences			
PO2	2.12	2.15	2. Though the overall attainment level met the target level, still there is scope for improvement.
Action 1: Additional classes were conducted to give more emphasis on numerical related subjects. **Action 2:** More problems were given as assignments for practice. **Action 3:** Though students completed a good project, their presentation skills were lacking, causing them to lose some marks; additional internal reviews will be planned to improve their presentation skills.			
PO3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations			
PO3	2.08	2.14	2. Though the overall attainment level met the target level, still there is a scope for improvement
Action 1: Additional classes were conducted to give more emphasis on numerical related subjects. **Action 2:** More problems were given as assignments for practice. **Action 3:** More emphasis needs to be given on design aspects of electrical system components.			
PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid			

conclusion			
PO4	2.19	2.08	1. Conduction of theory and lab classes in the same semester. 2. Mathematical analysis is difficult in AC machines lab. 3. Attainment is reduced due to high class average. 4. Most of the final year students gave priority for placement activities. 5. Lack of basic knowledge on the domain related topics.
Action 1: It is proposed not to have theory and lab courses in same semester. **Action 2:** It is proposed to conduct more number of laboratory sessions for hardware labs. **Action 3:** It is proposed to conduct more number of internal reviews for term paper, mini project, and project to enhance the presentation skills of the students. **Action 4:** It is proposed to organize interactive sessions on skilling the students on documentation and presentation. **Action 5:** It is proposed to conduct extra lab sessions for slow learners			
PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations			
PO5	2.15	1.96	4. As there is less scope for students to practice the simulation experiments beyond working hours 5. Attainment is reduced due to high class average.
Action 1: It is proposed to provide simulation lab to the students beyond class hours. **Action 2:** It is proposed to conduct more number of classes on modern tool usage.			
PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the professional engineering practice			
PO6	2.16	2.40	2. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: More number of classes were conducted on professional engineering practice relevant to contextual knowledge.			
PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development			
PO7	2.09	2.21	2. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: More emphasis was given on the professional engineering solutions in societal and environmental contexts in curriculum.			
PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice			
PO8	2.24	2.34	2. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Professional ethics for electrical engineers was included in the curriculum			
PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in			

multidisciplinary setting			
PO9	2.14	2.23	2. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Undertaken various industry related problems. The students were equipped with documentation and problem-solving skills through best practices.			
PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instruction			
PO10	2.25	2.57	8. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: To improve their documentation skills, students were given more time to complete the document, and guides were instructed to assign the documentation to each student in a batch, and more revisions were made before the report was finalized.			
PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments			
PO11	1.84	1.92	9. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Summer internship and full semester internship were introduced in the curriculum. Due these courses the student can manage as a member and leader in a team in multi-disciplinary environments.			
PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change			
PO12	2.18	2.35	2. Though the overall attainment level met the target level, still there is a scope for improvement
Action 1: The curriculum was designed in such a way that the student can able to engage in an independent and in the broadest context of technological changes.			
PSO1: Utilize statistics, transformation methods, discrete mathematics, and application of differential equations in analyzing and design of electrical/electronic system			
PSO1	2.13	2.08	7. Few students were unable to understand transformation methods and discrete mathematics concepts in the application of electrical systems. 8. Lack of understanding the problem in domain related courses.
Action 1: Additional classes need to be conducted to give more emphasis on continuous and discrete mathematics. **Action 2:** More problems need to be given as an assignment for practice. **Action 3:** Remedial classes need to be conducted for slow learners based on continuous assessment.			
PSO2: Analyze, design, and implement control of electrical systems in any problem/application of electrical/electronic (s) engineering			
PSO2	2.09	1.96	9. Most of the domain related courses are at analyze level, few students were finding difficult to solve the problems. 10. Few students were unable to understand the

			problem-solving techniques due to lack of fundamentals
Action 1: More number of classes need to be conducted in order to enhance problem solving skills. **Action 2:** Remedial classes need to be conducted for slow learners to improve fundamental concepts.			

Table B.7.2

POs & PSOs Attainment Levels and Actions for improvement 2021-22(2018-22 Batch)

POs	Target Level	Attainment Level	Observations
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems			
PO1	2.15	2.16	1. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: Extra classes were conducted for slow learners after sessional examinations. **Action-2:** Students were instructed to practice more number of numerical problems.			
PO2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences			
PO2	2.14	2.20	1. Though the overall attainment level met the target level, still there is scope for improvement.
Action 1: Additional classes were conducted to give more emphasis on numerical related subjects. **Action 2:** More problems were given as assignments for practice. **Action 3:** Though students completed a literature review in their term paper, still their documentation skills were lacking, causing them to lose some marks; additional sessions need to be planned to improve their documentation skills.			
PO3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations			
PO3	2.11	2.14	1. Though the overall attainment level met the target level, still there is a scope for improvement
Action 1: Additional classes were conducted to give more emphasis on numerical related subjects. **Action 2:** More problems were given as assignments for practice. **Action 3:** More emphasis needs to be given on design aspects of electrical system components.			
PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusion			
PO4	2.18	2.04	1. Conduction of theory and lab classes in the same semester. 2. Mathematical analysis is difficult in AC machines lab. 3. Attainment is reduced due to high class average. 4. Most of the final year students gave priority for placement activities. 5. Lack of basic knowledge on the domain related topics.

Action 1: It is proposed not to have theory and lab courses in same semester.
Action 2: It is proposed to conduct more number of laboratory sessions for hardware labs.
Action 3: It is proposed to conduct more number of internal reviews for term paper, mini project, and project to enhance the presentation skills of the students.
Action 4: It is proposed to organize interactive sessions on skilling the students on documentation and presentation.
Action 5: It is proposed to conduct extra lab sessions for slow learners

PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations

PO5	2.12	1.96	1. As there is less scope for students to practice the simulation experiments beyond working hours 2. Attainment is reduced due to high class average.

Action 1: It is proposed to provide simulation lab to the students beyond class hours.
Action 2: It is proposed to conduct more number of classes on modern tool usage.

PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the professional engineering practice

PO6	2.36	2.63	1. Though the overall attainment level met the target level, still there is a scope for improvement.

Action 1: More number of classes were conducted on professional engineering practice relevant to contextual knowledge.

PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development

PO7	2.13	2.31	1. Though the overall attainment level met the target level, still there is a scope for improvement.

Action 1: More emphasis was given on the professional engineering solutions in societal and environmental contexts in curriculum.

PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice

PO8	2.32	2.31	1. Less emphasis was given to students on professional ethics, responsibilities, and norms of the engineering practice.

Action 1: Need to have more sessions on professional ethics for electrical engineers.

PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary setting

PO9	2.20	2.23	1. Though the overall attainment level met the target level, still there is a scope for improvement.

Action 1: Undertaken various industry related problems. The students were equipped with documentation and problem-solving skills through best practices.

PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear

instruction			
PO10	2.42	2.54	1. Though the overall attainment level met the target level, still there is a scope for improvement.
Action 1: To improve their documentation skills, students were given more time to complete the document, and guides were instructed to assign the documentation to each student in a batch, and more revisions were made before the report was finalized.			
PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments			
PO11	1.86	1.75	1. Students were unable to implement practical aspects at the industry during their summer internship and full semester internship.
Action 1: Students need to implement the practical aspects with relevant modern tool on their own during their summer and full semester internship at the industry.			
PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change			
PO12	2.27	2.32	1. Though the overall attainment level met the target level, still there is a scope for improvement
Action 1: The curriculum was designed in such a way that the student can able to engage in an independent and in the broadest context of technological changes.			
PSO1: Utilize statistics, transformation methods, discrete mathematics, and application of differential equations in analyzing and design of electrical/electronic system			
PSO1	2.13	2.08	1. Few students were unable to understand transformation methods and discrete mathematics concepts in the application of electrical systems. 2. Lack of understanding the problem in domain related courses.
Action 1: Additional classes need to be conducted to give more emphasis on continuous and discrete mathematics. **Action 2:** More problems need to be given as an assignment for practice. **Action 3:** Remedial classes need to be conducted for slow learners based on continuous assessment.			
PSO2: Analyze, design, and implement control of electrical systems in any problem/application of electrical/electronic (s) engineering			
PSO2	2.07	1.99	1. Most of the domain related courses are at analyze level, few students were finding difficult to solve the problems. 2. Few students were unable to understand the problem-solving techniques due to lack of fundamentals
Action 1: More number of classes need to be conducted in order to enhance problem solving skills. **Action 2:** Remedial classes need to be conducted for slow learners to improve fundamental concepts.			

Table B.7.3

7.2 Academic Audit and actions taken thereof during the period of Assessment (15)

(Academic Audit system/process and its implementation in relation to Continuous Improvement)
All the academic audits are spearheaded by the IQAC through various committees. The following are the various committees & meetings with the frequency of happening that ensures the respective KPI are achieved:

S. No.	Committee	Frequency of Audit/Meetings	Key Performance Indicators
1	Academic Monitoring Committee (AMC)	4	Delivery, Syllabus coverage, Mentoring, ICT usage
2	Course Coordinators' Committee (CCC)	8	Lesson plan, & dairy, Uniform course delivery, Question paper setting, Assessment & Evaluation, Remedial measures
3	Academic Audit Committee	2	Reviews of ATRs of AMC, CCC, Track sheets for remedial measures & classes, Conduct of semester end examinations and result analysis. Course file compliance, AMC ATR
4	Performance Audit Committee:	2	COAR attainment with ATR course wise, Extension activities, Placements & Career development with remedial measures

1. Academic Monitoring Committee (AMC): Academic Monitoring Committee comprising of the Program coordinator, Student representatives from different levels of learning and a nominee of IQAC as an observer shall meet twice in a semester. Students feedback on quality of classroom delivery, Completion of syllabus, Clarification of doubts, Usage of ICT tools by the teacher Mentoring and monitoring of slow learners is reviewed.
2. Course Coordinators' Committee (CCC): A committee comprising of course coordinator & Instructors shall plan, review, and ensure the conduct of classes as per the academic calendar. Committee also reviews and ensures the uniform coverage of syllabus in multi section courses and setting of the common question paper for all the sections along with the mapping of course outcomes and cognitive learning levels.

3. Academic Audit Committee: A committee constituted by IQAC comprising of program level members shall audit the minutes and ATRs of AMC, CCC. The audit ensures that all the SOPs related to the conduct of remedial classes, Semester end examinations, and results analysis are followed and recorded.

4. Performance Audit Committee: A committee constituted by IQAC conducts audit at the end of every semester ensure continuous improvement in line with the OBE philosophy. For every semester, the committee verifies the tool used to calculate the attainment of COs and the remedial actions suggested for continuous improvement with reference to target performance level.
   The committee also audits the continuous progress of the students in terms of Extension activities, Placements & Quality of placements and Career progression for higher education.

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

Assessment is based on improvement in:

(i) Placement: number, quality placement, core industry, pay packages etc.

S.No	Academic Year	Number of placements	Maximum Package
1	2021-22	82	7.5 Lakh
2	2020-21	93	5 Lakh
3	2019-20	58	4.8 Lakh
4	2018-19	70	3.98 Lakh

5	2017-18	83	10 Lakh

(ii) Core Companies visited for EEE branch

2021 – 22		
S. No	**DATE**	**ORGANISATION**
1	22-Oct-2021	L&T
2	7-July-2022	GMR Group
2020 – 21		
S. No	**DATE**	**ORGANISATION**
1	7-Nov-20	L&T
2	28-Nov-20	Medha Servo Drives
3	24-Mar-21	Everest Industries
2019 – 20		
S. No	**DATE**	**ORGANISATION**
1	10-Sep-19	LnT Construction
2	19-Sep-19	Medha Servo
3	23-Sep-19	Beumer Group
4	28-Sep-19	Soctronics
5	20-Dec-19	Cerium
6	2-Dec-19	Efftronics
7	9-Jan-20	IMEG
8	9-Jan-20	KIA Motors
9	9-Jan-20	Hero Motors
10	24-Feb-20	GMR Group
11	9-Mar-20	Transcon
2018 – 19		
S. No	**DATE**	**ORGANISATION**
1	8-Sep-18	Soctronics
2	12-Sep-18	Medha servo
3	18-Sep-18	Hyundai Mobis
4	3-Oct-18	Efftronics
5	19-Nov-18	Broadcom
6	26-Dec-18	AIS Glass
7	27-Dec-18	NCL Industries
8	11-Jan-19	Cyient
9	8-Mar-19	Grow Control s
10	14-Mar-19	Medha Servo Drives
11	16-Mar-19	IMEG Corp.
12	4-Apr-19	Bosch
13	24-Apr-19	Adani Gas
14	3-May-19	VEM Technologies
2017 – 18		
S. No	**DATE**	**ORGANISATION**
1	20-Sep-17	Medha Servo Drives Pvt Ltd

2	27-Sep-17	Efftronics
3	28-Nov-17	Go Bumber
4	21-Mar-18	Bosch Ltd
5	31-Mar-18	Broadcom
6	23-Sep-17	Soctronics Technologies
7	26-Mar-18	Thasmai Automation Pvt.Ltd
8	6-Apr-18	GMR Group
9	29-Apr-18	Cerium Systems
10	28-Feb-18	CADD Centre
11	30-Apr-18	GMR Aerotechnic
12	20-Feb-18	Viajai Electricals ltd
13	13-Mar-18	Suzlon Energy Ltd
14	22-Jan-18	AIS Glass
15	9-Mar-18	Unistring Technologies

(iii)Higher studies: performance in GATE, GRE, GMAT, CAT etc.,

Academic Year	Registration number/roll number for the exam	Name of the student	GATE	GRE	GMAT/CAT
2021-22	EE22S26110077	Siva Krishna Kanth	√		
	EE22S26110078	Sai Praneeth Vatsa	√		
	EE22S26111140	P. Vithal Prasada rao	√		
	EE22S26126155	Nalla Tanuja	√		
	EE22S26111098	Vadigi Praneeth	√		
2019-20	EE20S56016095	I. Venkata Jayakrishna	√		
2018-19	EE19S66020438	R Srinuvasa Rao	√		
	EE19S66020062	B Yugandhar	√		
	EE19S66014290	S.Narendra	√		
2017-18	EE18S66022259	Gollangi Lokesh	√		
	EE18S66019695	Akkena Sai Jagadeesh	√		

(iv)Admissions in premier institutions

S.No	Academic year	Name of the Student	Name of the Institute joined	Name of the Programme admitted to
1	**2021-22**	SIVA SAI KRISHNA KANTH MAVUDURU	IIT-BBS	M.Tech (PED)
2	**2020-21**	SAMANTHULA AMRUTHA	JNTU-K	M.TECH(PEDR)
3		REGIDI USHA RANI	AU	M.TECH(CNTS)
4		PAIDI RAVI	AU	M.TECH(CNTS)
5		SAI PRAKASH DEVIREDDY	Wichita State University	Masters in Computer

				Science
6		SONTI SAI SATWIK	TEXAS A&M UNIVERSITY COMMERCE	Masters in Computer Science
7	**2019-20**	Bhadragiri Eeswar	ANU College of Engineering	M.TECH
8		Juthiga Chinniraj Paul	University of East London	M.Sc
9	**2018-19**	Satyavarapu Narendra	NIT Warangal	M.Tech
10		Tenneti Raghavendra Vishnu	BOND University	Master of Business Data Analytics
11		Gurrapu Jahnavi	MA in Drawing	Paris College of Art
12	**2017-18**	Gandreti Sai Nikhil Rajkumar	Master of Engineering	James Cook University
13		Venkatesh Sigireddy	Master of Networking	Melbourne Institute of Technology
14		I Vidya Bharati	GMRIT	M.Tech
15		Marrapu Sai Kiran	NIT Rourkela	M.Tech
16		Padimala Satish	Andhra University	M.Tech
17		B Vamsi Krishna	JNTUK	M.Tech
18		Rajesh Podilapu	NIT Rourkela	M.Tech
19		Chinrtalapati Vaasavi	Andhra University	M.Tech

(v)Entrepreneurs

S. No	Academic Year	Number of Entrepreneurs
1	2017-18	2
2	2018-19	2
3	2019-20	3
4	2020-21	2
5	2021-22	1

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

Assessment is based on improvement in terms of ranks/score in qualifying state level/national level entrances tests, percentage marks in Physics, Chemistry and Mathematics in 12th Standard and percentage marks of the lateral entry students.

Item		2021-22	2020-21	2019-20	2018-19
National Level Entrance Examination (Name of the Entrance Examination)	No. of Students admitted				
	Opening Score/Rank				

	Closing Score/Rank				
State/Institute/Level Entrance Examination/Others (Name of the Entrance Examination)	No. of Students admitted	117	122	108	85
	Opening Score/Rank	20099	14194	17773	8486
	Closing Score/Rank	27190	21539	38458	32824
Name of the Entrance Examination for Lateral Entry or lateral entry details	No. of Students admitted	18	15	29	29
	Opening Score/Rank	164	58	369	307
	Closing Score/Rank	258	225	1619	1229
Average CBSE/Any other Board Result of admitted students (Physics, Chemistry & Mathematics)		86.31	84.92	87.15	90.05

Table B.7.4

Criteria – 8
First Year Academics [50]

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

Total Marks 5.00
Institute Marks: 5.00

Please provide First year faculty information considering load

Names of the Faculty	PAN No.	Qualification	Date of Receiving Highest Degree	Area of Specialization	Designation	Date of Joining	Teaching Load (%)				Currently Associate (Yes/ No)	Nature of Associate (Regular/Adhoc)	Date of leaving (In case of currently associated is 'No')
							(2021-22)	CAY (2020-21)	CAY m1 (2019-20)	CAY m2 (2018-19)			
Dr A Rambabu	BFBPA9962C	MSc, PhD	11.06.2013	Physics	Senior Assistant Professor	24.06.2019	100	100	100	0	Yes	Regular	
Dr C V Seshaiah	ANDPS2285F	MSc,Ph.D.	24.03.1991	Mathematics	Professor	1.06.2018	0	0	100	100	No	Regular	30-10-2020
Dr Ch Srinivasa Rao	AZDPC5285D	MA.(Eng.Lit.), Ph.D	17.07.2019	Indian writing in English literature	Assistant professor	11.06.2012	100	100	100	100	Yes	Regular	
Dr D Krishna Rao	AHLPD8340C	MSc, PhD	26.07.1985	Physics	Professor	1.06.2012	0	0	0	100	No	Regular	30-10-2019
Dr D Tejeswara Rao	BCMPD5021P	MSc,Ph.D.	21.12.2013	Medicinal Chemistry	Assistant professor	10.09.2012	100	100	100	100	Yes	Regular	
Dr G Thirumala Rao	BJVPG7880F	MSc, Ph.D.	27.03.2016	Physics - Materials Science - Nanomater	Assistant Professor	10.12.2015	100	100	100	100	Yes	Regular	

				ials									
Dr K Dasu Naidu	BSCPK7988J	MSc,M.Phil, PhD	10.08.2017	Relativity and cosmology	Assistant Professor	18.08.2009	75	100	100	100	Yes	Regular	
Dr K Gourunaidu	AJBPK0505G	MSc, PhD	20-08-1994	Environmental Studies	Professor	3.10.1997	0	0	100	100	No	Regular	30-10-2020
Dr K Koteswara Rao	BUFPK1599C	MSc, PhD	18.08.2005	Solid state chemistry	Asst. Professor	25.09.2010	100	100	100	100	Yes	Regular	
Dr M Eswara Rao	ARMPM7615A	MA,M.Phil, Ph D	27.10.2017	Indian English novel	Asst Professor	28.06.2008	100	100	100	100	Yes	Regular	
Dr M V Subba Rao	AJWPM3336Q	MSc, Ph.D	06.11.2002	Physical chemistry	Associate Professor	28.08.2002	100	100	100	100	Yes	Regular	
Dr M Varun Kumar	CTHPM5317C	MSc, Ph.D	18-08-2018	Biomechanics	Assistant Professor	01.06.2018	50	0	0	100	No	Regular	20-05-2022
Dr P Geeta	BZFPP4489K	MSc,M.Phil, Ph D	03.12.2020	Physics-Material science	Assistant professor	02.07.2012	100	100	100	100	No	Regular	11/6/2022
Dr. V.Khidir Brahmendra	EGRPK2633C	M.Sc., P.hD	23.09.2020	Solid state Physics	Assistant Professor	28.07.2017	75	75	75	75	Yes	Regular	
Dr P Sumati Kumari	ASKPM9976B	MSc, Ph D	17.01.2015	Fixed point theory	Associate Professor	08-06-2018	75	100	100	100	Yes	Regular	
Dr R.L Naidu	AFHPR6007C	MSc,M.Phil, Ph D	16.08.2008	Relativity, Cosmology	Professor	26.11.2001	75	100	100	100	Yes	Regular	
Mr. Visweswara Rao	AMVPC9985D	MBA	03.06.2011	Business Analytics	Assistant Professor	10.11.2017	100	100	100	100	Yes	Regular	
Dr Rajendra Kumar Dash	AJPAD6385B	MA, M.Phil, PhD	15.06. 2013	Linguistics and ELT	Associate Professor	09.05.2018	100	100	100	100	Yes	Regular	

Dr S P Sekhara Rao	AVTPS9517J	MA,M.Phil, Ph D	18.09.2020	South African Literature	Assistant Professor	23.09.2011	100	100	100	100	Yes	Regular	
Dr Simhachalam T	BKKPT7030G	M.A.(ELT), Ph.D	13.03.2019	English Language Teaching	Assistant Professor	23.06.2018	100	100	100	100	Yes	Regular	
Dr Sudhir Kumar Patnaik	ASQPP7605J	MA, M.Phil, Ph.D	18.06.2014	Mass Communication	Senior Assistant Professor	06.06.2019	100	100	100	0	Yes	Regular	
Dr T Samuel	AYOPT9568N	MSc, PhD	18.01.2018	Physics (Nanomaterials)	Assistant professor	30.05.2019	100	100	100	0	Yes	Regular	
Dr U Y Divya Prasanthi	ACSPU1803F	MSc, PhD	19.01. 2018	Relativity and Cosmology	Assistant Professor	08.06.2019	75	100	100	0	No	Regular	31-05-2022
Dr V Dhilleswara Rao	ALMPV5112B	MSc, M.Phil, Ph.D	16.09.2020	Environemental chemistry	Assistant Professor	23.09.2010	100	100	100	100	Yes	Regular	
Dr V Sharon Luther	ACZPV9015H	MA, Ph D	09.09.2016	English	Assistant Professor	1.06.2018	0	0	0	100	No	Regular	24-10-2019
Dr VSSR Gupta	ACOPV2036M	MSc,Ph.D	12.08.1995	Mathematical modeling	Professor	15.11.1997	100	100	100	100	Yes	Regular	
Dr Y Aditya	AHTPY5987A	MSc, PhD	19-01-2018	Relativity, Cosmology and Modified theories of gravitation	Assistant Professor	08.06.2019	100	100	100	0	Yes	Regular	
Mr B Lakshmana Rao	AYSPB4603N	MA, B.Ed	28.02.2013	English Literature / English Language Teaching	Assistant Professor	3-09-2013	100	100	100	100	Yes	Regular	
Mr B Nagamani Naidu	AYXPB7022J	M.Sc	31.08.2006	Chemistry	Assistant prifessor	10.8.2009	100	100	100	100	No	Regular	15-10-2022

Mr D Govinda	BPZPD4545Q	M.Sc	30.04.2009	Physics	Assistant Professor	20.06.2011	100	100	100	100	Yes	Regular	
Mr K Ravi Babu	BWKPK4768G	MSc, M.Phil	07.3.2005	Mathematics	Assistant Professor	17.06.2011	0	100	100	100	Yes	Regular	
Mr N Santoshkumar	ANCPN7050Q	M.Sc	01.06.2011	Analytical Chemistry	Assistant professor of chemistry	24.06.2011	100	0	0	100	Yes	Regular	
Mr Raja Sekhar	ACMPV4914G	M.E/M.Tech	1.09.2017	Structural Engineering	Assistant Professor	06.08.2005	100	100	100	100	Yes	Regular	
Mr M Venkatesh	AQFPM3764Q	M.E/M.Tech	04.08.2010	Power Electronics & Drives	Assistant Professor	15.06.2012	100	100	100	100	Yes	Regular	
Mr BMS Sreenivasa Rao	BLLPB3270N	B.Tech & M.Tech	1.09.2011	RADAR and Microwave Engineering	Assistant Professor	18-06-2012	100	100	100	100	Yes	Regular	
Mrs S S Durga Kameswari	BNRPS3083G	B.Tech & M.Tech	06.12.2011	Digital Electronics and Communication Systems	Assistant Professor	23-08-2008	100	100	100	100	Yes	Regular	
Mr P V V. Pavan Kumar	AZDPP6877A	M.E/M.Tech	19.05.2015	Alternate Hydro Energy Systems	Assistant Professor	01.09.2015	100	100	100	100	Yes	Regular	
Mr V Manoj	ASVPV3925A	M.Tech	23-6-2012	Power Systems & Automation	Assistant Professor	28-May-13	100	100	100	100	Yes	Regular	
Dr C L V R S V Prasad	AEKPC9472L	M.E/M.Tech, Ph.D	06.04.2004	Manufacturing	Professor	14.06.2005	25	25	25	25	Yes	Regular	

Mr G Sasidhar	ATBPG1059P	M.E/M.Tech	22.12.2011	Machine Design	Assistant Professor	11.06.2018	100	100	100	100	Yes	Regular	
Ms. Meena Tirupati	AFLPT4910Q	B.Tech, MBA	2.09.2011	Computer Networks	Assistant Professor	27.07.2015	100	100	100	100	No	Regular	25-07-2022
Ms. Shramila Sangireddi	FBGPS2263R	MBA	28.07.2013	Business Analytics	Assistant Professor	28.08.2015	100	100	100	100	No	Regular	22-08-2022
Mr.B.Kondala Rao	ARWPK6738Q	M.Sc., M.Phil	12.08.2005	Fixed point theory	Assistant Professor	12.08.2003	75	75	75	75	Yes	Regular	
Mr. Syed Mohibur Rahaman	CGWPS4581G	M.A. M.B.A., M.Phil	5.08.2007	Psychologist	Assistant Professor	17.06.2014	100	100	100	100	No	Regular	31-05-2022
Mr.Sangram Khuntia	BIDPK1526K	MBA	6.12.2009	Industrial Psychology	Assistat Manager	16.10.2017	0	100	100	100	No	Regular	30-07-2021
Dr.Tushar Manoharrao Somnathe	BBXPS2139B	MBA, Ph.D	19.11.2016	Business Analytics	Assistant Professor	05.12.2017	0	0	100	100	No	Regular	17-11-2020
Dr. Bh.ArunKumar	AHPPB5744G	Ph.D	25.07.2017	Physical Education	Associate Professor	28.08.1998	100	50	50	50	yes	Regular	
Dr. T. VenkataRao	ACHPT8483D	M.A., Ph.D.	26.10.2012	Indian Knowledge system	Associate Professor	14.02.2005	0	50	50	50	No	Regular	4/8/2021
Dr. P Murali Mohan Kumar	DJVPK5694P	MSc, PhD	18.02.2019	Numerical analysis	Assistant Professor	30.07.2018	50	100	100	100	Yes	Regular	
Dr D Srinvas Kumar	AMGPD2140J	MBA, Ph.D.	08.11.2010	Economics & Accountancy	Professor	30.06.2007	100	100	100	100	Yes	Regular	
Dr. KVS Prasad	AQYPK6380M	MBA, Ph.D.	10.08.2011	Environmental studies	Associate Professor	13.08.2007	100	100	100	100	Yes	Regular	
Mr.K.V.Sanyasi Raju	AJMPR0959A	M.B.A.	27.07.2001	Environemental Manageme	Assistant Professor	30.12.2000	50	50	50	50	Yes	Regular	

				nt									
Mr.G.Surya Prakasa Rao	AJOPR9836Q	M.B.A.	31.12.2008	Financial Management	Assistant Professor	28.02.1998	50	50	50	50	Yes	Regular	
Mr.P Sankara rao	AHLPP4218K	M.Sc., M.Tech.	24.10.2011	Electronic information system	Assistant Professor	07.07.2017	75	75	75	75	Yes	Regular	
Mr.Rajaraman Vaidhyanathan	AAJPR2102H	ME	28.09.1996	Electronics	Assistant Professor	18.01.2019	0	100	100	100	No	Regular	31-05-2022
Mr.Konapala Venugopal	AWBTR9015M	M.Sc.(Tech)., M.Tech.	06.04.2016	Radar and Microwave Engineering	Assistant Professor	28.07.2017	100	100	100	100	Yes	Regular	
Ms.Pragada Padmavati	CWGPP9751B	MCA., M.Tech	12.12.2013	Machine Learning	Assistant Professor	29.07.2017	0	100	100	100	Yes	Regular	
Dr.DeepshikaDatta	AITPD1443K	M.Tech, Ph.D.	07.02.2020	Biodegradability,Morphology& Thermo mechanical properties	Assistant Professor	14.10.2019	100	0	0	0	No	Regular	29.10.2022
Dr. Shaik Shadulla	EFNPS5769L	M.Tech, Ph.D.	24.11.2020	chemical engineering	Assistant Professor	16.09.2019	75	0	0	0	No	Regular	23-05-2022
Dr.K.Appa Rao	AINPA1590N	M.Sc., M.Phil., PhD	07.07.2018	Environmental Chemistry	Assistant Professor	01.07.2003	75	75	75	75	Yes	Regular	
Dr.Surya Narayana Dash	BJDPS4909M	M.Tech & Ph.D.	01.03.2013	chemical engineering	Professor & CDC Head	06.12.2006	50	0	0	0	Yes	Regular	
Dr.V Hari Priya	AGKPV6156A	M.Sc, Ph.D.	04.08.2018	Organic synthesis & Heterocyclic	Assistant Professor	20.12.2021	100	0	0	0	Yes	Regular	

				compounds									
Dr.NCH.Ramgopal	AEYPN8812M	M.Sc. Ph.D.	09.04.2016	Fluid Dynamics	Assistant Professor	13.07.2021	100	0	0	0	No	Regular	13-10-2022
V.Srinivasa Rao	BHIPS7693P	M.Sc., M.Phil	05.08.2006	Numerical analysis	Assistant Professor	10.07.2001	75	75	75	75	Yes	Regular	
Dr.A.Ganapathi Rao	ATTPA1499H	M.Phil, Ph.D.	16.08.2021	Applied group theory	Assistant Professor	22.01.2022	100	0	0	0	Yes	Regular	
Dr.B Viswanadhan	AYPPB0499M	M.Sc, Ph.D.	17.06.2015	Heterogenous catalysis and matreial science	Associate Professor	30.06.2021	100	0	0	0	Yes	Regular	
Dr.P S V Narayana	BKAPP6811P	Ph.D.	25.08.2010	Materials Engineering	Professor & Associate Dean R&D	25.03.2021	100	0	0	0	Yes	Regular	
Dr. K Murali Kumar	bdcpk5069h	M.Li Sc, Ph.D.	23.07.2019	library and information science	Assistant Professor	07.02.2022	50	0	0	0	Yes	Regular	

Year	Number Of Students (approved intake strength) N	Number of Faculty members (considering fractional load) F	FYSFR (N/F)	*Assessment = (5*20)/FYSFR (Limited toMax.5)
(CAYm2) 2018-19	870	50	17	5
(CAYm1) 2019-20	930	51	18	5
(CAY) 2020-21	930	48	19	5
2021-22	1050	58	18	5
Average	970	52.33	18.33	5

Average FYSFR: 18.33

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

Total Marks 4.23 Institute Marks: 4.23

Year	(X) No. Of Regular Faculty with PhD	(Y)No. Of Regular Faculty with Post Graduation	RF (Number of Faculty Members Required as Per SFR Of 20:1)	Assessment Of Faculty Qualifications (5x+3y)/RF
2018-19	22	18	44	3
2019-20	28	19	47	4
2020-21	29	19	47	4
2021-22	37	21	52.5	4.7

Average Assessment: 4.23

8.3 First Year Academic Performance (10)

Total Marks 7.89
Institute Marks: 7.89

Academic performance	2021-22	CAY 2020-21	CAY m1 2019-20	CAY m2 2018-19	CAY m3 2017-18
Mean of CGPA or mean percentage of all successful students(X)	8.32	7.7	7.65	7.7	7.79
Total Number of successful students(Y)	1047	956	908	729	795
Total Number of students appeared in the examination(Z)	1047	956	908	729	795
API [X*(Y/Z)]	8.32	7.7	7.65	7.7	7.79

Average API [(AP1+AP2+AP3)/3]: 7.89

Assessment = Average API: 7.89

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

Total Marks 10.00

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

Institute Marks: 5.00

To calculate the CO attainment direct tools are considered with 100% weightage. The direct tool is based on the marks scored by the student in the course. Based on the CO attainment year on year corrective measures are taken up and threshold is set.

The direct tools used to calculate CO attainment in each course are based on the marks scored in continuous assessment 1,2 ,3 and semester end exams. For each of the assessment tool a rubric is designed, and the attainment is calculated by taking the performance minimum of 75% students in a class

No.	Assessment Method/tool	Weightage %	Frequency of Assessment	Assessor
Direct Method				
1	Sessional exams / question paper Theory course	40% of Mid semester + 60 % of End semester	Thrice in a semester	Course instructor
2	Laboratory Course/ Job Assessment		Weekly	
3	Semester End Examinations		Once in a semester	External/ Internal subject experts

8.4.2 Record the attainment of Course Outcomes of all first-year courses (5)

Institute Marks: 5.00

2021-2022

S. No.	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6
1	C101	CE	2.00	2.00	3.00	2.00	2.00	2.00
2	C102	ACE	2.00	2.00	2.00	2.00	2.00	2.00
3	C103	M-I	2.00	2.00	2.00	2.00	2.00	2.00
4	C104	M-II	2.00	2.00	2.00	2.00	2.00	2.00
5	C105	EP	2.00	2.00	2.00	2.00	2.00	2.00
6	C106	EC	2.00	2.00	2.00	2.00	2.00	2.00
7	C107	ECS LAB	2.00	2.00	2.00	2.00	2.00	2.00
8	C108	EP Lab	2.00	2.00	2.00	2.00	2.00	2.00
9	C109	EC Lab	2.00	2.00	2.00	2.00	2.00	2.00
10	C110	BASICS OF ENGG	2.00	2.00	2.00	2.00	2.00	2.00
11	C111	PSPS	2.00	2.00	2.00	2.00	2.00	2.00

12	C112	PSPS LAB	2.00	2.00	2.00	2.00	2.00	2.00
13	C113	PP	2.00	2.00	2.00	2.00	2.00	2.00
14	C114	PP Lab	2.00	2.00	2.00	2.00	2.00	2.00
15	C115	ED	2.00	2.00	2.00	2.00	2.00	2.00
16	C116	EWS	2.00	2.00	2.00	2.00	2.00	2.00
17	C117	ITWS	2.00	2.00	2.00	2.00	2.00	2.00

2020-2021

S. No.	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6
1	C101	CE	2.00	2.00	3.00	2.00	2.00	3.00
2	C102	ACE	3.00	3.00	3.00	3.00	3.00	2.00
3	C103	M-I	2.00	2.00	2.00	2.00	2.00	2.00
4	C104	M-II	2.00	2.00	2.00	2.00	2.00	2.00
5	C105	EP	3.00	3.00	2.00	3.00	2.00	2.00
6	C106	EC	2.00	2.00	2.00	2.00	2.00	2.00
7	C107	ECS LAB	2.00	2.00	2.00	2.00	2.00	2.00
8	C108	EP Lab	2.00	2.00	2.00	2.00	2.00	2.00
9	C109	EC Lab	2.00	2.00	2.00	2.00	2.00	2.00
10	C110	BASICS OF ENGG	2.00	2.00	2.00	2.00	2.00	2.00
11	C111	PSPS	3.00	2.00	2.00	3.00	3.00	3.00
12	C112	PSPS LAB	2.00	2.00	2.00	2.00	2.00	2.00
13	C113	ED	2.00	2.00	2.00	2.00	2.00	2.00
14	C114	EWS	2.00	2.00	2.00	2.00	2.00	2.00

2019-2020

S. No.	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6
1	C101	CE	2	2	2	2	2	3
2	C102	ACE	3	3	2	2	2	2
3	C103	M-I	3	2	2	2	2	2
4	C104	M-II	2	2	2	2	2	2
5	C105	EP	2	2	2	2	2	2
6	C106	EC	2	2	2	2	2	2

7	C107	ECS LAB	2	2	2	2	2	2
8	C108	EP Lab	2	2	2	2	2	2
9	C109	EC Lab	2	2	2	2	2	2
10	C110	BASICS OF ENGG	2	2	2	2	2	2
11	C111	PSPS	2	2	2	2	2	2
12	C112	PSPS LAB	2	2	2	2	2	2
13	C113	ED	2	2	2	2	2	2
14	C114	EWS	2	2	2	2	2	2

2018-2019

S. No.	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6
1	16HSX01	ECS-I	3	2	3	3	3	2
2	16HSX03	ECS-II	2	3	3	3	2	2
3	16MAX01	M-I	2	2	2	2	2	2
4	16MAX02	M-II	2	2	2	2	2	2
5	16PYX01	EP	2	2	2	2	2	2
6	16CYX01	EC	2	2	2	2	2	2
7	16HSX02	ECS LAB	2	2	2	2	2	2
8	16PYX02	EP Lab	2	2	2	2	2	2
9	16CYX02	EC Lab	2	2	2	2	2	2
10	16CSX01	FCP	2	2	2	2	2	2
11	16CSX02	FCP Lab	2	2	2	2	2	2
12	16EEX01	EEE	2	2	2	2	2	3
13	16MEX01	EME	2	2	2	2	2	2
14	16MEX02	ED	2	2	2	2	2	2
15	16MEX03	EW	2	2	2	2	2	2
16	16CHX01	ES	3	1	3	2	2	2

2017-2018

S. No.	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6
1	16HSX01	ECS-I	2	2	2	2	2	2
2	16HSX03	ECS-II	3	3	3	3	3	3

3	16MAX01	M-I	2	2	3	2	2	2
4	16MAX02	M-II	2	2	2	2	2	2
5	16PYX01	EP	3	2	2	2	2	2
6	16CYX01	EC	3	2	2	2	2	2
7	16HSX02	LLS LAB	2	2	2	2	2	2
8	16PYX02	EP Lab	2	2	2	2	2	2
9	16CYX02	EC Lab	2	2	2	2	2	2
10	16CSX01	FCP	2	2	2	3	2	2
11	16CSX02	FCP Lab	2	2	2	2	2	2
12	16EEX01	EEE	2	2	2	3	3	3
13	16MEX01	EME	2	2	2	2	2	2
14	16MEX02	ED	2	2	2	2	2	2
15	16MEX03	EW	2	2	2	2	2	2
16	16CHX01	ES	3	3	3	2	2	2

2016-2017

S. No.	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6
1	16HSX01	ECS-I	2	2	3	2	3	2
2	16HSX03	ECS-II	3	3	3	3	2	3
3	16MAX01	M-I	2	2	3	2	2	2
4	16MAX02	M-II	2	2	2	2	2	2
5	16PYX01	EP	2	2	2	2	2	2
6	16CYX01	EC	3	2	2	2	2	2
7	16HSX02	LLS LAB	2	2	2	2	2	2
8	16PYX02	EP Lab	2	2	2	2	2	2
9	16CYX02	EC Lab	2	2	2	2	2	2
10	16CSX01	FCP	3	2	2	2	2	2
11	16CSX02	FCP Lab	3	3	3	3	3	3
12	16EEX01	EEE	2	2	2	2	3	3
13	16MEX01	EME	2	2	2	2	2	2
14	16MEX02	ED	2	2	2	2	2	2
15	16MEX03	EW	2	2	2	2	2	2
16	16CHX01	ES	3	2	2	2	2	2

8.5 Attainment of Program Outcomes from first year courses (20) Total Marks 20.00

8.5.1 Indicate results of evaluation of each relevant PO and/or PSO if applicable (10) Institute Marks: 10.00

POs Attainment:

2021-2022

S. No.	Course Code	Program Outcome/ Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	C101	CE	-	-	-	-	-	-	-	-	-	2	-	1
2	C102	ACE	-	-	-	-	-	-	-	-	-	2	-	1
3	C103	M-I	2	-	-	-	-	-	-	-	-	-	-	1
4	C104	M-II	2	-	-	-	-	-	-	-	-	-	-	1
5	C105	EP	2	-	-	-	-	-	-	-	-	-	-	1
6	C106	EC	2	-	-	-	-	-	-	-	-	-	-	1
7	C107	ECS LAB	-	-	-	-	-	-	-	-	-	2	-	1
8	C108	EP Lab	-	-	-	2	-	-	-	-	-	-	-	-
9	C109	EC Lab	-	-	-	2	-	-	-	-	-	-	-	-
10	C110	BE	2	-	-	-	-	-	-	-	-	-	-	1
11	C111	PSPS	2	-	-	-	-	-	-	-	-	-	-	2
12	C112	PSPS LAB	2	-	-	-	-	-	-	-	-	-	-	-
13	C113	PP	2	-	-	-	-	-	-	-	-	-	-	1
14	C114	PP Lab	-	-	-	2	-	-	-	-	-	-	-	-
15	C115	ED	2	-	-	-	3	-	-	-	-	2	-	-
16	C116	EW	2	-	-	-	-	-	-	-	2	2	-	-
17	C117	IT WS	2	-	-	-	-	-	-	-	-	-	-	2
	AVERAGE		2			2	3	-	-	-	2	2	-	1.18

2020-2021

S.No.	Course Code	Program Outcome/ Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	C101	CE	-	-	-	-	-	-	-	-	-	2	-	1
2	C102	ACE	-	-	-	-	-	-	-	-	-	3	-	1
3	C103	M-I	2	-	-	-	-	-	-	-	-	-	-	-
4	C104	M-II	2	-	-	-	-	-	-	-	-	-	-	-
5	C105	EP	2	-	-	-	-	-	-	-	-	-	-	1
6	C106	EC	2	-	-	-	-	-	-	-	-	-	-	1
7	C107	ECS LAB	-	-	-	-	-	-	-	-	-	2	-	1
8	C108	EP Lab	-	-	-	2	-	-	-	-	-	-	-	-
9	C109	EC Lab	-	-	-	1	-	-	-	-	-	-	-	-
10	C110	BE	2	-	-	-	-	-	-	-	-	-	-	1
11	C111	PSPS	2	-	-	-	-	-	-	-	-	-	-	2
12	C112	PSPS LAB	-	-	-	1	-	-	-	-	-	-	-	-
13	C113	ED	2	-	-	-	1	-	-	-	-	2	-	-
14	C114	EW	2	2	-	-	-	-	-	-	-	2	-	-
	AVERAGE		2	2	-	1.33	1	-	-	-	-	2.2	-	1.14

2019-2020

S. No.	Course Code	Program Outcome/ Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	C101	CE	-	-	-	-	-	-	-	-	-	2	-	-
2	C102	ACE	-	-	-	-	-	-	-	-	-	2	-	-
3	C103	M-I	2	-	-	-	-	-	-	-	-	-	-	-
4	C104	M-II	2	-	-	-	-	-	-	-	-	-	-	-
5	C105	EP	2	-	-	-	-	-	-	-	-	-	-	-
6	C106	EC	2	-	-	-	-	-	-	-	-	-	-	-
7	C107	ECS LAB	-	-	-	-	-	-	-	-	-	2	-	-

8	C108	EP Lab	-	-	-	1	-	-	-	-	-	-	-	-
9	C109	EC Lab	-	-	-	1	-	-	-	-	-	-	-	-
10	C110	BE	3	-	-	-	-	-	-	-	-	-	-	1
11	C111	PSPS	2	-	-	-	-	-	-	-	-	-	-	1
12	C112	PSPS LAB	-	-	-	2	-	-	-	-	-	-	-	-
13	C113	ED	-	-	-	2	-	-	-	-	2	2	-	-
14	C114	EW	1	1	-	-	-	-	-	-	-	1	-	1
	AVERAGE		2	1	-	1.5	-	-	-	-	2	1.8	-	1

PO Attainment Level:

Course	PO1	PO2
NA	NA	NA

PSOs Attainment:

Course	PSO1	PSO2
NA	NA	NA

8.5.2 Actions taken based on the results of evaluation of relevant POs and PSOs (10) Institute Marks: 10.00

POs Attainment Levels and Actions for Improvement (2021-2022)

POs	Target Level	Attainment Level	Observations
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. (Engineering knowledge)			
PO1	2	2	Target level achieved.
Action: (i) Student to be given more problems in Mathematics, physics & chemistry as tutorials (ii) Students are to be supervised for their problem-solving abilities in a stepwise increase of difficulty level and constantly upgraded their solving ability.			
PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. (Conduct investigations of complex problems)			

PO4	2	2	Target level achieved
Action: (i) Students will be given some research papers and encouraged to write mini reports. (ii) Students will be encouraged for more paper presentations.			
PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations (Modern tool usage)			
PO5	2	3	Target level achieved
Action: (i) Students are introduced to CAD and Design related software, arrange some practice sessions (ii) Students are encouraged to learn new online free software's and operation procedures of equipment by simulation			
PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. (Individual and teamwork)			
PO9	2	2	Target level achieved.
Action: (i) Students are given group activities and monitor their progress of practice regularly (ii) Students are given individual responsibilities of tasks planned and freedom to take decisions for certain activities			
PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. (Communication)			
PO10	2	2	Target level achieved
Action: (i) More practice exercises are given to students via seminars, essay writing events. (ii) More opportunity is given for event report to print media & electronic media			
PO12: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. (Life-long learning)			
PO12	2	1.18	Target level not achieved
Action: (i) Industrial visits to be planned for real-time exposure. (ii) Organize group discussions, seminars to make learning more interactive and attractive. (iii) Students are Motivated to consider higher studies also.			

POs Attainment Levels and Actions for Improvement (2020-2021)

POs	Target Level	Attainment Level	Observations
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. (Engineering knowledge)			
PO1	2	2	Target level achieved.
Action: (i) Student are given more problems in Mathematics, physics & chemistry as tutorials (ii) Students are supervised for their problem-solving abilities in a stepwise increase of difficulty level and constantly upgrade their solving ability.			
PO2: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences (Problem analysis).			
PO2	2	2	Target level achieved.
Action: (i) Give a greater number of problems based on practical applications. (ii) Make students practice more number of mathematical problems.			
PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions (Conduct investigations of complex problems).			
PO4	2	1.33	Target level not achieved
Action: (i) Students are to be given some research papers and encouraged to write mini reports. (ii) Students are to be encouraged for more paper presentations.			
PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations (Modern tool usage).			
PO5	2	1	Target level not achieved
Action: (i) Students are to be introduced to CAD and Design related software, arrange some practice sessions (ii) Students are to be encouraged to learn new online free software and operation procedures of equipment by simulation			

PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings (Individual and team work).			
PO10	2	2.2	Target level achieved
Action: (i) More practice exercises are given to students via seminars, essay writing events. (ii) More opportunity is given for event report to print media & electronic media			
PO12: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change (Life-long learning).			
PO12	2	1.14	Target level not achieved
Action: (i) More industrial visits to be organized to get real-time exposure. (ii) Students to be encouraged for mutually exchanging their knowledge via group discussions, seminars to make learning more interactive and attractive. (iii) More students are to be encouraged to consider higher studies also.			

Criteria – 9
Student Support Systems [50M]

9.1 Mentoring System to help at Individual Level (5)

Table 9.1.1

S. No	Details	Status
1	Mentoring System	Yes in-place
2	Type of mentoring	All-round development
3	Number of faculty mentors	All the faculty members
4	Number of students per mentor	15 – 20
5	Frequency of mentoring	Once in a month or as and when needed

Each faculty member in the respective department is assigned with a group of 15-20 students from the same department across all the years. The group of students who are assigned to a particular faculty will be under the mentorship of the same faculty for all the three years in the department and the records are maintained by the mentors. The faculty member will be continuously mentoring the mentees for holistic development (professional guidance, career advancement and academic related) at regular intervals or as and when needed to guide the students to reach their goals. In case of any deviation in the performance or any kind of distractions observed with any of their mentees, the respective mentor communicates the same to the concerned to facilitate the mentee to perform in a better way for continuous improvement. Based on the need and necessity, the mentees are also recommended for consultancy with the professional psychologist to improve their personal, professional, and psychological stability.

Effectiveness of the System:

- The mentoring system developed by the institute has been proved to be effective considering different parameters.
- The regularity of the students has been improved by reducing the number of detentions
- Participation of the students in co-curricular and extracurricular activities has been increased
- Academic performance has been increased
- Increase the number of Placements

Table 9.1.2

S No	Mentoring Attributes	(2021-22)			CAY (2020-21)			CAYm1 (2019-20)			CAYm2 (2018-19)			CAYm3 (2016-17)		
1	Co-curricular	308			554			468			497			267		
2	Extracurricular activities	199			04			139			166			96		
3	Academic performance	678			678			513			496			492		
4	Placements	Placement Eligibility (Semester)			Placement Eligibility (Semester)			Placement Eligibility (Semester)			Placement Eligibility (Semester)			Placement Eligibility (Semester)		
		V	VI	VII	V	VI	VII	V	VI	VII	V	VI	VII	V	VI	VII
		629	657	597	664	677	618	632	649	705	548	568	616	602	615	641

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

Table 9.2.1

S. No	Details	Status
1	Feedback collected for all courses	Yes.
2	Frequency of the feedback collection	Twice in a semester
2	Feedback collection process	Online

3	Average percentage of students who participate	At an average of 80% of the class strength				
4	Feedback analysis process	• The performance of the teachers is analyzed on a 6 six-point scale based on 15 parameters covering the various aspects of teacher-student interactions. • The parameter wise score is analyzed and the faculty having score less than 3.0 (parameter wise and overall) are counselled by the program coordinators for the necessary corrective measures that are recorded.				
5	Basis of reward	Student feedback is given 20% weightage in the faculty award scheme. All the faculty members are evaluated yearly in both semesters considering their contributions towards academic, research and administration on 100-point scale.				
6	Indices used for measuring quality of teaching & learning	1. Preparedness for class work 2. Delivery in the classroom 3. Blackboard usage 4. Handling of questions 5. Quality of tests and assignments 6. Timely evaluation of tests and assignments 7. Advance scheduling of sessions 8. Level of interest & excitement generated. 9. Extra help outside class hours 10. Other teaching aids used, like PPT, Spread sheets, OHP, etc. 11. Extent to which English was used for communication. 12. Extent to which course work completed. 13. Time management 14. Control and command of class				
8	Student performance in the courses handled	• Overall pass percentage • Subject wise pass percentage • Quality performance index				
9	Number of faculty members counseled, and corrective measures initiated:	2021-22	2020-21	ACY: 2019-20	ACY: 2018-19	ACY: 2017-18
		4	8	9	22	29

**Number of FACULTY members whose feedback is less than 4 on 6-point scale*

9.3. Feedback on Facilities (5)

The institute has a system in place to collect feedback from the internal stakeholders regarding the facilities provided in terms of laboratory facilities, library at department and institute level, e-learning facilities and other student support services for continuous improvement. In addition to that students are also provided with suggestion boxes in all the departments at strategic locations to share their feedback.

Feedback mechanism

Students are provided with an option of giving feedback online through the college website or LAN regarding the various facilities (academic & physical facilities) on their effective functioning. The campus IT support periodically segregates the feedback and will be sent to the respective departments to analyze the issue and initiate corrective measures.

Figure. 9.3.1 Snapshot of feedback page on the website

For all student support services including hostel facilities, dining facilities, sports and games facilities, transport facilities and medical facilities, feedback from the internal stakeholders is invited and issues are addressed by convening a formal meeting with students' representatives along with a team of faculty concerned.

Based on the feedback received and the minutes of the meeting from the student support services suitable actions are initiated by escalating the feedback to the concerned faculty for further improvements.

9.4. Self-Learning (5)

Scope:

The curriculum provides adequate scope and provisions for the students to experience the journey of self-learning from the first semester onwards. The self-learning components include:

- Self-study topics in each of the courses in the curriculum and beyond curriculum. A student can acquire a maximum of 10% of the total credits in self-learning mode.
- Self-study courses under the category of elective courses wherein the students are provided with the flexibility of choosing courses available in online portals like MOOCs and popular e-learning portals like SWAYAM, Coursera, Udemy, Udacity, Bigdata University etc. in addition to other existing courses in the electives.
- To facilitate the self-learning experience, course materials are also prepared including video lectures by the internal faculty and are floated on the intranet setup.
- To enable the students to be effective utilization of the library and to motivate for self-learning weekly one library hour is allocated in the timetable.
- Audit courses are in place in the curriculum to nurture the habit of self-learning.
- In all the laboratory courses mini projects in the form of augmented experiments are incorporated in the curriculum to enable the students to get more practical insight through self-learning

Table 9.4.1

S. No	Provisions	Students Benefited			
		2021-22	CAY 2020-21	CAYm1 2019-20	CAYm2 2018-19
1	Audit course	879	961	912	839
2	Self-study topics	2540	961	912	741
3	MOOCs courses	0	119	77	357
4	Augmented experiments	2379	961	912	741

9.5. Career Guidance, Training, Placement (10)

The institute has Career Development Cell (CDC) operating centrally to take care of the activities related to career counseling, training on employability skills, guidance for higher education, internships, and placements. The CDC has dedicated soft skill trainers to take care of their regular training activity that includes:

- Soft skill training from first year onwards
- Training on employability skills and online tests to assess the students.
- Conduct of motivation lectures & mock interviews
- Technical training & guest lectures
- Enabling the students to resume preparation
- Arranging customized industry-oriented training
- Entrepreneurship and higher studies awareness programs
- Conduct of mock interviews.

Apart from the regular activities as listed above, CDC also invites expert trainers from outside and conducts fast track soft skill training programs and speed mathematics to enable the students to perform better during recruitment process.

Table 9.5.1

S. No	Career Development Cell activities	No of activities				
		2021-22	CAY 2020-21	CAYm1 (2019-20)	CAYm2 (2018-19)	CAYm3 (2017-18)
1	Soft skill training	6	6	6	5	5
2	Employability skill training (CRT Program)	24	12	9	5	6
3	Motivation lectures Conducted	25	6	9	29	36
4	Technical training & guest lectures	40	57	13	33	36
5	Arranging customized Industry oriented training	447	784	269	218	182
6	Entrepreneurship and higher studies awareness programs	12	6	2	2	2
7	Conduct of grooming sessions	12	6	2	1	2
8	Conduct of mock interviews	12	12	6	3	2

Full Semester Internship and Placement:

The process of Full Semester Internship process is institutionalized, and students interested in FSI get registered at the end of the 6th semester. Based on the competency mapping and availability by following a selection process, internships are allocated to the students as per the internship SOP. At the end of the 6th semester students who are interested in the placements shall register with the CDC by submitting an undertaking as per the placement policy.

Table 9.5.2

S. No	CDC activity	Students benefited				
		ACY 2021-22	ACY 2020-21	ACY 2019-20	ACY 2018-19	ACY 2017-18
1.	Internship	207	11	250	245	213
2.	Placement Offers	1201	700	640	646	481
3.	Higher education	12	31	37	35	35
4.	Entrepreneurship	5	7	3	6	7

Tally with the sum of all the departments

SOP for Internship:

Table 9.5.3

S. No	Task	Deadline
1	Sensitization Meeting with 4th Students	4th week of December
2	Visiting to Industries to get permissions for internship	1st week of January to 1st week of April
3	Verification of the credentials of the industries	Ongoing basis
4	Consolidation of the Consents from industries	Last week of April
5	Updating of the Industry contact details	1st week of April
6	1st phase of Allotment (display in main notice board & website)	1st week of April
7	Changes & Modification in the allotments	2nd week of April
8	Student Orientation program (General)	2nd week of April
9	Final Allotment (display in main notice board & website)	3rd week of April
10	Intimation about the industry specific requirements	3rd week of April
11	Sharing the list of the allotted students to the industries (Email/Post)	3rd week of April
12	Getting the undertaking signed by Student/Parent in the prescribed format and verification	4th week of April
13	Sharing the information about the Student/ Faculty SPOCs allotment with their respective Roles	4th week of April
14	Creating the WhatsApp groups and group email ids for student SPOCs	4th week of April
15	Verification of valid passport and police verification as per the industry requirements	4th week of April
16	Verification and collection of the Accommodation details for those students going out of the State	4th week of April
17	Preparation of Google sheet-based monitoring system for the internship program with access to both students SPOC and faculty SPOC	4th week of April
18	Display the details about industries where the students are allotted on LAN	4th week of April
19	Issue of the allotment letter and intimation of the industry specific rules and regulations	1st week of May
20	Uploading of the formats of Internship certificate, No dues from industry and Internship Report on the website)	2nd week of May
21	Online Monitoring of Internship through IMS	Internship Period of 4 weeks
22	Monitoring and visiting to the industries	3rd & 4th week of Internship

SOP for FSI:

Table 9.5.4

S. No	Task	Deadline
1	Sensitization Meeting with 6th Sem Students	3rd week of December
2	Registration of the students for FSI either in 7th or 8th Sem	1st week of January
3	Visiting to Industries to get permissions for FSI	2nd week of June -7th sem 2nd week of November-8th sem
4	Verification of the Industries credentials & consolidation of consents	2nd week of June -7th sem 2nd week of November-8th sem
5	Conducting interviews	3rd week of June -7th sem 3rd week of November-8th sem
6	Allotment display in main notice board & website	3rd week of June -7th sem

		3rd week of November-8th sem
7	Student Orientation program to the allotted students and share the information about the facilities and stipend if any that they are entitled during the internship from the company side	3rd week of June -7th sem 3rd week of November-8th sem
8	Sharing the list of the allotted students to the industries	3rd week of June -7th sem 3rd week of November-8th sem
9	Getting the undertaking signed by Student/Parent in the prescribed format as per the academic regulations for credit balance and verification	3rd week of June -7th sem 3rd week of November-8th sem
10	Sharing the information about the Student SPOCs/ Internal Supervisors allotment with their respective Roles	3rd week of June -7th sem 3rd week of November-8th sem
11	Creating the WhatsApp groups and group email ids for student SPOCs	3rd week of June -7th sem 3rd week of November-8th sem
12	Verification and collection of the Accommodation details	3rd week of June -7th sem 3rd week of November-8th sem
13	Display the details about industries where the students are allotted on LAN	3rd week of June -7th sem 3rd week of November-8th sem
14	Preparation of Google sheet based monitoring system for the internship program with access to both students SPOC and Internal Supervisors	4th week of June -7th sem 4th week of November-8th sem
15	Issue of the allotment letter and intimation of the industry specific rules and regulations	4th week of June -7th sem 4th week of November-8th sem
16	Uploading of the formats of Internship certificate, No dues from industry and Internship Report in the website	4th week of June -7th sem 4th week of November-8th sem
17	Connecting the Industry Supervisors with Internal Supervisors	1st week of July -7th sem 1st week of December -8th sem
18	Online Monitoring of Internship through IMS	Internship period
19	Ensuring that all the interns are provided with the facilities and stipend is paid as promised initially by the company	After completion of 4 weeks of internship in 7th and 8th semester.
20	Collect feedback on form both the students and company from time to time.	After completion of 3 weeks/8 weeks/16 weeks of internship
21	Ensure to get back those dropout students out of FSI in case of any reasons mentioned in the regulations.	Within 4 weeks of commencement of internship in 7th or 8th semester.

Web link for Placement Policy document:

https://gmrit.edu.in/sars/Placement%20Policy.pdf

9.6. Entrepreneurship Cell (5)

Entrepreneur Development Cell (EDC) is one of the arm functioning under the CDC. The EDC of the institute was established in the year 2007 funded by AICTE. To nurture entrepreneur skills and promote start-ups, EDC organizes various sensitizing and motivational programs by inviting the successful entrepreneurs in the region, alumni, experts from the banking and the financial organizations and guests from the department of industries. In 2011, MSME has recognized GMRIT EDC as a business incubation center (BIC) to fund and promote young entrepreneurs towards new product development.

The cell organizes various business skill development programs to enhance the entrepreneur skills in collaboration with MSME and National Product Council (NPC). Institute is being identified as BIC by MSME, Govt. of India, Institution has signed a MoU to participate in Startup village Boot camp.

In 2017, the institution is identified as a Technical Skill Development Institute (TSDI) by Andhra Pradesh State Skill Development Corporation (APSSDC) and established five different skill training labs in collaboration with Siemens.

Activities Organized:

- Invited motivational talks.
- Training on Detailed Project Report (DPR) preparation
- Training on fiscal management
- Awareness programs on new business avenues.
- Celebration of world's Entrepreneurship Day
- Guest lectures/Workshops with MSME and NPC

Entrepreneurship Development Cell Activities (2021-22)

Table 9.6.1

S. No	Dates	Title	In association with /Resource Persons	Number of students participated
1	21.08.2021	An Online Webinar on the occasion of "World Entrepreneurship Day" on "Entrepreneurship Challenges & Opportunities at present Scenario"on 21.08.2021 at 11.00AM.	01. Sri. G. Raghu Ram, Assistant Director, MSME DI, Visakhapatnam. 02. Sri. G. Prasada Reddy, DGM, MSME Technology Center, Visakhapatnam. 03. Sri. G. Ramabhadra Rao, Senior Deputy Director, AP Productivity Council, Visakhapatnam. 04. J. Uma Maheswara Rao, GM DIC, Srikakulam, A.P.	115
2	24.11. 2021	Tech Creation 2021, a business idea competition	Dept of Chemical Engg, GMRIT	20
3	09.10.2021	Tech Creation 2021, a business idea competition	Dept of Mechanical Engg, GMRIT	30
4	10.12.2021	IDEATHON 2021, a business idea competition	Dept of EEE , GMRIT	30
5	05.03.2022	"Entrepreneur Idea Explore 2022", a business idea competition	Dept of IT, GMRIT	15

Entrepreneurship Development Cell Activities (2020-21)

Table 9.6.2

S. No	Dates	Title	In association with /Resource Persons	Number of students participated
1	26.02.2020	National Level Awareness Programm (NLAP 2020) on the schemes for Entrepreneurs	MSME DI, Visakhapatnam	100
2	21.08.2020	A Webinar on "Post COVID Opportunities & Challenges For Prospective Entrepreneurs" on the occasion of World Entrepreneurship Day On 21.08.2020, 3.00pm to 4.30pm.	01) Sri. A. Raghu Ram, Assistant Director, MSME DI , Visakhapatnam. 02) Sri. V.R. Naik, CEO, APITA, Visakhapatnam.	135

			03) Sri. G. Prasada Reddy, DGM, MSME Technology Centre, Visakhapatnam. 04) Sri. Pratap Reddy, Executive Director, APIIC, Visakhapatnam.	

Entrepreneurship Development Cell Activities (2019-20)

Table 9.6.3

S. No	Dates	Title	In association with /Resource Persons	Number of students participated
1	24.02.2020	National Level Awareness Programme NLAP 2020	Ministry of Micro Small & Medium Enterprises	150
2	04.01.2020	IDEATHON	GMRIT Rajam	10 (Ideas)
3	17.08.2019	Tech Creation 2019	GMRIT Rajam	17
4	21.08.2019	World Entrepreneurship Day	GMRIT Rajam	300
5	15.09.2019	Tech Creation	Student Business idea competition across all departments	10

Entrepreneurship Development Cell Activities (2018-19)

Table 9.6.4

S. No	Dates	Title	In association with /Resource Persons	Number of students participated
1	04.09.2018	How to start Micro, Small& medium Enterprise	Director MSME, Visakhapatnam	150
2	05.09. 2018	How to prepare a business project proposal and start an industry	GM, District Industries Centre (DIC), Srikakulam	165
3	06.09.2018	Procedure of giving loans to Entrepreneurs	Chief Manager, Andhra bank, Rajam	160
4	21.08.2018	World Entrepreneurship Day	GMRIT Rajam	295
5	19.07. 2018	Tech Creation 2K18	Participants with innovative ideas for IEDC & MSME	09

Entrepreneurship Development Cell Activities (2017-18)

Table 9.6.5

S. No	Dates	Title	In association with /Resource Persons	No. of students benefitted
1	07.07.2017	Three Day Awareness Program on How to Become Entrepreneur	Dr G Ram Chandra Rao, Deputy Director, Ap Productive Council	200
2			Dr G Ram Chandra Rao, Deputy Director, Ap Productive Council	207
3			Dr G Ram Chandra Rao,	209

			Deputy Director, Ap Productive Council	
4	21.08.2017	World Entrepreneurship Day	GMRIT Rajam	290

Number of students Benefited

Table 9.6.6

S. No	EDC Activity	Number of students Benefited				
		2021-22	2020-21	CAY	CAYm1	CAYm2
1	Invited motivational talks.	100	130	150	165	170
2	Training on Detailed Project Report (DPR) preparation	115	130	63	68	74
3	Training on fiscal management	150	100	63	68	74
4	Awareness programs on new business avenues.	130	160	150	165	160
5	Celebration of world's Entrepreneurship Day	315	135	300	315	309
6	Guest lectures/Workshops with MSME and NPC	150	235	209	215	239

9.7. Co-curricular and Extra-curricular Activities (10)

The institute has a system in place to monitor all the Co-curricular and Extra-curricular activities. The faculty member in-charge of the student activities at the institution level in coordination with faculty coordinators from the departments and student members, all Co-curricular and Extra-curricular activities are planned and executed as per the event calendar notified. The student members will execute the activities in-line with activity calendar under the faculty mentorship at the department level as well as institute wise. To promote Co-curricular activities, various students' chapters of professional societies (ACM, CSI, ISTE, IE, IETE, IEEE, IICHE, SAE, ISCM) are established.

Sports and Cultural Facilities:

To promote students' wellbeing in terms of physical and mental health various sports and games facilities are created on the campus. The physical fitness and health of the students is ensured through regular sports and games while mental health is sustained by Cultural, Yoga and Meditation sessions. Regular Yoga and Meditation sessions are conducted for interested students through trained internal faculty members and Guest speakers in collaboration with Swami Vivekananda Center for Human Excellence and Heart fullness meditation center.

To encourage and promote the students possessing the cultural skills, the institution provides a platform through various clubs viz. Music, Dance, Fine Arts and other similar clubs for a holistic development and the students were given opportunity to enhance their skills and are exhibited during various cultural shows organized in and out of the campus. The indoor and outdoor sports facilities include air-conditioned Aerobics Centre, courts for Shuttle Badminton, Basketball, Ball Badminton, Throw ball and Volleyball, grounds for Football, Kho–Kho, Cricket (2 with cricket nets), cricket ground and Bowling Machines with auto feeder (two), 6-Lane 400mts synthetic running track and a Long Jump pit. The following are infrastructure facilities available in the institution to promote various activities as follows.

Table 9.7.1

S. No	Facilities	Area (Sq. m)
1	Auditorium	152.11
2	Yoga & Meditation	98
3	Student Activity Center (SAC)	220
4	Gymnasium	428
5	Indoor Sports	1040
6	Outdoor Sports	56273

Further, all the above said facilities are effectively used to cater to the needs of various internal stake holders in a structured way and were ensured by the department of physical education. Accordingly, financial assistance wherever needed, and incentives are also provided to the students who are participating in the inter university and intra campus competitions.

NSS and Club Activities:

Students are being actively engaged in various outdoor Social Activities through NSS Unit and Institutional initiative called GAMYAM. Under GMYAM, the young students are engaged with many outdoor social activities which are based on Lakshya – Career Guidance, Motivation, Goal Setting, Scholarship, Vikasa – Personality Development, Soft Skill Development and Sharing Inspirational Stories, Suchana – Awareness about RTI, Govt. Schemes, Awareness on Government Identification cards and their benefits, Awareness on various Govt. Organizations and their works, Avagahana-Health and Hygiene, Campaigns, Street Plays on Moral and Social Values, Field Visits, Camps, Siksha-Support in preparing for Competitive Examinations, Tutorial and Talent test.

The NSS unit organizes many activities through students addressing social concerns. Awareness rallies, camps and drives have been drawn on various important concepts like World AIDs Day, Swatch Bharath, International Women's Day, etc. The College has conducted more than 100 hours of Swatch Bharath Campaign in the nearby areas with its Students and Staff. Plastic Free drive was also carried out intensively in the local area series of awareness programs for all the shops and also cloth bags were distributed by replacing their plastic bags.

To support and nurture the individual talents and hobbies, various clubs & societies (Women empowerment club, Dance club, Music club, Projects and Innovation club, Hobby club, STEM club, Eco club, HAM radio, Community Radio, Robotic club, short film club and Photography club) are established. The students are encouraged to take the membership in the clubs and participate regularly in the various activities organized for their diversified attributes.

Annual Events:

To motivate and encourage the students' participation in all the Co-curricular and Extra-curricular activities, the institution organizes several annual events. These events give the students an opportunity to nurture and build leadership and team building skills. The following are the annual events conducted at the institutional level apart from the various events conducted at the department level.

- Achievers' Day - To motivate and encourage the student's participation in internal & external competitions by issuing a certificate of performance.
- Talent appreciation Day – To appreciate the quality of students at the entry.
- Annual Day – To appraise all the stakeholders about the performance of the institution and announcement of academic scholastic awards.
- Sports Day - To appraise all the stakeholders about the participation of students in sports and games and announcement of awards.
- Graduation Day – Announcement of the graduation results and award of the gold and silver medals.
- Placement Day – Issue of offer letters to motivate and encourage the students who got placed.
- Annual signature event STEPCONE – Student Technical Paper Contest and Exhibition to create a platform for the students at national level to exhibit share and learn the professional skills acquired with cross cultural interactions.

Sports & Cultural Activities

Table 9.7.2

S. No	Name of the Activity	Number of Activities				
		2021-22	2020-21	ACY 2019-20	ACY 2018-19	ACY 2017-18
1	Sports	46	Nil	15	9	9
2	Cultural Activities	5	Nil	2	3	3

NSS and Club Activities

Table 9.7.3

S. No	Name of the Activity	Number of Activities				
		2021-22	2020-21	ACY 2019-20	ACY 2018-19	ACY 2017-18
1	Club Activities	83	Nil	26	21	18
2	NSS Activities	34	11	38	35	24

Criterion 10
Governance, Institutional Support and Financial Resources[120]

10. Organization, Governance and Transparency (55)

10.1.1. State the Vision and Mission of the Institute (5)

The Vision and Mission of the Institute

The institution has the following Vision and Mission statements defined by taking the inputs from all the stakeholders and with the spirit of providing best of the technical education to the students in the region and the country at large.

The Vision

To be among the most preferred institutions for engineering and technological education in the country. An institution that will bring out the best from its students, faculty and staff - to learn, to achieve, to compete and to grow – among the very best. An institution where ethics, excellence and excitement will be the work religion, while research, innovation and impact, the work culture

The Mission

- *To turnout disciplined and competent engineers with sound work and life ethics*
- *To implement outcome based education in an IT-enabled environment*
- *To encourage all-round rigor and instill a spirit of enquiry and critical thinking among students, faculty and staff.*
- *To develop teaching, research and consulting environment in collaboration with industry and other institutions*

To realize the vision, the above mission statements have been established by taking into account, the contemporary Industry requirements, Technical skills needed, Information Technology tools, Technological & Product development, Ongoing research & development, Industry-Institute interaction, Twenty-first century skills and Societal needs.

To sensitize all the stakeholders about availability of the Vision and Mission statements, display boards and Sign boards are arranged in the prominent locations across the campus. In addition to this, Vision and Mission statements are made available to the stakeholders through:

Internal:

1. Institute Website(www.gmrit.edu.in)
2. LAN portal (LMS)
3. Campus Management System
4. Academic regulations, Syllabus books
5. Digital Signages
6. Notice Boards
7. Signages at common and prominent locations
8. Course handouts
9. Department library
10. Survey Forms (Students & Faculty)

External:

1. Institute Website (www.gmrit.edu.in)
2. Survey Forms (Alumni & Employer)
3. Campus Management System (CMS)

10.1.2. Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring (25)

The institution has a clear and well-defined strategic plan for the realization of the vision and is available in all the departments across the campus. Through the various tasks that are stipulated in the mission statements ongoing basis the institution is progressively moving towards the realization of vision. The following are the key strategic issues that are currently focused for the overall development of the institution.

1. Create an eco-system for making the students industry ready
2. Continuous capacity building of the faculty and physical resources
3. Promoting research culture among the students and faculty

Create an eco-system on the campus for making the students industry ready
To make the students industry ready, an eco-system is created on the campus with following initiatives:

- Soft skill training for improving the communication skills and interpersonal skills from the first year onwards
- Motivational programs by the industry experts and successful alumni
- Student driven clubs and competitions in Co-curricular and Extra-curricular activities
- Credited Industry driven elective courses, inter-disciplinary open electives and self- study courses
- Full semester Internships for hands-on experience
- Student's council and professional body activities to enhance the leadership qualities
- Entrepreneur Development Cell (EDC) and business incubation center to promote entrepreneurship
- Training and Competitions are conducted to improve problem solving and analytical skills
- Add-on courses on latest technologies to enhance the placement opportunities

All the above activities on the campus are continuously monitored by faculty coordinators with a team comprising of faculty and students from all the departments. Semester wise schedule for all the above activities is notified to the students in every semester well in advance.

Continuous capacity building of the faculty and physical resources
To enable the faculty to get updated and trained in the contemporary technologies, the following are the initiatives are taken up:

- Faculty development programs by inviting subject experts from premier institutions and industry
- Regular upgradation of the labs with the latest software and equipment
- Industry internships and certification through e-learning portals like Udemy, Big Data University, EC-Council etc.
- Training on course design, question paper setting and teaching pedagogy in-line with OBE philosophy
- All the above activities are planned and executed by the respective HODs and their team members. Year wise schedule for all the above activities is notified to the faculty members well in advance.

Promoting research culture among the students and faculty
To promote research culture among faculty and students, the following initiatives are taken up to maintain the synergy between the academics and research by

- Encouraging faculty members and students to participate in workshops, conferences and seminars by providing financial support
- Incentives for quality journal publications and sponsored research projects
- Encouragement to pursue the Ph.D. (Part time, Full time) by providing support in terms of research facilities and academic leaves

- Students are encouraged to participate in innovative project contests
- Involvement of students in consultancy and sponsored research projects
- Providing matching grant for student's projects
- Promotion of research in terms of Term papers and mini projects

All the above activities are planned and executed by the respective HODs and monitored by the Research coordinator. All the notifications related to the above activities are circulated to all the departments to encourage faculty & students to participate.

10.1.3. Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10)

To oversee the performance and monitor the development of the institute, the following Governance committees are constituted as per the UGC norms.

- Governing Body
- Academic Council
- Board of Studies
- Finance committee

Governing Body

Is an apex body that oversees and gives direction for the better performance of the institution mitigating the functional challenges ensuring the attainment of the key performance indicators. Following is the composition and list of the members:

Table 10.1 Composition and List of the Governing Council members:

S. No.	Name of the Member and Affiliation	Category	Nominated by
1	Dr. J. Girish, Chairman (Governing Council)	Management	Nominated by the Trust
2	Dr. C. L. V. R. S. V. Prasad, Member Secretary	Management	Nominated by the Trust
3	Dr. B. Satyanarayana, Member	Under the Category of Industrialist / Technologist / Educationist	Nominated by State Government
4	Dr. E. Sankara Rao, Member	Management	Nominated by the Trust
5	Dr. Ligy Philip, Member	Management	Nominated by the Trust
6	Mr. J. Satyanarayana Murthy	Under Category of Industrialist / Technologist / Educationist t	Nominated by State Government
7	Dr. Pragya Shukla, Member	UGC Nominee	Nominated by the UGC
8	Dr. R. Natarajan, Member	Management	Nominated by the Trust
9	Dr.D. R. Prasada Raju, Member	Under Category of Industrialist / Technologist / Educationist	Nominated by State Government
10	Mr. G. Swami Naidu, Member	Management	Nominated by the University
11	Dr. M. V. Nageswara Rao, Member	Teacher	Principal based on seniority by rotation
12	Dr. A. V. Ramana, Member	Teacher	Principal based on seniority by rotation

Functions of Governing Body

Subject to the existing provision in the bye-laws of respective college and rules laid down by the state government/parent university, the Governing Body shall:

- Guide the college while fulfilling the objectives for which the college has been granted autonomous status.
- Institute scholarships, fellowships, studentships, medals, prizes and certificates on the recommendations of the Academic Council
- Approve new programs of study leading to degrees and/or diplomas.
- All recruitments of Teaching Faculty/Principal shall be made by the Governing
- Body/state government as applicable in accordance with the policies laid down by the UGC and State Government from time to time.
- To approve annual budget of the college before submitting the same at the UGC.
- Perform such other functions and institute committees, as may be necessary and deemed fit for the proper development of the college
- **Term**: The term of the nominated members shall be three years.
- **Meetings**: The Board of Studies shall meet at least twice a year.

Academic Council

It is the apex body to oversee and approve all the academic related issues and has the following composition:

Table 10.2 Composition and List of the Academic Council members:

S. No.	Name of the Member and Affiliation	Category	Nominated by
1	Dr. C. L. V. R. S. V. Prasad, Chairman (Academic Council)	Chairman	Ex-officio
2	Dr. B. Bala Krishna, Member	DE, JNTUK	JNTUK
3	Dr. KVSG Murali Krishna, Member	DAP, JNTUK	JNTUK
4	Dr. R. Rajeswara Rao, Member	Professor of CSE,UCEV,JNTUK	JNTUK
5	Dr. A. Venu Gopal, Member	Industrialist / Technologist / Educationist	Governing Body
6	Dr. K V L Subramaniam, Member	Industrialist / Technologist / Educationist	Governing Body
7	Dr. P. Mallikarjuna Rao, Member	Industrialist / Technologist / Educationist	Governing Body
8	Dr. P.K. Jain, Member	Industrialist / Technologist / Educationist	Governing Body
9	Mr. V. Paradesi Naidu, Member	Industrialist / Technologist / Educationist	Governing Body
10	BoS Chairperson, Civil Eng. , Member	HOD-CIVIL	Ex-Officio (Nominated by Chairman)
11	BoS Chairperson, CSE, Member	HOD-CSE	Ex-Officio (Nominated by Chairman)
12	BoS Chairperson, ECE, Member	HOD-ECE	Ex-Officio (Nominated by Chairman)
13	BoS Chairperson, EEE, Member	HoD-EEE	Ex-Officio (Nominated by Chairman)
14	BoS Chairperson, IT, Member	HOD-IT	Ex-Officio (Nominated by Chairman)
15	BoS Chairperson, Mech, Member	HOD-MECH	Ex-Officio (Nominated by Chairman) (Nominated by Chairman)
16	BoS Chairperson, BS&H, Member	HoD-BS & H	Ex-Officio (Nominated by

			Chairman)
17	Dr. T. Prabhakar, Member	CoE	Nominated by Chairman
18	Dr. L. Govinda Rao, Member	IQAC Coordinator	Nominated by Chairman
19	Dr. G. Sasi Kumar, Member	Assoc. Dean - Student Affairs	Nominated by Chairman
20	Dr. Pammi Sri Venkata Narayana, Member	Assoc. Dean – R&D	Nominated by Chairman
21	Dr. S. N. Dash, Member	CDC-Head	Nominated by Chairman
22	Dr. M. V. Nageswara Rao, Member Secretary	Dean-Academic/CE	Nominated by Chairman

Functions of the Academic Council

The Academic Council shall have powers to:

(a) Scrutinize and approve the proposals with or without modification of the Boards of Studies with regard to courses of study, academic regulations, curricula, syllabi and modifications thereof, instructional and evaluation arrangements, methods, procedures relevant thereto etc., provided that where the Academic Council differs on any proposal, it shall have the right to return the matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so.

(b) Make regulations regarding the admission of students to different programs of study in the college keeping in view the policy of the Government.

(c) Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels.

(d) Recommend to the Governing Body proposals for institution of new programs of study.

(e) Recommend to the Governing Body institution of scholarships, studentships, fellowships, prizes and medals, and to frame regulations for the award of the same.

(f) Advise the Governing Body on suggestions(s) pertaining to academic affairs made by it.

(g) Perform such other functions as may be assigned by the Governing Body

Term: The term of the nominated members shall be three years.

Meetings: Academic Council shall meet at least twice a year.

Board of Studies:

It is the body that oversee and approve the curriculum design and delivery and has the following composition:

Table 10.3 Composition and List of BoS members:

S. No.	Name of the Member and Affiliation	Category	Nominated by
1	Dr G Yesuratnam Osmania University, Hyderabad.	Professor	BOS CHAIRMAN
2	Dr Gopichand Nayak Andhra University	Professor	BOS CHAIRMAN
3	Dr. N Kumarappan Annamalai University	Professor	BOS CHAIRMAN
4	Dr M Nageswara Rao JNTU Kakinada	Professor	BOS CHAIRMAN
5	Mr. B Venkata Rao NSTL , Visakhapatnam	Scientist - D	BOS CHAIRMAN
6	Mr. P Nishanth BHEL, Hyderabad	Sr. Engineer	BOS CHAIRMAN

Functions of Board of Studies

The Board of Studies of a Department in the college shall:

(a) Prepare syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders and national requirement for consideration and approval of the Academic Council;
(b) Suggest methodologies for innovative teaching and evaluation techniques;
(c) Suggest panel of names to the Academic Council for appointment of examiners; and
(d) Coordinate research, teaching, extension and other academic activities in the department/college.

Term: The term of the nominated members shall be three years.
Meetings: The Board of Studies shall meet at least twice a year.

Finance committee:

It is the body that oversees the financial outlay of the examination section and the overall expenditure and has the following composition:

Table 10.4 Composition and list of the finance committee members:

S. No.	Name of the Member and Affiliation	Category	Nominated by
1	Dr. C L V R S V Prasad, Principal	Chairman	Ex-Officio
2	Dr. J. Girish, Chairman, Governing Council	Member	Governing Council
3	Sri. L.M. Laxmana Murthy, COO-GMRVF	Member	Governing Council
4	Sri. Srinivas Chamarthy, CFO	Member	Governing Council
5	Dr. T. Prabhakar, CoE	Member	Principal
6	Dr. M.V. Nageswara Rao, Asso. Dean(A)	Member	Principal

Functions of Finance Committee:

The Finance Committee shall act as an advisory body to the Governing Body, to consider:
(a) Budget estimates relating to the grant received/receivable from UGC, and income from
(b) fees, etc. collected for the activities to undertake the scheme of autonomy; and
(c) Audited accounts for the above.

Term: Term of the Finance Committee shall be three years.
Meetings: The Finance Committee shall meet at least twice a year

HR Policies:

Recruitment: https://gmrit.edu.in/sars/Recruitment_Policy.pdf
Incentive Policy for Research & Publications: https://gmrit.edu.in/sars/Incentive_Policy.pdf:
Internal Promotion Policy for Faculty : https://gmrit.edu.in/sars/Promotion_Policy.pdf

Minute of the Meetings:

Minute of the Governing Council Meeting: https://gmrit.edu.in/sars/GCM_MoM_Merged.pdf
Minute of the Academic Council Meeting: https://gmrit.edu.in/sars/AC_MoM_Merged.pdf
Minute of the Board of Studies:
http://115.241.205.4/gmritnew/nba/NBA%208th%20to%2013th%20BOS%20meetings-EEE.pdf

10.1.4 Decentralization in working and grievance Redressal mechanism (5)

For the effective functioning of the institute the total administration has been decentralized with appropriate administrative and financial delegations along with the grievance Redressal authority. Following are the various functionaries at the institute level who are responsible for the effective functioning.

Administrative setup:

To oversee the governance of the institution following organization chart gives the details of the various positions.

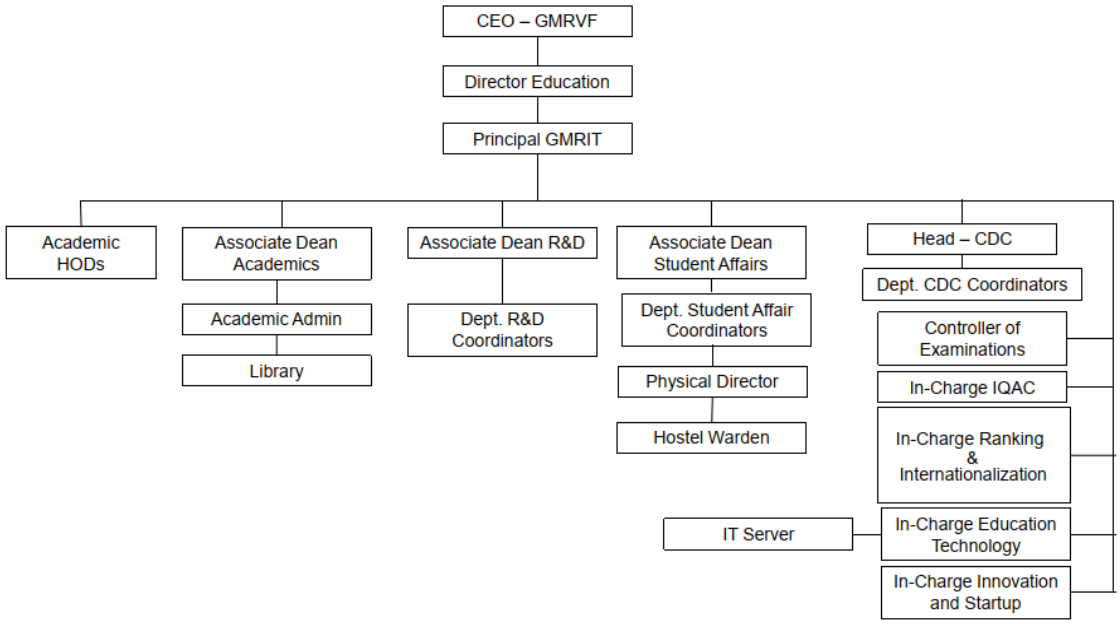


Figure C10.1. Organization Chart

Table 10.5 Administrative responsibilities

Designation/Position	Administrative Responsibilities
Principal	• Executive management of the Institution and leadership. • Administrative management of the Institution and its day-to-day direction and leadership.
Controller of Examinations.	• To plan and schedule the Academic Calendar in coordination with Hods • Notify the schedule for the conduct of sessional and semester end examinations • Management and execution of Pre- and Post-examination process ensuring the quality and confidentiality
Dean/Assoc. Dean/Coordinator - Academics	• To ensure the adherence and implementation of Academic Calendar in coordination with Controller of examination in compliance with the IQAC processes • Overall supervise the Knowledge Resource Centre to enhance the availability both of offline and online resources for all stakeholders by adding new titles and volumes as per the norms. • Ensure the conduct of AMC meetings and conduct HODs and faculty meetings at regular intervals, as necessary. • Ensure the revisions made in the Academics & Examination regulations are implemented from time to time in true spirit to bring out the best from the faculty and students. • Work on exploring the introduction of new programs and new trending courses in line with the industry requirements through detailed market research and recommend to Governing Council and Academic Council.
Dean/Assoc. Dean/Coordinator - R & D	• To create research eco-system and maintain research orientation and culture amongst Faculty members and Students through continuous sensitization • Coordinate with HODs and faculty members to scout and explore maximum opportunities for collaborative & sponsored

	research projects. • Ensure timely planning and conduct of the faculty development programs (workshops, seminars & conferences) and submit the proposal for sponsored programs to the funding agencies like CSIR, ISRO, DST, AICTE, UGC, etc. • Create a network and build relationships with Eminent Researchers and Scientists in the Country and abroad and organize their mentorship, research collaboration, guest lectures, etc. • Monitor the research activities of the various research groups and work toward Establishing Centre of Excellence in designated disciplines. • Nurture and encourage entrepreneurial approach among students and faculty in fostering creativity, idea generation and product development.
Dean/Assoc. Dean/Coordinator - Student Affairs	• Develop and create a conducive environment fostering holistic development with proper balance curricular, co-curricular and extra-curricular activities. • Ensure a ragging-free disciplined college – within and outside the campus in coordination with HODs and Anti Ragging Committee. • Ensure the establishment of the departmental professional body chapters/associations and monitor student Chapters and Associations (IE (India), IEEE, CSI), Transcripts and Certificates • Strengthen student hobby clubs and ensure maximum participation of students in various clubs of SAC with a mandate from the 2nd semester onwards • Work in coordination with the Director–Physical Education and ensure to host various intercollegiate, intra-college and University games and sport for maximum utilization of the sports facilities.
Heads of the Departments	• To plan, execute and monitor the academic requirements to run the curriculum • To ensure the quality of classroom delivery and assessment by the faculty • To monitor the conduct of the classwork and completion of syllabus to comply with the academic calendar • To ensures the all-round development of the students by introducing best practices and new initiatives • Oversee the laboratory and general maintenance of the department and planning of the new laboratories • To plan and implement the annual budget along with the faculty requirements as per AICTE norms • Encouraging and facilitating professional development for all the existing and newly recruited faculty • Facilitate and enable the involvement of the faculty members in the various department administrative activities promoting decentralization and participative management • Facilitate continuous faculty evaluation and assessment in the areas of teaching and research
Head –CDC	Oversee training and placements of the students
In-Charge IQAC	• Development and maintenance of institutional database through MIS for the purpose of maintaining/enhancing the

	institutional quality • Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes • Ensures that all departments follow best practices of the academic assessment and conduct periodic internal assessments in compliance with accreditation standards. • Communicates regularly with the campus community to promote awareness of assessment and accreditation and encourage campus-wide involvement in these important activities. • Development and maintenance of institutional database through MIS for the purpose of maintaining/enhancing the institutional quality

Mechanism and composition of grievance redressal system

Institute has well defined student redressal system in place. Every department has complaints/suggestions/grievances box in place wherein every student can submit his complaint/suggestion/grievance. The box is opened once in a month in the presence of faculty in-charge along with student representatives. The complaint is recorded in the respective register and brought to the notice of HOD. Depending on the level of the grievance HoDs shall resolve the issues among the people involved and if needed the complaint is forwarded to the higher officials for necessary action.

To ensure the safety and security of all the students and faculty members, with special emphasis on women safety, the Institute has a well-defined policy. The policy shall be seen in conjunction with sexual harassment and anti-ragging policies.

Apart from the suggestion boxes, the institute website has a feedback tab providing opportunity for all the stake holders to compliment/complain/suggest with or without affiliation. Further, all the students have also an opportunity to send their complaint/suggestion/grievance through E-mail (mentor@gmrit.edu.in).

Based on the students' feedback, following are the indicative actions initiated on the campus:

- Reading rooms are provided for day scholars
- Stationery, food and confectionary outlets are provided in the canteen area
- New student clubs are initiated under SAC enabling more students to participate in various extra- curricular activities
- Separate floor space is provided for music club in the SAC with required musical instruments
- Hostel rooms are provided with physical network apart from the Wi-Fi to enhance the connectivity
- Opening of the LABs beyond working hours
- Continuous monitoring of quality of food and menu in the Hostels/Canteen through online feedback system enhancing the happiness index
- Online payment gateway for the easy payments
- Involvement of the students in various committees
- Extension of the bus services from various places
- More choice for elective courses
- Change of uniform

Disciplinary & Anti ragging committees

Institute has constituted Disciplinary and Anti-ragging committees for monitoring and the effective students' conduct on Campus and off-Campus.

There are different teams for monitoring Disciplinary & Anti ragging issues viz., Anti ragging squads at Hostels, inside & outside the campus and collage buses. Each team is led by a faculty in-charge with a team comprising of members from teaching and non-teaching staff and students. Associate Dean,

Student's affairs shall oversee the functioning of different committees with synergy to maintain the discipline inside and outside the campus.

Action taken report for the grievances and Student counseling

All the grievances received are recorded regularly from time to time and based on the gravity and seriousness of the issue, committees will be constituted to initiate the action. Based on the committee report, action will be initiated and will be recorded.

Periodically students are counseled by their respective mentors in the context of their issues related to academics and non-academics. Based on the seriousness, guardians/parents will be informed about the advice given to the students. Further, the cases may be referred to the psychologist based on the need.

10.1.5. Delegation of financial powers (5)

Delegation of financial power

All the functional heads at the institute level are entitled to financial powers in compliance with the AOP for their respective departments. However, for the financial disbursement based on the delegation of powers management approval is sought from case to case by the respective HODs.

Table 10.6 Financial power of Principal

S. No.	Financial Sanction (Rs.)	Purpose
1	50,000 to 1,00,000	Capital Sanctions
2	Variation up to 5% and within overall Budget	Issue of Capital Sanctions as per Annual Operating Plan (AOP)
3	1 Lakh to 25 Lakh per order value	Approval for purchase / issue of work order/purchase order
4	Up to Rs. 3 Lakh per order value	Annual Maintenance Contracts related to the institution level
5	Up to Rs. 3 Lakhs	Appointment of consultant/Advisor for academic purpose
6	2 Lakh to Rs. 10 Lakh	Signing of purchase order/contracts/work order
7	2Lakh to 25 Lakh	Certification of bills of supplier/contractor for payment
8	5000 to 50,000	Emergency Purchases without following purchase procedure (Contingency)
9	Up to 1 Lakh	Finalization of Insurance contracts (Group Medical, accident policy)/ Payment of Insurance premium and other expenditures as per the terms of the contract for staff & students
10	5K to 25K annually	Donations within budgeted limits as per AOP
11	5K to 10K subject to annual limit of Rs.25K	To approve Entertainment expenditure as budgeted in the AOP
12	1K to 10K within overall Budget	Purchases / Subscriptions of books, magazines and periodicals
13	Up to Rs. 50K and within overall budget	Booking of premises for seminar/ training
14	Up to 50K	Expenditure on advertisement within budget
15	1K to 50K	All other expenses not specifically covered but within the budget
16	Up to 10K	Non budgeted expenditures
17	1000 to 5000	Office Equipment (within budget as per AOP)
18	Up to Rs. 50K	Vehicles (within budget as per AOP)
19	5000 to 7500	Routine established expenses within budgeted limits as per AOP
20	Rs. 50K to Rs. 1 Lakh	All statutory payments

Table 10.7 Financial power of Head of the Department

S. No.	Financial Sanction (Rs.)	Purpose
1	Up to 50K	Issue of Capital Sanctions for budgeted items as per AOP
2	Up to Rs.1L	Approval for purchase / issue of work order/purchase order
3	Up to Rs.2Lakh	Signing of purchase order/contracts/work order
4	Up to Rs.2 Lakh	Certification of bills of supplier/contractor for payment
5	Up to Rs.5000	Emergency Purchases without following purchase procedure
6	5000 subject to annual limit ofRs.5000	To approve Entertainment expenditure as budgeted in the AOP
7	Rs.1000 within overall Budget	Purchases / Subscriptions of books, magazines and periodicals
8	1000 to 5000	All other expenses not specifically covered but within the budget as per AOP
9	1000	Office Equipment (within budget as per AOP)
10	5000	Routine established expenses within budgeted limits as per AOP
11	Up to Rs. 5000	All statutory payments

10.1.6. Transparency and availability of correct/unambiguous information in public domain (5)

In order to ensure transparency, the institute takes the following measures

Academic and Administrative Transparency

- The minutes of the meetings conducted at various levels are circulated
- Action taken and compliance reports for the minutes of meetings are circulated
- All the communications from the Statutory and non-statutory bodies are circulated among the staff members

Availability and dissemination of information through LAN/Web

- All policy documents, Mandatory disclosure, Audit reports, Academic regulations and Course structure with syllabus for various academic programs are available in the Institute website (https://gmrit.edu.in/newAbout.php)
- Institute-domine mail facility is extended to all the staff and students through Microsoft Office 365 (https://login.microsoftonline.com)
- Interoffice communication is mostly through institute web e-mails (http://webmail.gmrit.edu.in)
- Availability and access to the academic information through parent/student/faculty login available in the Institute website.
- Availability of the comprehensive information about the institution on the website with a directive navigation

Mandatory disclosure:

Link: : https://gmrit.edu.in/newAbout.php

10.2 Budget Allocation, Utilization, and Public Accounting at the Institute level (15)

Total Income at Institute level: For CFY, CFYm1, CFYm2 & CFYm3

CFY: Current Financial Year, CFYm1 (Current Financial Year minus 1), CFYm2 (Current Financial Year minus 2), CFYm3 (Current Financial Year minus 3)

Table 10.8: 2021-22 (All values are in Lakhs)

S. No.	Income			Expenditure			Total No. Students:	4004
	Fee	Grants	Other Sources	Recurring Including salary	Non-Recurring	Special Projects	Expenditure per Student	
1	3257	0.00	510.14	3126.732	71.784	0.00	0.79	
	Total:	3767.14		Total:	3198.516			

Table 10.9: CFY 2020-21 (All values are in Lakhs)

S. No.	Income			Expenditure			Total No. Students:	3585
	Fee	Grants	Other Sources	Recurring Including salary	Non-Recurring	Special Projects	Expenditure per Student	
1	3187.93	97.30	236.03	2729.18	108.87	-	0.79	
	Total:	3521.26		Total:	2838.05			

Table 10.10: CFYm1 2019-20(All values are in Lakhs)

S. No.	Income			Expenditure			Total No. Students:	3545
	Fee	Grants	Other Sources	Recurring Including salary	Non-Recurring	Special Projects	Expenditure per Student	
1	3443.89	0	564.74	3377.10	126.53	-	0.99	
	Total:	4008.63		Total:	3503.63			

Table 10.11: CFYm2 2018-19(All values are in Lakhs)

S. No.	Income			Expenditure			Total No. Students:	3475
	Fee	Grants	Other Sources	Recurring Including salary	Non-Recurring	Special Projects	Expenditure per Student	
1	3444.37	126.15	437.82	3373.30	117.51	-	1,00,339/-	
	Total:	4008.34		Total:	3490.81			

Table 10.12:CFYm3 2017-18(All values are in Lakhs)

S. No.	Income			Expenditure			Total No. Students:	3545
	Fee	Grants	Other Sources	Recurring Including salary	Non-Recurring	Special Projects	Expenditure per Student	
1	3302.76	51.69	329.23	3295.61	188.1	-	98,271/-	
	Total:	3683.68		Total:	3483.71			

Table 10.13: Budget Allocation & Utilization(All values are in Lakhs)

S. No.	Item	Budget 2021-22	Expenses 2021-22	Budget 2020-21	Expenses 2020-21	Budget (Lakhs) 2019-20	Expenses 2019-20	Budget (Lakhs) 2018-19	Expenses 2018-19	Budget (Lakhs) 2017-18	Expenses 2017-18
1	Infra Built-up	30	29.932	5	25.42	15	13.58	55	51.11	90	86.57
2	Library	5	0	5	0	10	5.77	10	7.11	10	5.28
3	Lab Equipment	61	15.35	5	0.67	100	11.3	30	10	70	72.01
4	Lab consumables	25	22.869	19	18.54	15	15.91	20	18.67	40	36.28
5	Salary (T & NT)	2600	2295.12	2600	2206.92	2600	2413.86	2500	2268.38	2500	2157.72
6	Maintenance & Spares	500	349.37	450	239.04	500	403.98	450	451.64	500	503.18
7	R&D	35	26.5	90	82.78	20	95.88	70	49.29	30	24.24
8	Training & travel	20	13.585	20	17.51	70	81.28	65	70.08	60	68.51
9	Others	500	445.79	200	247.17	350	462.07	450	564.53	450	529.92
10	Total:	3776	3198.516	3394	2838.05	3680	3503.63	3650	3490.81	3750	3483.71

10.2.1. Adequacy of budget allocation (5)

(The institution needs to justify that the budget allocated over the years was adequate)

The annual budget is prepared based on requirements of the Institute taking into consideration of annual intake of students, laboratory& infrastructure developments, recruitment of new staff and salaries.

All the functional heads at the institute level will prepare the Annual Operating Plan (AOP) for their respective departments. The draft AOP will be reviewed by Principal with every functional Head and prepares overall institute AOP after many deliberations. Then Final AOP is sent to management for their review and approval. The management approves and sanctions the adequate budget for every financial year. Quarterly, the expenditure against AOP is reviewed. The budget allocation for the last four years is adequate to meet the following needs of Institute

- Student activities: curricular, co-curricular and extra-curricular activities
- Training and encouragement to the students for professional development
- Staff requirement and promotions
- Faculty Professional Development
- Academic Infrastructure and Facilities
- Support for R&D

The budget allocation for the last three years is as shown in below table and it could be observed that the budget earmarked for every financial year is progressively increasing to meet the requirements of academic infrastructure and administration. The budget allocated is sufficient enough to ensure the proposed expenditure in all the department s is fulfilled as per AOP.

Table 10.14: Budget allocation year-wise (All values are in Lakhs)

	(2021-22)	CFY m1 (2020-21)	CFY m2 (2019-20)	CFYm3 (2018-19)	CFYm4 (2017-18)
Budgeted Amount (Rs. Lakhs)	3776.14	3394	3680	3650	3750

Table 10.15: Revenue vs Expenditure per student

S. No.	Item	Years				
		(2021-22)	CFY (2020-21)	CFY m1 (2019-20)	CFYm2 (2018-19)	CFYm3 (2017-18)
1	Total number of students	4004	3585	3545	3475	3545
2	Revenue per student(Lakhs)	0.943	0.97	1.13	1.15	1.04
3	Expenditure per student(Lakhs)	0.798	0.78	0.99	1.00	0.98

10.2.2. Utilization of allocated funds (5)

(The institution needs to state how the budget was utilized during the last three years)

Utilization of funds for the last three financial years is shown in table below and it shows that budget earmarked for every financial year is meeting the requirements.

Table 10.16: Utilization of allocated funds

S. No.	Item		Years			
		(2021-22)	CFYm1 (2020-21)	CFY m2 (2019-20)	CFYm3 (2018-19)	CFYm4 (2017-18)
1	Budgeted (in Rs. Lakhs)	3776	3394	3680	3650	3750
2	Expenses (in Rs. Lakhs)	3198.516	2838.05	3503.63	3490.81	3483.71
3	% of utilization of Funds	**84.70**	**83.62**	**95.21**	**95.64**	**92.90**

10.2.3 Availability of the audited statements on institute's Website (5)

(The institution needs to make audited statements available on its website)

Audited statements are available on institute website with details as furnished below

Table 10.17: Audited statements

S. No.	Year	Website Address
1	2021-22	https://gmrit.edu.in/sars/Finance_documents.pdf
1	2020-21	https://gmrit.edu.in/sars/Finance_documents.pdf
2	2019-20	https://gmrit.edu.in/sars/Finance_documents.pdf
3	2018-19	https://gmrit.edu.in/sars/Finance_documents.pdf
4	2017-18	https://gmrit.edu.in/sars/Finance_documents.pdf

10.3. Program Specific Budget Allocation, Utilization (30)

Table 10.18: 2021-22(All values are in Lakhs)

S. No.	Budget		Expenditure		Total No. Students:	446
	Non-Recurring	Recurring	Non-Recurring	Recurring	Expenditure per Student	
1	22.37	400	0	383.24	0.859	
	Total:	422.37	Total:	383.24		

Table 10.19: CFY 2020-21(All values are in Lakhs)

S.No.	Budget		Expenditure		Total No. Students:	487
	Non-Recurring	Recurring	Non-Recurring	Recurring	Expenditure per Student	
1	33.15	370.89	27.73	369.86	0.82	
	Total:	404.04	Total:	397.59		

Table 10.20: CFYm1 2019-20(All values are in Lakhs)

S.No.	Budget		Expenditure		Total No. Students:	491
	Non-Recurring	Recurring	Non-Recurring	Recurring	Expenditure per Student	
1	78	485.43	73.51	471.97	1.11	
	Total:	563.43	Total:	545.48		

Table 10.21: CFYm2 2018-19(All values are in Lakhs)

S. No.	Budget		Expenditure		Total No. Students:	497
	Non-Recurring	Recurring	Non-Recurring	Recurring	Expenditure per Student	
1	18	510	15.75	491.66	1.02	
	Total:	528	Total:	507.41		

Table 10.22: CFYm3 2017-18(All values are in Lakhs)

S.No.	Budget		Expenditure		Total No. Students:	537
	Non-Recurring	Recurring	Non-Recurring	Recurring	Expenditure per Student	
1	20	522.82	14.34	514.65	0.99	
	Total:	542.82	Total:	528.99		

Table 10.23: Budget allocation and utilization(All values are in Lakhs)

S. No.	Item	Budget 2021-22	Expenses 2021-22	Budget 2020-21	Expenses 2020-21 till	Budget 2019-20	Expenses 2019-20 till	Budget 2018-19	Expenses 2018-19 till	Budget 2017-18	Expenses 2017-18
1	Lab Equipment	6	0	0.15	0.09	15	14.09	7	6.82	12	11.47
2	Lab consumables	4	1.8	3.2	2.51	3	2.21	3	2.68	6	5.51
3	Software	8	0	8	7.64	1	0.94	1	0.93	3	1.87
4	Maintenance & Spares	6	0	31.2	32.33	60	56.14	70	64.71	77	76.45

5	R&D	3.37	0	25	20	62	58.48	10	8	5	1
6	Training & travel	5	0	3	2.37	12	11.29	12	10.04	12	10.41
7	Others	390	381.24	333	332.66	410	402.33	425	414.24	428	422.28
8	Total:	422.37	383.24	403.55	397.60	563	545.48	528	507.42	543	528.99

10.3.1. Adequacy of budget allocation (10)

The annual budget is prepared based on requirements of the program taking into consideration of annual intake of students, laboratory consumables & infrastructure developments.
Program coordinator shall prepare the Annual Operating Plan (AOP) for the respective department in consultation with the lab in-charges and various other coordinators. The Final program AOP send to the management for review and approval. The management approves and sanctions the adequate budget for every financial year. Quarterly, the expenditure against AOP is reviewed. The budget allocation for the last four years is adequate to meet the following needs of program:

- Student activities: curricular, co-curricular and extra-curricular activities
- Training and encouragement to the students for professional development
- Faculty Professional Development
- Academic Infrastructure and Facilities
- Support for R&D

The budget allocation for the last four years is as shown in below table and it could be observed that the budget earmarked for every financial year is progressively increasing to meet the requirements of academic operations and infrastructure requirements. The budget allocated is sufficient-enough to ensure the proposed expenditure.

Table 10.24: Budget allocation year-wise

	(2021-22)	CFY (2020-21)	CFY m1 (2019-20)	CFYm2 (2018-19)	CFYm3 (2017-18)
Budgeted Amount (Rs. Lakhs)	422.37	404	563	528	543

Table 10.25: Revenue vs expenditure per student

S. No.	Item		Years			
		(2021-22)	CFY (2020-21)	CFY m1 (2019-20)	CFYm2 (2018-19)	CFYm3 (2017-18)
1	Total number of students	446	487	491	497	537
2	Revenue per student(Lakhs)	0.94	0.92	1.11	1.11	1.02
3	Expenditure per student(Lakhs)	0.86	0.82	1.11	1.02	0.99

10.3.2. Utilization of allocated funds (20)

Utilization of funds for the last three financial years is shown in table below and it shows that budget earmarked for every financial year is meeting the requirements.

Table 10.26: Utilization of allocated funds

S. No.	Item		Years			
		(2021-22)	CFY (2020-21)	CFY m1 (2019-20)	CFYm2 (2018-19)	CFYm3 (2017-18)
1	Budgeted (in Rs. Lakhs)	422.37	404	563	528	543
2	Expenses (in Rs. Lakhs)	383.24	398	545	507	529
3	% of utilization of Funds (Rs. Lakhs)	90.73	98	97	96	97

10.4 Library and Internet (20)

GMRIT has spacious Knowledge Resource Centre (Central Library) located at block-4, spread over three floors with seating capacity of 500 users. It is automated with Libsys-4 library management system since the academic year 2005. The Integrated Library Management System (ILMS) supports in house operations of Acquisition, Cataloguing, Circulation, Serials and OPAC through a dedicated server. The library has a rich collection of 68,586 volumes with 20,211 titles.

ILMS is upgraded to Libsys-7 version in the year 2016 to cater the Web centric LIBSYS & LMS on Linux (RHEL) platform for 60,000 unique titles, 5 Housekeeping Clients and 25 user licenses for Web OPAC. AMC is there in place to maintain the software periodically. It has the modules viz. Cataloguing, WebOPAC, Circulation, Journals/Periodicals, Biometric, etc. facilitating Barcoded circulation, reservation of documents, notifications of the transactions.

- Name of the ILMS software: LIBSYS
- Nature of automation (fully or partially): Full Version:7
- Year of automation:2005 with LIBSYS-4 and updated in 2016 with LIBSYS-7

To cater to the needs of the students and faculty 1GB internet bandwidth is provided 24x7 from three service providers with proper network and Information security deployed through hardware-based firewalls, manageable switches and domain login authentication. Also, antivirus endpoint protection is installed in all computers to handle malware risks in addition to internet authentication by Content Keeper.

10.4.1. Quality of learning resources (hard/soft) (10)

- Relevance of available learning resources including e-resources
- **Accessibility to students**
- **Support to students for self-learning activities**

Availability of relevant learning resources including e-resources and Digital Library:

Table 10.27: Program specific tittles and volumes

Year	No. of Tittles	No. of volumes	No. of print journals	No. of e-Journals	No. of Magazines
2021-22	49	100	12	41	6
2020-21	13	21	11	107	8
2019-20	84	200	11	107	8
2018-19	84	272	16	107	NIL
2017-18	71	121	13	86	NIL

Accessibility to students

i. Timings: 7AM - 10PM/11PM
ii. Web-OPAC: Across the campus, student have access to OPAC through LAN to reserve the issue of the books.
iii. RFID based access to the library at the entry to monitor the library usage
iv. Library management system (LibSys)

Seating capacity:

i. Stack area: 200 seats
ii. Reference area: 100 seats
iii. Reading area: 100 seats
iv. Digital Library:60 seats

Support to students for self-learning activities:

i. LAN Portal: To supplement the class room teaching and to promote the self-learning, all the courses are made available students
ii. All the lecture notes are available session-wise
iii. Direct access to the e-learning platforms like SWAYAM, Coursera.

10.4.2. Internet (10)

i. **Available bandwidth:** Yes, 1 GB Jio + 100MBPS BSNL leased line connectivity
ii. **Wi Fi availability:** Yes, 75 Access points, Campus network
Weblink to Campus N/W diagram:
https://gmrit.edu.in/sars/GMRIT_NETWORK_DIAGRAM.pdf

iii. **Internet access:** All the Labs, Library and office are connected through LAN and all the classrooms & common areas are Wi-Fi enabled
Security mechanism: Hardware based firewall with domain logins
Weblink to Photographs from Server room:
https://gmrit.edu.in/sars/Server_Room_Photos.pdf

Declaration

- I undertake that, the institution is well aware of the provisions in the NBA's accreditation manual concerned with this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institutes' hall fully abide by them.
- It is submitted that information provided in this Self-Assessment Report is factually correct.
- I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA in case, any false statement/information is observed during pre-visit, visit post-visit and subsequent to the grant of accreditation.

Head of the Institute
Name : Dr. C L V R S V Prasad
Designation: Principal
Signature :

Seal of the institution:

Place: Rajam

Date: 11.11.2022