



# 2022

## Jain College of Engineering, Belagavi



**SELF ASSESSMENT REPORT (SAR) FORMAT  
UNDERGRADUATE ENGINEERING PROGRAMS (TIER-II)  
FIRST TIME ACCREDITATION**

## BE(ELECTRICAL & ELECTRONICS ENGINEERING)

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## Part A: Institutional Information

**1. Name and Address of the Institution**

JAIN COLLEGE OF ENGINEERING BELAGAVI, 599/2, T. S. Nagar, Hunchanhatti Cross,  
Machhe, Belagavi - 590014

**2. Name and Address of Affiliating University**

Visvesvaraya Technological University

**3. Year of establishment of the Institution:**

2010

**4. Type of the Institution:**

University

☐

Deemed University

☐

Government Aided

☐

Autonomous

☐

Affiliated

☒

## 5. Ownership Status:

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

## 6. Other Academic Institutions of the Trust/Society/Company

Name of Institutions	Year of Establishment	Programs of Study	Location
<b>Jain Polytechnic, Belagavi</b>	2013	Diploma in Engineering	Belagavi
<b>Jain College of MCA and MBA, Belagavi</b>	2011	MCA and MBA	Belagavi
<b>Jain College PUC, Belagavi</b>	2007	Pre-University Courses	Belagavi
<b>Jain College of BBA, BCA and BCom, Belagavi</b>	2007	BBA, BCA, BCom	Belagavi
<b>Jain Heritage School, Belagavi</b>	2011	From Mother Toddler Group to Grade XII per CBSE syllabus	Belagavi



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

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
<b>CONSTRUCTION TECHNOLOGY</b>	PG	2014	2014	24	No	24	Not eligible for accreditation	--	--	No	2
<b>CIVIL ENGINEERING</b>	UG	2010	2010	60	Yes	90	Apply in first time	--	--	Yes	4
<b>Sanctioned Intake for Last Five Years for the Civil Engineering</b>											
<b>Academic Year</b>				<b>Sanctioned Intake</b>							
2021-22				90							
2020-21				120							
2019-20				120							
2018-19				120							
2017-18				120							
2016-17				120							
<b>ELECTRICAL AND ELECTRONICS ENGINEERING</b>	UG	2010	2010	60	No	60	Apply in first time	--	--	No	4
<b>POWER SYSTEMS ENGINEERING</b>	PG	2014	2014	24	No	24	Not eligible for accreditation	--	--	0	2
<b>COMPUTER SCIENCE ENGINEERING</b>	UG	2010	2010	60	No	60	Eligible but not applied	--	--	0	4

<b>ELECTRONICS AND COMMUNICATION ENGINEERING</b>	UG	2010	2010	60	No	180	Eligible but not applied	--	--	0	4
<b>MECHANICAL ENGINEERING</b>	UG	2010	2010	60	Yes	120	Eligible but not applied	--	--	No	4
<b>Sanctioned Intake for Last Five Years for the MECHANICAL ENGINEERING</b>											
<b>Academic Year</b>						<b>Sanctioned Intake</b>					
2021-22						120					
2020-21						180					
2019-20						180					
2018-19						180					
2017-18						180					
2016-17						180					
<b>MBA</b>	PG	2010	2010	60	No	120	Eligible but not applied	--	--	0	2
<b>MCA</b>	PG	2011	2011	60	Yes	60	Eligible but not applied	--	--	0	2
<b>Sanctioned Intake for Last Five Years for the MCA</b>											
<b>Academic Year</b>						<b>Sanctioned Intake</b>					
2021-22						60					
2020-21						60					
2019-20						60					
2018-19						60					
2017-18						120					
2016-17						120					

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

SI No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Electrical & Electronics Engg.

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

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

Items	2021-22		2020-21		2019-20	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	74	74	73	73	83	83
Faculty in Engineering (Female)	25	25	20	20	21	21
Faculty in Math's, Science & Humanities (Male)	29	29	27	27	36	36
Faculty in Math's, Science & Humanities (Female)	6	6	7	7	7	7
Non-teaching staff (Male)	45	45	46	46	48	48
Non-teaching staff (Female)	2	2	2	2	2	2

**B. Contractual\* Employees (Faculty and Staff):**

Items	2021-22		2020-21		2019-20	
	MIN	MAX	MIN	MAX	MIN	MAX
<b>Faculty in Engineering (Male)</b>	3	3	3	3	3	<b>3</b>
<b>Faculty in Engineering (Female)</b>	0	0	0	0	0	<b>0</b>
<b>Faculty in Math's, Science &amp; Humanities (Male)</b>	0	0	0	0	0	<b>0</b>
<b>Faculty in Math's, Science &amp; Humanities (Female)</b>	0	0	0	0	0	<b>0</b>
<b>Non-teaching staff (Male)</b>	0	0	0	0	0	<b>0</b>
<b>Non-teaching staff (Female)</b>	<b>12</b>	<b>12</b>	<b>10</b>	<b>10</b>	<b>12</b>	<b>12</b>

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

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

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

Items	2021-22	2020-21	2019-20
<b>Total no. of Boys</b>	1298	1492	1502
<b>Total no. of Girls</b>	551	590	642
<b>Total</b>	1849	2082	2144

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

Items	2021-22	2020-21	2019-20
<b>Total no. of Boys</b>	20	29	24
<b>Total no. of Girls</b>	13	14	12
<b>Total</b>	33	43	36

**Engineering and Technology-MBA Shift-1**

Items	2021-22	2020-21	2019-20
<b>Total no. of Boys</b>	61	69	98
<b>Total no. of Girls</b>	62	87	112
<b>Total</b>	123	156	210

### Engineering and Technology-MCA Shift-1

Items	2021-22	2020-21	2019-20
<b>Total no. of Boys</b>	63	47	52
<b>Total no. of Girls</b>	47	45	50
<b>Total</b>	110	92	102

#### 11. Vision of the Institution:

To be a university as are source of solution to diverse challenges of Society by nurturing innovation, research and entrepreneurship through value based education

#### 12. Mission of the Institution:

- To provide work culture that facilitates effective teaching-learning process and lifelong learning skills
- To promote innovation, collaboration and leadership through best practices
- To foster industry-institute interaction resulting in entrepreneurship skills and employment opportunities

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

Head of the Institution	
<b>Name</b>	<b>Dr. J. Shivakumar</b>
<b>Designation</b>	<b>Principal</b>
<b>Mobile No.</b>	<b>8085789651</b>
<b>Email ID</b>	<b>principal@jainbgm.in</b>

# 1 VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES

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

<b>Vision of the Institute</b>	<b>To be a university as a resource of solution to diverse challenges of Society by nurturing innovation, research and entrepreneurship through value-based education.</b>	
<b>Mission of the Institute</b>	<ul style="list-style-type: none"> <li>• To provide work culture that facilitates effective teaching-learning process and lifelong learning skills.</li> <li>• To promote innovation, collaboration and leadership through best practices.</li> <li>• To foster industry-institute interaction resulting in entrepreneurship skills and employment opportunities.</li> </ul>	
<b>Vision of the Department</b>	<b>To impart quality technical education for creating competent technocrats with moral values in the field of Electrical Sciences to contribute for the betterment of the society.</b>	
<b>Mission of the Department</b>	<b>Mission No.</b>	<b>Mission Statements</b>
	M1	<b>Develop ability of comprehensive understanding of state of the art, knowledge in Electrical Engineering concepts.</b>
	M2	<b>Take up research and carve expertise in the field of Electrical Engineering with holistic approach for contributing to nation building.</b>
	M3	<b>Ingrain the sense of creative thinking, participation and team work.</b>

## 1.2 State the Program Educational Objectives (PEOs)

PEO	Program Educational Objectives Statements
PEO1	Apply the knowledge of Electrical Sciences to design and develop innovative products and services for/of social relevance.
PEO2	Employ technical, analytical & communicative skills to ensure technological progress, higher education and research.
PEO3	Develop professional competency, imbued with ethical codes and guidelines that Encourage lifelong learning.

## 1.3 Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders

The different modes of publication and dissemination of Vision, Mission, PEOs and intended stakeholders are listed below.

**Table Error! No text of specified style in document..1: Publication and dissemination of vision, mission and PEOs**

Sl. No.	Mode of Publication	Stakeholders
1	College website: <a href="https://www.jce.ac.in/">https://www.jce.ac.in/</a> Department website: <a href="https://www.jce.ac.in/electronics-electrical-">https://www.jce.ac.in/electronics-electrical-</a>	General public, students, alumni, parents, employers.
2	HOD office, staff cabins, department notice boards, blue books, Parents / Alumni visit register, academic area, on Student progress report, faculty Email ID signature.	Students, Parents, faculty members and visitors.
3	Course file	Faculty
4	Induction program	For 1st & 3rd semester students (new entrants).





Apart from this, Vision and Mission are made available to all stakeholders of the program through different awareness program, workshops, seminars etc.

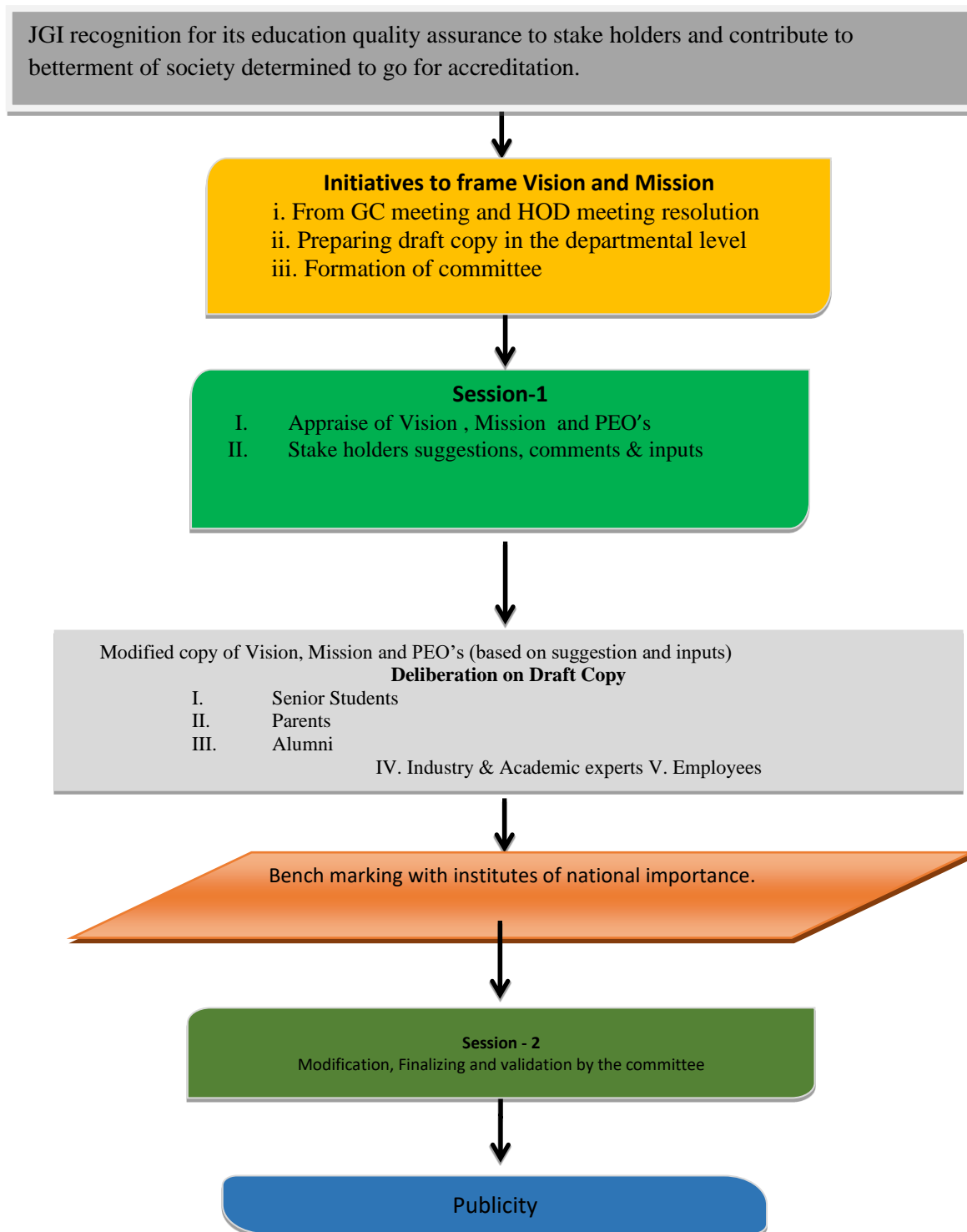
Following are our important stakeholders

- Internal Stakeholders
  - Management GC members Faculties
  - Non-teaching staff
  - Students
- External Stakeholders
  - Parents
  - Employers
  - Industrialists
  - Alumni

## **1.4 State the process for defining the Vision and Mission of the Department, and PEOs of the program**

The following steps were followed to define the Vision and Mission of the Department.

- 1 Vision and Mission of the institute are considered as the basis.
- 2 Views are taken from stakeholders such as alumni, faculty, industry experts, parents and professional body members.
- 3 The views are deliberated upon and a draft copy of Vision and Mission is prepared. This is reviewed to check for consistency with the Vision and Mission of the institute and then approved by department, NBA committee, Professional body members, IQAC cell and Board of Management.
- 4 The Vision and Mission of the department are then published.



**Fig.1:Process of Defining Vision, Mission and PEOs**

**The following steps were followed to define the PEOs of the department.**

- 1 Vision and Mission of the institute are considered as the basis.
- 2 Vision and Mission of the department is taken as the basis for framing the PEOs by interacting with the stakeholders.
- 3 Considering the views collected from the stakeholders, the PEOs are formulated, which is then approved by department NBA committee, Professional body members, board of management and IQAC cell.
- 4 The PEOs of the department are then published.

## 1.5 Establish consistency of PEOs with Mission of the Department



**JAIN COLLEGE OF ENGINEERING, BELAGAVI.**


(Approved by AICTE, New Delhi. Affiliated to VTU, Belagavi)

**Department of Electrical & Electronics Engineering**

PEO Statement	PEO1: Apply the knowledge of Electrical Sciences to design and develop innovative products and services for/of social relevance.	PEO2: Employ technical, analytical & communicative skills to ensure technological progress, higher education and research.	PEO3: Develop professional competency, imbued with ethical codes and guidelines that Encourage lifelong learning.
<b>M1: Develop ability of comprehensive understanding of state of the art, knowledge in electrical engineering concepts.</b>	3	2	1
	Application of comprehensive Electrical Science concept supports innovation and bring about products/ services of social relevance	Communication and sharing the state of art Electrical Science Technology encourages to explore career options on higher education and research	Comprehensive understanding encourages lifelong learning with professional competency.
<b>M2: Take up research and develop expertise in the field of electrical engineering with holistic approach for contributing to nation building.</b>	3	2	1
	Building expertise and taking up research, promotes product innovating and attempt to address the thrust area in Electrical Science	Technical expertise and research paves the path to higher education.	Expertise development initiates and supplements life- long learning.
	1	1	-

<b>M3: Ingrain the sense of creative thinking, participation and team work.</b>	out of box thinking paves way to innovative approach for product design and services of social relevance	Higher education and research initiatives requires creative thinking and working with teams.	Creative thinking imbibed in the student along with team work develop professional competency.
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 Head  
 Electrical & Electronics Engg.,  
 Jain College of Engineering,  
 Machhe, Belgaum-590 014.

### **M1-PEO1**

With a comprehensive understanding of the electrical knowledge aids immensely in innovation and social development.

### **M1-PEO2**

Higher education and research is based on the basic understanding of core electrical knowledge and concepts.

### **M1-PEO3**

Comprehensive understanding encourages lifelong learning with professional competency.

### **M2-PEO1**

Taking up research and building expertise promotes innovative product development.

### **M2-PEO2**

Technical expertise and research paves the path to higher education. M2-PEO3 – Expertise development requires life- long learning.

### **M3-PEO1**

Innovation requires out of the box creative thinking.

### **M3-PEO2**

Higher education and research initiatives requires creative thinking and working with teams.

### **M3-PEO3**

Creative thinking imbibed in the student along with team work develop professional competency.

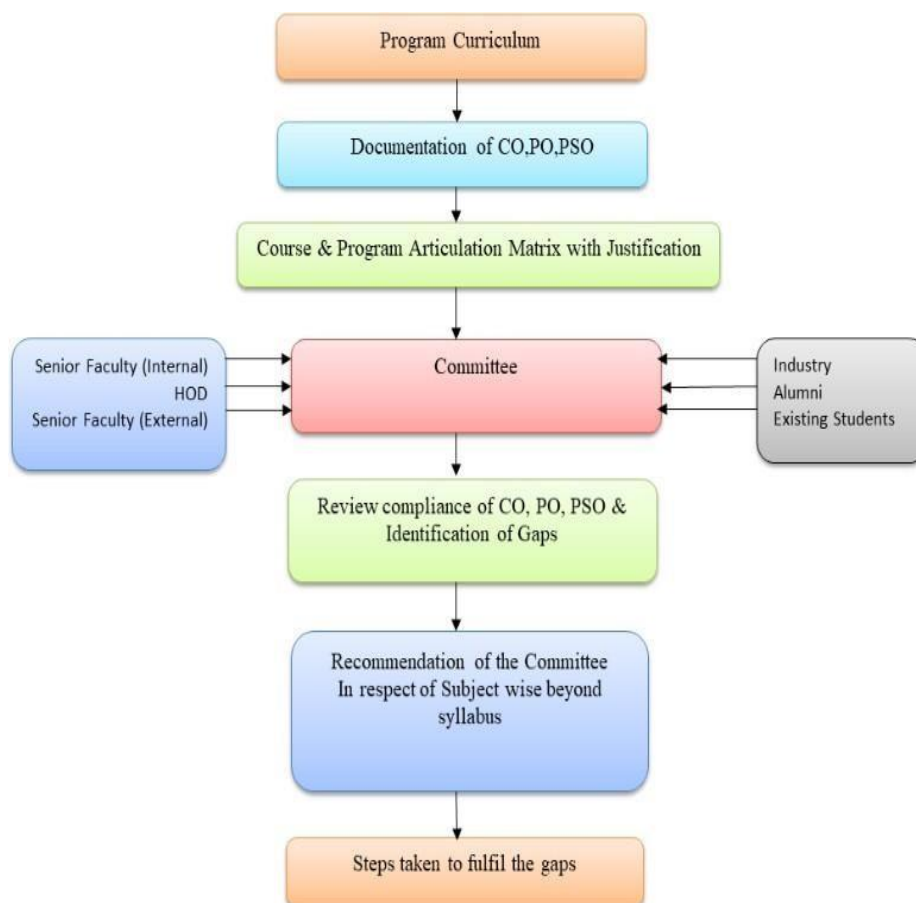
PEO Statements	M1	M2	M3
Apply the knowledge of Electrical Sciences to design and develop innovative products and services for/of social relevance.	3	2	1
Employ technical, analytical & communicative skills to ensure technological progress, higher education and research.	3	2	1
Develop professional competency, imbued with ethical codes and guidelines that Encourage lifelong learning.	1	1	-

## 2. PROGRAM CURRICULUM AND TEACHING LEARNING PROCESS

### 2.1 Program Curriculum

**2.1.1 State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I. Also mention the identified curricular gaps, if any**

The composition of various subjects is classified as shown in the course structure. Based on the composition, percentage contribution of each mapped PO, PSO are identified. Then each percentage contribution of every PO and PSO are also tabulated. Based on the percentage contribution table of each PO and PSO, gaps are identified. Then necessary actions taken to fulfill the gaps are also highlighted.



**Fig.1. Process used to identify extent of compliance of University Curriculum**

**A. The curriculum is broadly classified into following categories:**

1. Humanity and Social sciences
2. Basic Sciences
3. Engineering Sciences
4. Professional Core Subjects
5. Elective Subjects
6. Project Work, Seminar and Internship



The courses with the corresponding credits are as shown in below table:

### Course Structure

Sl. No	Course	Credit of the Curriculum (AICTE)	Credit of the Curriculum (VTU)
1	Humanity and Social sciences	12	5
2	Basic Sciences	26	24
3	Engineering Sciences	20	20
4	Professional Core Subjects	53	93
5	Elective Subjects*	18	18
6	Project Work, Seminar and Internship	11	15
	Total	158	175

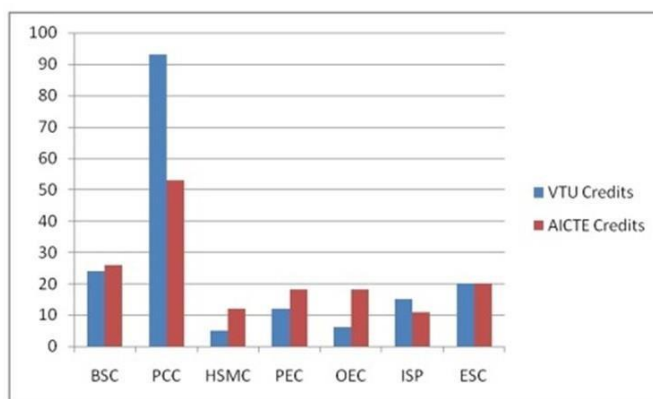


Fig-2.1: The bar chart distribution of the courses with their corresponding points for AICTE and VTU is as shown in the below bar chart

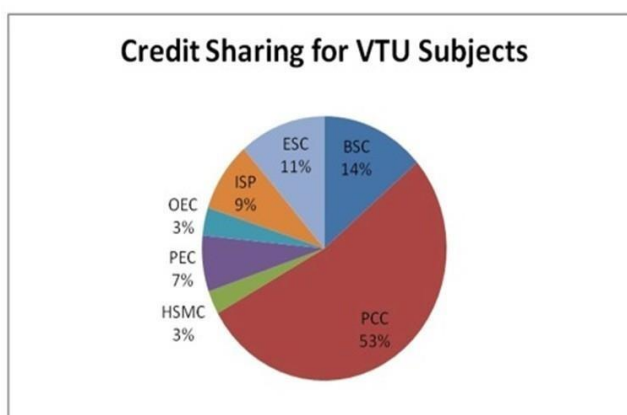


Fig-2.2: The credit sharing for VTU subjects is shown in the pie chart below:

Course	Subjects	Percentage of Contribution	Mapped PO's	Mapped PSO's
<b>Humanity and Social sciences</b>	Constitution of India, Professional Ethics and Human Rights (CPH), Language (Kan.), Language (Eng.)	5	PO1, PO6, PO8, PO10, PO12	PSO2, PSO1
<b>Basic Sciences</b>	Engineering Math's-I, Engineering Math's-II, Engineering Mathematics- III, Engineering Physics, Elements of Civil Engg. & Mechanics, Elements of Mechanical Engg, Basic Electrical Engg, Engineering Chemistry, Programming in C & Data Structures, Computer Aided Engineering Drawing, Basic Electronics	24	PO1, PO2, PO3, PO6, PO12	PSO1, PSO2, PSO3
<b>Engineering Sciences</b>	Electric Circuit analysis, Analog Electronic Circuits, Digital System Design, Electrical and Electronic Measurements, Electromagnetic Field Theory, FC-Operational amplifiers and Linear IC's, Management and Entrepreneurship, Microcontroller, Signal and Systems, Control system, Digital Signal Processing,	27	PO1, PO2, PO3, PO6, PO8, PO12	PSO1, PSO2, PSO3
<b>Professional Core Subjects</b>	Transformers and Generators, Power generation and Economics, Transmission and Distribution, Electric Motors, Power Electronics, Power system analysis-1, Electrical Machine Design, Power system analysis 2, Power system Protection, High Voltage Engineering, Power system operation and control, Industrial drives and applications,	25	PO1, PO2, PO3, PO6, PO12	PSO1, PSO2, PSO3
<b>Elective Subjects*</b>	PE- 1- Estimation and Costing ,OE 1- Sensors and Transducers PE-2 Computer Aided Electrical Drawing, OE-2 Sensors and Transducers, PE-3 Utilization of Electric Power, PE4- Testing and commissioning of power system apparatus , PE-5 Integration of Distribution generation	14	PO1, PO3, PO6, PO12	PSO1, PSO2, PSO3
<b>Project Work, Seminar and Internship</b>	Internship/Professional practice, Project work phase 2, Seminar	5	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10,	PSO1, PSO2, PSO3

			PO11, PO12	
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Course	Subjects	Percentage of Contribution	Mapped PO's	Mapped PSO's
<b>Humanity and Social sciences</b>	Constitution of India And Professional Ethics, language (kannada), Environmental Studies	7	PO1, PO7, PO8, PO11, PO12	PSO1, PSO2
<b>Basic Sciences</b>	Engineering physics, Elements of civil Engineering and Engineering Mechanics, Elements of Mechanical Engineering, Basic Electrical Engineering, Engineering chemistry, Programming in C & Data Structures, Computer Aided engineering Drawing, Basic electronics	17	PO1, PO2, PO5, PO6, PO12	PSO1, PSO2, PSO3
<b>Engineering Sciences</b>	Electric circuit analysis (Core), Analog Electronic Circuits (Core), Additional mathematics 1 Digital system design(Core), Electrical and Electronic Measurement(Foundation course), Electromagnetic Field Theory(core), Additional Mathematics-2, Management and Entrepreneurship, Microcontroller(core), Signals and systems(core), control Systems (core), Digital signal processing(core), Internship Elective/ Professional Practice (core).	29	PO1, PO2, PO6, PO8, PO12	PSO1, PSO2, PSO3
<b>Professional Core Subjects</b>	Transformers and Generators(core), Power generation and Economics(core), Transmission and Distribution(core), Electric motors(core), Operational amplifiers and Linear IC's(Foundation course), Power Electronics(core), power System Analysis-1(core), Electrical machine design(core), Power system analysis 2(core), Power system protection(core), High voltage Engineering(core), Power system operation and control(core), Industrial drives and applications(core),	27	PO1, PO2, PO3, PO6, PO12	PSO1, PSO2, PSO3
<b>Elective Subjects*</b>	Professional Elective 1 Estimation and costing, Open Elective 1-Renewable energy sources, Professional Elective- 2-Energy audit and demand side management, Open Elective 2-Sensors and Transducers, Professional Elective 3-	14	PO1, PO2, PO3, PO7, PO12	PSO1, PSO2, PSO3

	Utilization of Electric power, Professional Elective 4-Testing and commissioning of power system apparatus, Professional Elective 5 Integration of distributed generation			
<b>Project Work, Seminar and Internship</b>	Project work phase 1+ Project work seminar, Internship	6	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2, PSO3

\*2018 Scheme

Course	Subjects	Percentage of Contribution	Mapped PO's	Mapped PSO's
<b>Humanity and Social sciences</b>	Technical English-I, Technical English II, Vyavaharika Kannada (Kannada for communication)/, Aadalitha Kannada (Kannada for Administration), Environmental Studies	11	PO1, PO7, PO12, PO8	PSO1
<b>Basic Sciences</b>	Calculus and Linear Algebra, Engineering physics, Basic Electrical Engineering, Elements of civil Engineering and Mechanics, Engineering Graphics, Engineering chemistry, C programming for problem solving, Basic Electronics, Elements of Mechanical Engineering,	19	PO1, PO2, PO12	PSO1, PSO2, PSO3
<b>Engineering Sciences</b>	Advanced calculus and numerical methods, Electric Circuit Analysis, Analog Electronic Circuits, Digital System Design, Electrical and Electronic Measurements, Electromagnetic Field Theory, Operational Amplifiers and Linear ICs, Management and Entrepreneurship, Microcontroller, Signals and Systems, Control Systems, Digital Signal Processing,	26	PO1, PO2, PO3, PO8, PO12	PSO1, PSO2, PSO3
<b>Professional Core Subjects</b>	Transformers and Generators, Power Generation and Economics, Transmission and Distribution, Electric Motors, Power Electronics, Electrical Machine Design, High Voltage Engineering, Power System Analysis – 1 Power System Analysis – 2, Power System	20	PO1, PO2, PO12	PSO1, PSO2, PSO3

	Protection			
<b>Elective Subjects*</b>	Professional Elective 1- Sensors and Transducers, Open Elective 1–Occupational health and safety, Professional Elective–2-Integration of distributed generation, Professional Elective– 3- Utilization of Electric power, Open Elective 2 –Supply chain and management, Professional Elective – 4Electrical power quality	12	PO1, PO2, PO3,PO12	PSO1,PSO2,PSO3
<b>Project Work, Seminar and Internship</b>	Mini-project, Internship, Project Work Phase – 1, Power System Operation and Control, Project Work Phase – 2, Technical Seminar,	12	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8 PO9, PO10, PO11,PO12	PSO1, PSO2,PSO3

\* C. 2015 Scheme

Program Outcome	Weight age (PO count) based on the mapping of Subjects Percentage	Percentage
PO1:Engineering Knowledge	6	16
PO2:Problem Analysis	4	11
PO3:Design/Development of solutions	5	14
PO4:Conduct Investigations of complex problems	1	3
PO5:Modern tool usage	1	3
PO6:The Engineer and Society	6	16
PO7:Environment and Sustainability	1	3
PO8:Ethics	3	8
PO9:Individual and Team Work	1	3
PO10:Communication	2	5
PO11:Project Management and Finance	1	3
PO12:Life-long Learning	6	15

\* 2017 Scheme

Program Outcome	Weight age (PO count) based on the mapping of Subjects Percentage	Percentage
PO1:Engineering Knowledge	6	16
PO2:Problem Analysis	5	14
PO3:Design/Development of solutions	3	8
PO4:Conduct Investigations of complex problems	1	3
PO5:Modern tool usage	2	5

PO6:The Engineer and Society	4	11
PO7:Environment and Sustainability	3	8
PO8:Ethics	3	8
PO9:Individual and Team Work	1	3
PO10:Communication	1	3
PO11:Project Management and Finance	2	5
PO12:Life-long Learning	6	16

\* 2018 Scheme

Program Outcome	Weight age (PO count) based on the mapping of Subjects Percentage	Percentage
PO1:Engineering Knowledge	6	20
PO2:Problem Analysis	5	17
PO3:Design/Development of solutions	3	10
PO4:Conduct Investigations of complex problems	1	4
PO5:Modern tool usage	1	3
PO6:The Engineer and Society	1	3
PO7:Environment and Sustainability	2	7
PO8:Ethics	3	10
PO9:Individual and Team Work	1	3
PO10:Communication	1	3
PO11:Project Management and Finance	1	3
PO12:Life-long Learning	5	17

\* D. 2015 Scheme

Program Specific Outcome	Weight age (PSO count) based on the mapping of Subjects Percentage	Percentage
PSO1:Apply principles of Electrical Sciences for developing, testing, operation and maintenance of Electrical systems	6	35
PSO2: Study, design and analyze Electrical engineering systems	6	35
PSO3: Work professionally in Power systems engineering, Control systems	5	30

engineering and software industries		
-------------------------------------	--	--

**\* 2017 Scheme**

Program Specific Outcome	Weight age (PSO count) based on the mapping of Subjects Percentage	Percentage
PSO1: Apply principles of Electrical Sciences for developing, testing, operation and maintenance of Electrical systems	6	35
PSO2: Study, design and analyse Electrical engineering systems	6	35
PSO3: Work professionally in Power systems engineering, Control systems engineering and software industries	5	30

**\* 2018 Scheme**

Program Specific Outcome	Weightage (PSO count) based on the mapping of Subjects Percentage	Percentage
PSO1: Apply principles of Electrical Sciences for developing, testing, operation and maintenance of Electrical systems	6	38
PSO2: Study, design and analyse Electrical engineering systems	5	31
PSO3: Work professionally in Power systems engineering, Control systems engineering and software industries	5	31

\*

**From the above table, PO's and PSOs having minimum weightage are identified as the curriculum gaps.**

PO4: Conduct Investigations of complex problems

PO5: Modern tool usage

PO7: Environment and sustainability

PO9: Individual and Team Work

PO10: Communication

PO11: Project Management and Finance

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

The curricular gaps are intimated by the faculty to the head of the department which is being forwarded to the head of the Institution necessary modifications in the curriculum gap are intimated to the university by the head of the institution for the gaps are sent by conducting following activities

\*2020-21

Sl.No	Gap	Action Taken	Date-Month-Year	Resource Person with Designation	% of students	Relevance to POs, PSOs
1	Hands on training on MAT Lab Application(PO4,	Workshop	09/05/2021	Dr. G H Kulkarni, Dr. Debraj Sarakar, Prof. Vinod Patil, Prof. Laxmi Brungi,	80	PO4, PO5, PO11



	PO5,PO11)			Prof. Vireshkumar Mathad		
2	Aptitude classes for GATE and other competitive exams(PO8,PO9 ,PO10)	Online Aptitude classes for 3rd and final year students aspiring for GATE and other competitive exams as well as placement related exams, Core Mathematics	11/07/2021	Mr. Mahantesh Devur, Eminent Teacher MDRS Ilkal, Govt of Karnataka, Dr Prashant Patil, Assoc Prof, JCE and the staff of EE Dept	90	PO8, PO9, PO10

\* 2019-20

Sl. No	Gap	Action Taken	Date-Month-Year	Resource Person with Designation	% of students	Relevance to POs, PSOs
1	Simulation modules such as load flow studies, Shortcircuit analysis, Hardware modules such as Protection relay Trainer, IDMT over current relay trainer (PO5,PO9, PO11)	Hands on Training program using Simulation software/Hardware for power system analysis and protection	17/02/2020	Prof Pasala Naresh, Prof.Laxmi Brungi	95	PO5, PO9, PO11
2	Aptitude classes for 3rd and final year students aspiring for GATE and other competitive exams as well as placement related exams, Core Mathematics(PO8,PO9,PO10)	2 Week online Aptitude class	07/10/2020	Mr. Mahantesh Devur Eminent Teacher MDRS Ilkal, Govt of Karnataka, and EEE Department staff	93	PO8, PO9, PO10
3	Importance of power system studies, Load flow analysis, Hands on using CYME/Mi Power, Demonstration of Power Transmission Trainer, Distribution generation(PO5, PO9,PO11)	“CYME Workshop”	02/07/2020	Dr G H Kulkarni, Prof Laxmi B, Prof Pasala Naresh, Prof Shubha B,Prof Vinod P	96	PO5, PO9,PO11
4	Green house gas emissions, Fossil Fuels, Improve country's grid networks(PO9, PO11)	Virtual FDP on “Trends and challenges in Next Generation Energy Technologies”	10/06/2020	Prof Channappa A, Prof IIIT Dharwad	90	PO9,PO11

• 2018-19

S.No	Gap	Action Taken	Date-Month-Year	Resource Person with Designation	% of students	Relevance to POs, PSOs
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1	Recent trends & challenges in Distributed generation, Integrated resource planning in reference to Indian context(PO4,PO9, PO10,PO11)	Faculty Development program on “Next Generation Energy Technologies”	12/10/2019	1.Er Giridhar Kulkarni, SE, O&M, HESCOM Belagavi and Chikkodi 2. Dr Datatreya.N. Gaonkar, Assoc Prof, NIT Surathkal 3. Dr G H Kulkarni, HOD EEE, JCE 4. Dr D B Kulkarni-Prof-GIT Belagavi 5. Dr Sarit Ratadiya-Senior Engineer, GE Transportation Systems 6. Dr Suresh Mikkili, E&E Dept, NIT, Goa 7. Shri Prakash Kumar-Former Chief Engineer & Director(HESCOM)	40	PO4, PO9, PO10, PO11
2	Numerical Aptitude, Reasoning(PO4, PO9,PO10,PO11)	Placement classes	21/02/2019	Dr.G.H.Kulkarni, Dr.Debraj S, Prof N R Aiholli, Prof Vinod S Patil, Prof Shubha B, Prof Veereshkumar M, Prof Laxmi B	92	PO4, PO9, PO10, PO11,
3	Working of substations, Working of power grid, Story of Nikola Tesla(PO5,PO9,PO10)	Film Screening	19/09/2019	Prof Vinod S patil & Dr Tamalika C	90	PO5, PO9 PO10
4	Basics of Electrical Engineering application wise(PO9,PO10,PO11)	Career Guidance for budding Electrical Engineers	29/03/2019	Er.B.S.Kolaki, Retd SE KPTCL, Belagavi	85	PO9, PO10, PO11

## 2.2 Teaching - Learning Processes (100)

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

\*Process followed to improve quality of Teaching Learning

- Once the VTU academic calendar is received, the department prepares its own calendar of events referring to VTU and college calendar of events. The department academic calendar consists of the road map of all the activities to be conducted for the ensuing semester.
- Activities include the IA Tests, Lab Tests, Schedule of feedback from students and schedule of various co-curricular and extra curricular activities planned for the current semester.
- Department meeting is convened with faculty for subject allotment for ensuing semester.
- The staff members study the allotted subjects well in advance and prepare the lesson plan accordingly.
- The staff members prepare the lab manuals well in advance before the commencement of the classes and labs.

- Apart from the subject allotment, Staff are being assigned with certain responsibilities such as class teachers, Academic coordinator, Placement coordinator, Internal Assessment coordinator, Feedback coordinator, Project coordinator and related other responsibilities.
- Department adopts certain advanced and innovative teaching-learning practices such as video presentations, showing ppt's, and others. The "minutes of meeting" is maintained throughout the semester.
- Assignments (both in soft and hard form) are given to students to evaluate their understandability in all subjects. The IA tests are conducted as per the prescribed schedule provided by the college.
- After completion of the IA Tests, the IA books are evaluated by concerned staff member in time. The IA performances of students are displayed and communicated to the parents.
- The attendance of the students is also monitored regularly and the student possessing less attendance is counseled by calling his/her parents.
- Guest lectures by eminent resource persons are arranged for students as an exposure to the recent advances in the field of Engineering and Technology. The workshops and faculty development programs are also conducted to enhance the knowledge of the faculty members in their areas of specializations
- The department sends the students to various industries such as power plants, Hydro electric power generation stations, Thermal power generation stations and others.
- Film screening on various technical topics are being arranged for the department students
- Attendance register, Course file, Work dairy, Work progress report are prepared as per the standard practice and maintained. Students with slow learning abilities are given encouragement and also counseled regularly.
- Students with fast learning abilities are also encouraged to score excellent marks in the examinations. Parents meet are conducted to discuss various issues faced by the wards.
- The students irrespective of bright or weak are encouraged to do well in their academics and also identify the hidden talents in the students

#### **A. Availability of Academic Calendar based on University academic calendar and its effective Compliance**

Periodic monitoring: Academic, Co curricular and extra curricular activities are periodically monitored by conducting regular departmental meetings.



**JAIN COLLEGE OF ENGINEERING, BELAGAVI**  
Department of Electrical & Electronics Engineering  
Academic Year: 2017-18  
Notice

Date: 06/10/2017

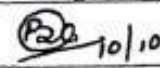

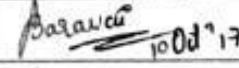
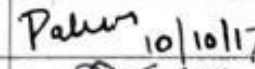
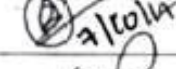
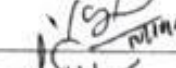
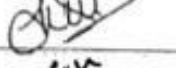
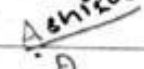
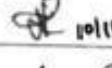
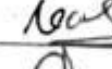
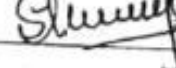
All faculty members are hereby informed that the department meeting will be held on 06/10/2017 at 2:30 pm in VGST conference room.

- Agenda: 1. Regarding Academics matter  
2. Any other matter

  
HOD

**Proceedings of the Staff meeting held in Electrical and Electronics Engineering Department on 06/10/2017.**

Members present

S.No.	Name	Signature
1.	Prof. Basavaraj Madiggond	
2.	Prof. Nagaraj R A	
3.	Prof. Shubha Baravani	
4.	Prof. Vinod Patil.	
5.	Prof. Laxmi B.	
6.	Prof. Vireshkumar Mathad	
7.	Prof. Sangeeta Chandaragi	
8.	Prof. Asish Mishra	
9.	Prof. Praveen Kuralupe	
10.	Prof. Pasala Naresh	
11.	Prof. Shidlingayya Chadradamath	

HOD Dr. G. H. Kulkarni welcomed all the faculty members.

Following points were discussed.

**Points of discussion:**

1. Discussed regarding portion coverage & found satisfactory.
2. Suggested to make proper planning to complete the portion for the lagging subjects.
3. Requested to submit Assignment – 2 on 13/10/17.
4. Decided to conduct Lab IA – 1 from 09/10/17 to 11/10/17, as per the calendar of events.
5. Prof Pasala Naresh and Prof Praveen K are requested to conduct respective Labs for parallel course students.
6. Prof Vinod Patil requested to prepare IA time table for parallel course.
7. Decided to have meeting on 07/10/17 regarding M.Tech. program with students to brief rules and regulations.
8. Decided to have parents meeting on 29/10/17 & Prof Laxmi to prepare agenda.
9. Prof Sangeeta V C & Prof Siddalingayya M C are requested to update website.
10. Prof Ashish Mishra to prepare schedule for Domain Knowledge classes for VIIsem.
11. Meeting was concluded with thanks to chair.

**Impact analysis: Following are the outcomes after inculcating the above Teaching Learning processes:**

Increase in attendance of the students on daily basis. Both bright as well as weak students are equally involved in the learning process. Students come with smiling faces to college and take keen interest in attending the classes. There is substantial amount of enhancement in the students knowledge due to various seminars being conducted by expert resource persons. This is observed during the interaction sessions in the class rooms with the students. Students have gained hands on experience due to the workshops organized on technical know how on various areas such as Matlab, Mi Power, Cym softwares etc. The improvement in placement activity is also seen as an impact of the aptitude classes conducted in house. Congenial and healthy relation exists between staff and students of the department

**Implementation details of improving quality of laboratory experiments:**

Students have also enhanced their practical knowledge due to the in depth laboratory concepts being taught to the students by the faculty handling concerned lab sessions.

They also note down the experiment explained in their observation books, analyze the design or logic of the experiments and able to get the accurate results specified for the concerned experiment. Suitable flow charts are drawn by students on the software experiments with their own effort. Students are made to rig up certain basic experiments apart from those prescribed in the syllabus.

They also develop logic on their own for the software experiments. Viva questions are given to students well in advance. IA Tests are conducted and marks finalized in time by the staff members.

**Impact analysis:**

Students get the required output both in IA Tests and university examination. Because of this successfully completing and getting the results, Students score good marks in the final examination.

**\*A. Documentary evidence to support implementation of pedagogical initiatives such as real life examples, collaborative learning, ICT supported learning, interactive class rooms etc**

Sl. No.	Type of Pedagogical Initiative / Action Taken	Date-Month-Year	Instructional Method type used	Percentage of Students	Documentary Evidence to support the initiative / Action taken
1.	JCE e-connect YouTube Channel	Permanent Repository	Online platform for teaching videos	100%	Online videos and their screenshots
2.	Google Drive Links	-Do-	Online platform for E-learning content sharing	100%	Screenshots
3.	Virtual Labs (Ex: MATLAB etc.)	-Do-	Online platform for Practical classes	100%	Screenshots
4.	Rotating Group leaders in each lab group for lab sessions every week	-Do-	Interactive learning enhancing teamwork effort	100%	Lab Attendance Sheet Records
5.	Club (House) Formation (Ex.: Formation of Different clubs dividing groups of students in certain learning activities)	-Do-	Interactive learning enhancing teamwork effort	100%	Notice of club formation of the students Documents of activities by different clubs
6.	Collaborative Learning Workshop/Training on Industry Collaboration [Ex: Deliberation on Safety Measures in a Substation by BT Prakash Kumar from HESCOM]	---	Seminar/PPT	98% (Attendance of the students)	Invitation From the department to the industry person Notice to attend the same to the students (Enclose in Annexure A) Photos taken
7.	REAL LIFE EXAMPLES [Ex: Industrial Training in HESCOM]	-Do-		-Do-	Letter to the company concerned with Industrial training Name/group of students allotted for training under each company with company letterhead Certificates and Reports by Students 4.. Photos
8.	ICT SUPPORTED LEARNING [Ex: Coursera, LinkedIn]	-Do-	Online platform	-Do-	Certificate of the courses done by students Registration from college platform
9.	INTERACTIVE CLASSROOMS [Ex: Classroom Quiz Sessions with Audio Visual Learning]	-Do-	Flipped Classroom learning	-Do-	1. Photos

**B. Pedagogical Initiatives**  
Details are available in Course File

### C. Guidelines to identify weak and bright students, post identification actions taken, impact observed

#### Weak students Identification

Identification Criteria	Assistance
Students scoring less than 50% of marks in Continuous Internal Evaluation (CIE) in each course.	Mentor and course coordinator follow their progress regularly and advice for improvement in the subsequent IAs. Conduction of remedial classes by course coordinator.
Diploma students who enter with less exposure to mathematics.	Conduction of remedial classes.
Students who fail in semester exams.	Conduction of remedial classes for the students having backlog subjects of the previous semesters.

#### \*Identification of Bright students

Identification Criteria	Encouragement Process
Top three students of each semester in their University Semester exams	Awards and rewards with certificate of merit and cash prize. Encouraged to present paper/s, participation in quizzes, additional training for placements
Name of activity	Academic counselling
Date	8/9/2019
Venue	Microcontroller Lab
Faculty in charge	Prof N R Aiholli
No of students participated	10

#### \* Mentoring/Parent Meet

Name of activity	Parent meet
Date	8/9/2019
Venue	Power System Simulation Lab
Faculty in charge	Dr G H Kulkarni
No of students participated	25
No of Parents participated	25
Objective	To address about the strength of the students
Outcome/action taken	The problems faced by students are taken up and resolved before next parents meet after 3





**Actions taken to encourage bright students:****Identification**

1. Students having better performance in previous semester academic activities
2. Better performer/s of the present semester

Students are motivated to take up mini projects and encouraged to participate in inter college national fests. Encouraged to attend conferences, workshops and publish papers. Encouraged to take up competitive examinations like GATE, GRE etc.

**Procedure**

1. Encourage to attend conferences, workshops and publish papers.
2. Online Courses-such as coursera, linked in

**IEI paper presented list**

Sl.No	Name of Students	Name of conference	Title	Name of Guide
1	Mr Pavan Chalvadi	NCPSE21-11	Economical Analysis of Grid-connected and Off-Grid Hybrid Electric Systems Using the software Homer Pro	Dr G H Kulkarni- HOD, Prof Vinod SP, Jain College of Engineering, Belgaum
2	Mr Neel Tavanshetti			
3	Mr Rohit Veer			
4	Mr Prashant			

**D. Class room ambience-Efforts to keep students engaged(also to be verified during interaction with the students)**

S. No.	Academic activities	Particulars	No. of students participated	Remarks
1	Regular Lecture hours	Management and Entrepreneurship(18EE51)	58	Very Good
2	Quiz	Management and Entrepreneurship(18EE51)	58	Very Good
3	Seminar	Management and Entrepreneurship(18EE51)	58	Very Good
4	Effectiveness of Teachers attributes	Creative ability, Optimistic approach etc.		

**E. Quality of laboratory experience with respect to conducting, recording observations, analysis etc (also to be verified during interaction with the students)**

Conduction of Laboratories:

Conduct of Experiments:

- Faculty prepare laboratory manual well ahead of the semester which includes Dos and Don'ts of the laboratory, list of experiments, the procedure on how the experiments are to be done, tabular column/observations, nature of graph/waveform if any and sample calculations.
- Faculty tests the experiments before starting of the semester and records it, which helps in correlation and to offer constructive suggestions to the students.

In order to attain the COs and POs the following performances Indicators are used as guidelines for the conduction of experiments in the laboratory:



### Ability to conduct experiment:

1. The students will be able to conduct the entire experiment with negligible help from the faculty Members.
2. **Data observation and presentation:** The students will observe and measure the experimental data very accurately, very systematically and present data very clearly using appropriate graphics, figure captions and units.
3. **Data analysis and interpretation:** The students will analyze and interpret experimental data correctly and precisely and make useful conclusions. They also compare theory against experiment and calculate related error.
4. **Subject Knowledge:** The students will fully understand the experiment, including its purpose and results and be able to discuss experimental protocols in a clear and precise manner.

Students Cohesiveness is assessed by the following attributes

- i Formation of batches
- ii Information/Instructional classes
- iii Technical Assistance
- iv Open endness

### \*Students are continuously assessed in the laboratory based on the following points:

- The students are asked to maintain an observation and record of all the experiments done in the laboratory.
- The observations and records are evaluated on weekly basis.
- The faculty makes a record of the date on which the experiment is done, the date on which the observation and records are evaluated which helps in continuous monitoring and assessment of the students. This also aids in completing the laboratory course within the stipulated time.

### F. Laboratory Formative Assessment sheet is as below:

JAIN COLLEGE OF ENGINEERING, BELAGAVI																									
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING.																									
Academic Year 2017-18																									
Laboratory Formative Assessment Sheet																									
Semester: III		Subject: Electronics Lab		Subject Code: 15EE22		Batch: I																			
Sl.No	USN	Session 1			Session 2			Session 3			Session 4			Session 5			Session 6			Extra marks	Marks				
		Marks			Marks			Marks			Marks			Marks			Marks				A	Average Marks		T	
		CE	JE	T	CE	JE	T	CE	JE	T	CE	JE	T	CE	JE	T	CE	JE	T			IA	CE+JE		
1	DARSHANA JOGIN	6	5	10	5	5	10	9	5	10	10	5	10	11	5	10	12	5	10	9	100%	9	10	19	
2	LIVORAJ CLANCY D'SOUZA	6	5	10	4	5	10	9	5	10	10	5	10	11	5	10	12	5	10	9	100%	9	10	19	
3	NAGARAJ V. PUJARI	6	5	10	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	9	100%	9	10	19	
4	SURSHKUMAR LALI	6	5	10	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	10	98%	10	10	20	
5	ABHUIT SAHA	6	5	10	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	8	99%	8	10	18	
6	AKHILESH PUJARI	7	5	10	8	5	10	9	5	10	11	5	10	12	5	10	10	5	10	8	100%	8	10	18	
7	AKSHAY VASANT BAGI	7	5	10	8	5	10	9	5	10	11	5	10	12	5	10	10	5	10	10	100%	10	10	20	
8	ANKITA A BHANDARI	7	5	10	8	5	10	9	5	10	11	5	10	12	5	10	10	5	10	9	100%	9	10	19	
9	ARUN DOREGOL	7	5	10	8	5	10	9	5	10	11	5	10	12	5	10	10	5	10	9	100%	9	10	19	
10	ASHWINI HAVANUR	7	5	10	8	5	10	9	5	10	11	5	10	12	5	10	10	5	10	9	100%	9	10	19	
11	BHARATI MURAKUTI	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	10	5	10	9	100%	9	10	19	
12	CHETANA R BHUPALI	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	10	5	10	10	100%	10	10	20	
13	DEEPA DESAI	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	10	5	10	10	98%	10	10	20	
14	DEEPA GATADE	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	10	5	10	10	99%	10	10	20	
15	JYOTI KALYAGOL	8	5	10	9	5	10	10	5	10	11	5	10	12	5	10	10	5	10	9	99%	9	10	19	
16	K C BHIM PRAKASH	8	5	10	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	9	100%	9	10	19	
17	MAHESH KAMAKAR	8	5	10	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	10	100%	10	10	20	
18	MAHIMA C	8	5	10	10	5	10	11	5	10	12	5	10	11	5	10	10	5	10	10	100%	10	10	20	
19	MALLASARJA DESAI	8	5	10	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	9	100%	9	10	19	
20	MALLIKARJUN S KONNUR	8	5	10	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	10	98%	10	10	20	
21	MAYURI J DHANAGAR	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	10	5	10	9	98%	9	10	19	
22	MAYURI S VARALE	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	10	5	10	10	98%	10	10	20	
23	MOHAMMED T M RAZAVI	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	10	5	10	10	98%	10	10	20	
24	NAHIDA C PANIBANDH	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	10	5	10	10	100%	9	10	19	
25	NEENA R BUDIYAL	10	5	10	11	5	10	12	5	10	11	5	10	12	5	10	10	5	10	8	100%	8	10	18	

#### CE : Assessment based on Conduction & Execution

1. Ethics and Safety ( Dress appropriately in laboratory and adhere to safety instruction)
2. Fundamental Knowledge ( Relate and apply basic knowledge to Experiment work)
3. Team work ( work effectively with team members)
4. Skills ( Use effectively the technology tools and instruments)

#### JE : Assessment based on Journal Evaluation

1. Report presentation (Write and label clearly the figures and graphs)
2. Formulate and Analyze to support the given objective.
3. Discussion on results and conclusion.
4. Adhere to dead lines.

Total (T) = CE + JE (Marks)

CE : Assessment based on Conduction & Execution	JE : Assessment based on Journal Evaluation
1. Ethics and Safety ( Dress appropriately in laboratory and adhere to safety Instruction)	1. Report presentation (Write and label clearly the figures and graphs).
2. Fundamental Knowledge ( Relate and apply basic knowledge to Experiment work)	2. Formulate and Analyze to support the given objective.
3. Team work ( work effectively with team members)	3. Discussion on results and conclusion.
4. Skills ( Use effectively the technology tools and instruments)	4. Adhere to dead lines.
	Total (T) = CE + JE (Marks)

**\*Internal Assessment Marks allocation for Laboratory Experiments for CBCS 2018 Scheme is as follows:**

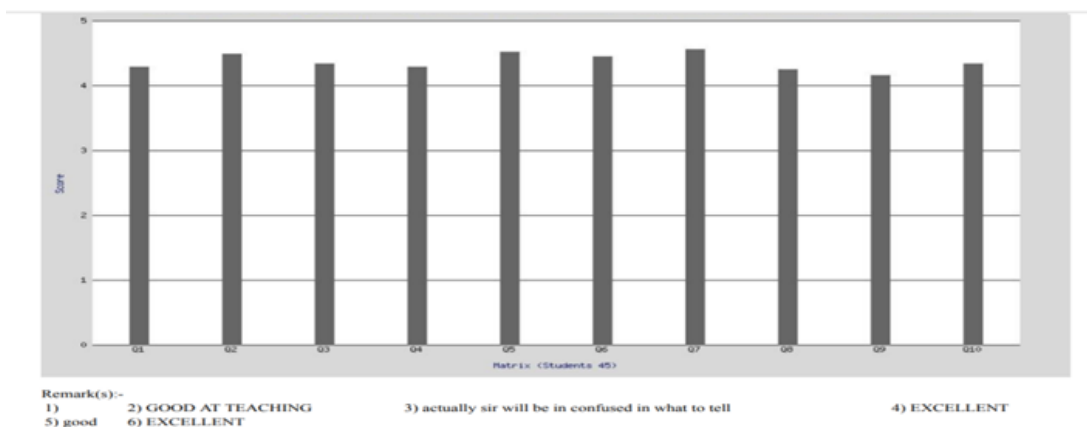
Particulars	Marks	Scheme of Evaluation
Continuous Evaluation	10	5 Marks: Conduction & Execution 5 Marks: Journal Evaluation
Lab Internal Test	30	5 Marks: Procedure & Write-up. 21 Marks: Conduction the Practical. 4 Marks: Viva-Voce
Total Marks	40	40

**G. Sample copy of the Feedback Questionnaire is attached:**

1. Planning and organizing of the course
2. Punctuality and adherence to the Time schedule of lecture
3. Stress on basics and important points
4. Effective delivery of the subject
5. Effective utilization of time in the class room
6. Encourages questions and motivates for learning
7. Availability and access of the teacher in the department
8. Extent of knowledge gained by you through the teaching learning process
9. Relating the subject knowledge to practical/industrial applications
10. Overall I was satisfied with the subject taught in the class

Faculty evaluation form is attached for the kind information:

Feedback Summary and action taken on feedback is highlighted below





# Jain College of Engineering, Belagavi

## DEPARTMENT OF Electrical and Electronics Engineering

### Lesson Plan

Semester: IV

Year of Study: 2017-18

Subject Title: Power Generation and Economics		Subject Code: 15EE42
Total Contact Hours:	50	Duration of Final Exam: 3Hr
	Tutorial:00	
Final Exam Marks:80		IA Marks:20
Staff In charge: <i>Greta Hebbal</i>		Staff Signature: <i>[Signature]</i>
Pre-requisites (if any): No		

#### Course Objectives:

- Explain the arrangement and operation of hydroelectric, steam, diesel, gas turbine and nuclear power plants and working of major equipment in the plants.
- Classification of substation and explain the operation of different substation equipment.
- Explain the importance of grounding and different grounding methods used in practice.
- Explain the economics of power generation and importance of power factor.

#### CO-PO/PSO Mapping:

L1: Remembering L2: Understanding L3: Applying L4: Analyzing L5: Evaluating L6: Creating

Course Outcomes	Description	Bloom's Cognitive level
15EE42.1	Describe the working of hydroelectric, steam, nuclear power plants and state functions of major equipment of the power plants	L2
15EE42.2	Classify various substations and explain the importance of grounding.	L3
15EE42.3	Understand the economic aspects of power system operation and its effects.	L2
15EE42.4	Explain the importance of power factor improvement.	L2 L3 L4



## Lesson Plan and Execution Statement

### Module I ( 10 hours)

Module Objective: CO1

Lesson Planned				Lesson covered		
Lecture No.	Topic	Teaching methodology	Text Chapter	Lecture No.	Date	Topic actually covered
1	<b>Hydroelectric Power Plants:</b> Hydrology, Run off and stream flow, Hydrograph,	1, 2, 6	T1_ch1	1	5/2	Hydrology, Hydrograph
2	Flow duration curve, Mass curve, Reservoir capacity, Dam storage.	1, 2, 6	T1_ch1	2	6/2	Flow duration curve, Reservoir Capacity
3	Hydrological cycle, Merits and demerits of hydroelectric power plants, Selection of site.	1, 2, 6	T1_ch1	3	7/2	Hydroelectric power plant
4	General arrangement of hydel plant, Elements of the plant	1, 2, 6	T1_ch1	4	8/2	General layout
5	Classification of the plants based on water flow regulation, Water head and type of load the plant has to supply.	1, 2, 6	T1_ch1	5	9/2	Types of plants based on water flow, water head & load type
6	Water turbines - Pelton wheel, Francis, Kaplan and propeller T turbines.	1, 2, 6	T1_ch1	6	10/2	water turbines
7	Characteristic of water turbines Governing of turbines,	1, 2, 6	T1_ch1	7	12/2	Characteristic of turbines
8	Selection of water turbines.	1, 2, 6	T1_ch1	8	15/2	Turbine Selection
9	Underground, Small hydro and pumped storage plants	1, 2, 6	T1_ch1	9	17/2	Storage plants
10	Choice of size and number of units, plant layout and auxiliaries	1, 2, 6	T1_ch1	10	19/2	Choice of Size and units

Module Outcome: 15EE42.1



# Jain College of Engineering, Belagavi

## Strength of CO Mapping to PO/PSOs with Justification:

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
1	3					1	2						3	2	1
2	3					1	2						3	2	1
3	3	2											3	2	1
4	3	1			1								3	2	1
AVG	3	1.5			1	1	2						3	1	1

CO-PO-PSO	Justification
CO1->PO1(3) CO1->PO6(1) CO1->PO7(2) CO1->PSO1(3) CO1->PSO2(2) CO1->PSO3(1)	<ul style="list-style-type: none"> <li>Students will explain the classification, arrangements and working of hydroelectric plants.</li> <li>Student study the site selection for hydro, steam, diesel, gas and nuclear power plants</li> <li>Student will understand and will be able to explain the working of steam, diesel and gas turbine power plants</li> <li>Students will understand the working and components of nuclear power plant.</li> </ul>
CO2->PO1(3) CO2->PO6(1) CO2->PO7(2) CO2->PSO1(3) CO2->PSO2(2) CO2->PSO3(1)	<ul style="list-style-type: none"> <li>Students will study the types of substation</li> <li>Students will explain the components of substation.</li> <li>Students will study the importance of grounding</li> <li>Students will explain the various grounding methods.</li> </ul>
CO3->PO1(3) CO3->PO2(2) CO3->PSO1(3) CO3->PSO2(2) CO3->PSO3(1)	<ul style="list-style-type: none"> <li>Students will study the effect of load on power system and methods of determination of depreciation.</li> <li>Students will study the objectives and types of tariffs.</li> </ul>
CO4->PO1(3) CO4->PO2(1) CO4->PO5(1) CO4->PSO1(3) CO4->PSO2(2) CO4->PSO3(1)	<ul style="list-style-type: none"> <li>Students will study the importance of power factor and disadvantages of low power factor.</li> <li>Students will explain the various methods of power factor improvements.</li> </ul>

Prepared by (Course Faculty)	Approved by HOD (Before Semester Commencement)	Approved by HOD (End of Semester)
Signature:	Signature:	Signature:
Name: Geeta Hebbal	Name: G.H. Kuni	Name: G.H. Kuni

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

### A. Process of Internal semester setting and evaluation and effective process implementation

#### i. Committee Formation

As per the direction of Principal and Head of Department, a Scrutiny committee is formulated

Sl.No	Name of Faculty	Designation
1	HOD	Chairperson
2	Senior Staff	Member (Subject Expert)
3	Subject Incharge	Member

ii. **Objective:** Overlooking into quality of assignment and IA question paper.

#### iii. Responsibilities:

- Looking into quality of assignment and question paper proper weightage.

- Ensure the assignment and IA question paper questions having outcome learning levels perspective and CO's
  - Validation of question paper
  - Suggestions for in case of shortfalls suggesting modification in assignment and IA question paper.

#### v. Quality of Assignment and its relevance to CO's:

- Questions may be drawn from units/modules covered from the course.
- Questions must have learning objective from prescribed module and course.
- Questions should have thinking skills to develop within each unit and throughout the course
- Difficult aspects solving and analysis.
- Some of the questions are drawn from the university exam question papers/GATE/Competitive exams.



**Jain College of Engineering, Belagavi**  
**Department of Electrical & Electronics Engineering**  
**Continues Internal Assessment – I**

Semester: V  
 Subject: Renewable Energy Sources  
 Sub code: 15EE73

Date: 12/09/2018  
 Time: 12.45PM-1.55PM  
 Max Marks: 30

**Note: Answer TWO full questions choosing one full question from each part**

PART A		Marks	CO's	PO's	Bloom's Cognitive Level
Q.1	A. Discuss about causes of energy scarcity	5	1	1,2	L3
	B. Write short note on layers of sun	5	2	1,2	L2
	C. Mention advantages and disadvantages of renewable energy sources	5	1	1,2	L1
OR					
Q.2	A. Define i) Declination angle ii) Zenith angle iii) Hour angle iv) Latitude angle	8	1	1,2	L3
	B. Determine the Local solar time and declination at a location latitude 23° 14' N, Longitude 77° 30'E at 12.30 IST on June 19 Equation of time correction is given from standard table or chart = -(1'01'')	7	3	1,2	L2
PART B					
Q.3	A. What are the advantages and disadvantages of concentrating collector over a flat plate collector ?	6	1	1,2	L2
	B. With the help of schematic diagram explain the working of solar water heater	9	2	3,4	L1
OR					
Q.4	A. What are the disadvantages of solar energy	5	1	3,4	L1
	B. Explain the basic principle of solar thermal collectors.	5	2	3,4	L2
	C. Write a note on solar air heating	5	1	3,4	L2

\*CO- Course Outcome

Prepared by	Approved by HOD
Signature:	Signature:
Name: Prof. Vinod S. Patil	Name: Dr. G. H. Kulkarni





### Scheme of Evaluation for I IA

Sub: RES  
Sem.: 5<sup>th</sup>

Sub Code: 15 E E S 63  
Date: 11<sup>th</sup> Sep 2018

- 1 a) i) Increasing Population  
ii) Increasing Energy usage or consumption.  
iii) uneven distribution of Energy Resources  
iv) lack of technical knowledge  
v) less efficient systems  $5 \times 1 = 5$

- 1 b) core, Radiation zone, convection zone, photosphere  
chromosphere and corona  $1 \times 1 = 4$   
 $0.5 \times 2 = 1$

- c) Advantages  
i) Eco friendly ii) non depleting iii) Reliable iv) great local employment  
v) Free of cost vi) low gestation period — 2.5 m  
Disadvantages  
i) unreliable ii) Low efficiency iii) Huge capital investment  
iv) Difficulty in storage v) Difficulty in transportation 2.5 m

2 A) Declination angle! — It is angular displacement of the sun from the plane of earth's equator. It is positive when measured above equatorial plane in the northern hemisphere

$$\delta = 23.45 \sin \left[ \frac{360}{365} (284 + n) \right]$$

— (2)



ii) Zenith angle: - It is the angle between Sun's rays and perpendicular to horizontal plane - (2)

iii) Hour angle: - It is the angle through which the earth must turn to bring the meridian of the observer directly in line with Sun's rays - (2)

iv) Latitude angle: - It is the angle made by radial line joining the given location to the center of earth with its projection on the equator plane - (2)

$$\begin{aligned} 2b) \text{ LST} &= \text{IST} - 4(\text{STD long} - \text{long of loc}) + \text{EOT} \\ &= 12^{\text{h}}30' - 4(82^{\circ}30' - 77^{\circ}30') - 1.01' \\ &= 12^{\text{h}}8'59'' \quad - (3) \quad n=170 \quad - (1) \\ \delta &= 23.45 \sin \left[ \frac{360}{365} (284+n) \right] \\ \delta &= 23.45 \sin 86^{\circ} = 23.43^{\circ} \quad - (3) \end{aligned}$$

3 a) concentrating collectors

- i) converged from large area into smaller area
- ii) uses only Beam radiation
- iii) Requires sun tracking
- iv) yields high temperature

- (3)

Disadvantages

- i) No optical concentration method/system is used
- ii) High temperatures cannot be attained
- iii) Requires large collector area

(3)

b)

Solar Water Heater diagram. diagram - (3)

Working Principal

— (6)

- 11 " 1) High initial investment  
 2) Storage is expensive.  
 3) large collector area.  
 4) Intermittent source  
 5) low energy density  
 6) low efficiency

$$5 \times 1 = 5$$

b) green house effect

Diagram

— (2)

Explanation

— (3)

c) Different types of air heater configurations  
 wrt absorber (figure)

— (2)

Explanation

— (3)



**JAIN COLLEGE OF ENGINEERING, BELGAUM**  
**Department of Electrical & Electronics Engineering**  
**Academic Year: 2018 -19**

**SEM: 5th**

**Sub: Renewable Energy Sources**

**Sub Code: 15EE563**

**Syllabus of 1<sup>st</sup> CIE**

**Module-1**

**Introduction:** Causes of Energy Scarcity, Solution to Energy Scarcity, Factors Affecting Energy Resource Development, Energy Resources and Classification, Renewable Energy – Worldwide Renewable Energy Availability, Renewable Energy in India.

**Energy from Sun:** Sun- earth Geometric Relationship, Layer of the Sun, Earth – Sun Angles and their Relationships, Solar Energy Reaching the Earth's Surface, Solar Thermal Energy Applications.

**Module-2**

**Solar Thermal Energy Collectors:** Types of Solar Collectors, Configurations of Certain Practical Solar Thermal Collectors, Material Aspects of Solar Collectors, Concentrating Collectors, Parabolic Dish – Stirling Engine System, Working of Stirling or Brayton Heat Engine, Solar Collector Systems into Building Services, Solar Water Heating Systems, Passive Solar Water Heating Systems, Applications of Solar Water Heating Systems, Active Solar Space Cooling, Solar Air Heating, Solar Dryers, Crop Drying, Space Cooling, Solar Cookers, Solar pond.



**JAIN COLLEGE OF ENGINEERING, BELGAUM**  
Department of Electrical & Electronics Engineering  
Academic Year: 2018 -19

**Sub: Renewable Energy Resources**  
**Sem.: V**

**Sub Code: 15EE563**  
**Date: 04/10/2019**

**Assignment 2**

Q.No.	Question	CO	PO	RBT
1.	Discuss about efficiency of solar cells and fill factor	3	3,4	2
2.	Discuss about different solar cell materials and explain the key elements of PV Cell	3	3,4	2
3.	List the application of solar cell systems and briefly explain the IV characteristic of solar cell	3	3,4	1
4.	Discuss about efficiency and fill factor in solar cells	3	3,4	2
5.	Discuss the applications, advantages and disadvantages of hydrogen energy	3	3,4	2
6.	Explain electrolytic, thermo chemical and photolytic production of technologies used to produce hydrogen	4	3,4	2
7.	Briefly explain how hydrogen energy is stored	4	3,4	2
8.	Classify wind energy conversion system	4	3,4	1
9.	Derive an expression for power developed due to wind	4	3,4	3
10.	Briefly explain wind energy scenario in world and India.	4	3,4	2
11.	Discuss the advantages of wind energy conversion system	4	3,4	2
12.	Discuss the main consideration for site selection for wind generators	4	3,4	2
13.	Explain thermal energy systems in interior of the earth	4	3,4	2
14.	What do you mean by dry, wet and hot water geothermal system? discuss the field of applications of these systems.	4	3,4	3
15.	Explain the difference between geothermal plants and thermal plants	4	3,4	2
16.	List the advantages and disadvantages of geothermal plants	4	3,4	1

## 2.2.3 Quality of student projects (25)

Institute Marks: 25.00

### Guidelines

- i. Creation of batches
- ii. Preparation of Project proposal
- iii. Allotment of guides (Based on specialization)
- iv. Review/Evaluation process Change of project if required
- v. Preparation of project report
- vi. Awards

#### Creation of batch (Based on the performance of previous semester)

S.NO	Name of Student	USN	Percentage	Class
1	AMRUTA CHIKKAMATH	2JI15EE002	55.9	SC
	SUSMITA DINESH DHAKOLIYA	2JI15EE049	59%	SC
	ANURADHA MAHADEV SAVANT	2JI15EE005	75	FCD
	POOJA DESAI	2JI15EE026	78.13	FCD
2	SOMASHEKAR		54	SC
	VINOD JAGATAP	2JI15EE010	59	SC
	ANANT SHIVAJIGAVAS	2JI15EE003	0.74	FCD
	SAGAR BASAVARAJ AMMANAGI	2JI15EE032	42.5	SC
3	POOJA PATIL SAHANA	2JI15EE028	59	SC BACK LOG
	SPURTISADANAND PAI	2JI15EE044	73.6	FCD
4	MARUTI J PATIL	2JI16EE410	60.45	FC
	GUNDAP KIRAN MARUTIMAITILI	2JI15EE012	59	SCBACK LOG
	PATIL KARTIK B	2JI15EE025	0.702	FCD
	VRUSHABHKHOT	2JI15EE054	60.58	FC
5	MUSTAKAHMADBALLARYVIDESH	2JI16EE411	58	SCBACK LOG

#### A. GUIDELINES FOR THE PREPARATION OF B.E. PROJECT REPORT

Proposal shall comprise of,

- Introduction with problem identification.
- Literature survey.
- Objectives



- Methodology Possible outcome
- References

Literature Survey to be made by referring to some standard papers and journals published by IEEE, Springer, Elsevier etc. Students are advised to go through these conference and journal papers and prepare the gist of each paper. (Minimum of 5 papers).

It shall be in A4 size paper, neatly typed in 1.5 line spacing, in not more than 3 pages. Page Layout of the proposal should be:

1 inch margin on all the sides and printed only on one side.

Cover page should contain only the TITLE and Name of students and Supervisor in Times New Roman Font 16 Bold. 14 Bold font to be used for Headings,

12 bold for Sub-headings and 12 normal for Text

#### **Allotment of Guides**

S. No.	Batch No.	USN	Name of the student	Topic	Guide
1	I	2JI15EE026	Pooja Desai	Analysis of F11 feeder	Dr. G. H. Kulkarni
		2JI15EE005	Anuradha Mahadev Savant		
		2JI15EE003	Anant shivaji gavas		
		2JI15EE025	PATIL KARTIK B		

#### **PROJECT SCHEDULE**

PHASE	SL.NO	ACTIVITIES	DURATION
I	1	Submission of Project Proposals	18/09/19 – 20/09/19
	2	Selection of Projects by the respective guides	10/10/19 - 15/10/19
	3	Finalization of Literature Survey and Synopsis Submission	16/10/19– 24/10/19
II	4	Presentation of Work Progress (Project Phase I)	11/11/19 – 13/11/19
	5	Formulation of Design Parameters	15/01/20 - 14/02/20 (After Exams)
	6	KSCST Project Proposal submission	Usually in the month of Jan
	7	Review of Model Design and Simulation	16/02/20 – 18/02/20
III	8	Presentation of Work Progress (80% to be completed)	20/02/20 – 22/02/20
	9	Testing and analysis of the Results	12/03/20 – 21/03/20
	10	Conclusion	24/03/20
	11	Demo and Presentation	31/03/20
	12	Submitting draft copy of report to respective Guides for correction	12/04/20
	13	Returning corrected draft copy to the students	22/04/20

	14	Submitting final Report in binded form	26/04/20
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## B. Best projects relevance with POs/PSOs

Batch No.	Type				Environment	Safety	Ethics	Cost	PO'S	PSO'S
	Application	Product	Research	Review						
Mr.Umesh H(2016-17)	Y				Y	Y	Y		1,2,5	2
Miss. Soumaya Sangolli(2020-21)	Y	Y					Y	Y	3,5,8	1,3
Miss. Shafiya(2021-22)	Y	Y				Y	Y	Y	1,3,8	3
Pavan Chavadi(2021-22)	Y					Y	Y		5,9,11	2

### B. Process for Monitoring and Evaluation

Title of the Project: Analysis of F 11 feeder

Guide: Dr. G. H. Kulkarni Batch No.:1

Students Name with USN:

1. Pooja Desai-2JI15EE026      2 Anuradha Mahadev Savant-2JI15EE005

3. Anant shivaji gavas-2JI15EE003      4 Patil Kartik B-2JI15EE025

### C. Process for Monitoring and Evaluation

Sl. No	Date of Meet	Topic Discussed			Remarks by Guide				
1	18/09/2019	Analysis of F11 feeder	Satisfactory						
2	19/10/2019	Block Diagram of feeder mechanism	Satisfactory						
3	11/11/2019	Advantages of feeder mechanism	Satisfactory	Sl.No	Particulars	Satisfactory	Good	Very Good	
4	31/03/2020	Methodology, Applications of feeder	Satisfactory	1	Starting (Group formation & Guide allotment)			Very Good	
5	12/04/2020	Conclusion of Project work	Satisfactory						
				2	Literature Survey			Very Good	

	3	Defining Objectives		Good
	4	Methodology		Very Good
	5	Intermittent results		Very Good

**D. Process to assess individual and team performance**

**Project Title:** Analysis of F11 feeder

Project Guide Dr. G H Kulkarni Date 12/04/2020

**Individual Assessment:** Please enter the names of your team members in the first row and complete the following personnel evaluation. **1** = Excellent, **2** = Good, **3** = Acceptable, **4** = Marginal, **5** = Unacceptable

Student: Name: Umesh H (2016-17)

Name of Team Member	Phase I	Phase II	Phase III	Phase IV
Attended Project meetings	Excellent	Above average	Excellent	Excellent
Was punctual	Above average	Excellent	Excellent	Excellent
Was willing to listen to others	Excellent	Above average	Above average	Excellent
Gave the project a high priority and willingly accepted responsibilities	Excellent	Above average	Excellent	Excellent
Helped to identify and clarify problems	Excellent	Above average	Excellent	Excellent
Was willing to discuss disagreement and adapt	Above average	Excellent	Excellent	Excellent
Helped to make sure that everyone understood the solution	Excellent	Excellent	Above average	Excellent
Completed assigned tasks as promised and on time	Excellent	Excellent	Excellent	Above average
Saw what had to be done and did it without prompting or pressure	Above average	Excellent	Excellent	Excellent

1 = Excellent (Above 60%), 2 = Above Average (40%-60%)

**Team Assessment:** Evaluate your team's performance on the following dimensions. Assign a score of 1 where you believe your team's process is faulty and a score of 5 where you think your team is functioning well. [1: Ineffective - 5: Highly effective]



<b>Decision Making</b>	<b>Collaborative:</b>	<b>Unilateral:</b>
Cooperation	Members help others out:	Members do only own work:
<b>Ability to handle Conflict/Differences</b>	<b>Explore and solve conflicts:</b>	<b>Avoid or ignore:</b>
<b>Balance of Participation</b>	Balanced workload:	A few do most of the work:
<b>Focus/On Schedule</b>	Focused/on schedule:	Digresses/off schedule:
<b>Communication</b>	Full, open and spontaneous:	Don't keep other members informed:
<b>Support</b>	Members give others support:	People do own thing, show no appreciation:
<b>Team Spirit</b>	Members identify with their team:	No team spirit:

#### E. Quality of completed projects/working prototypes

##### List of completed projects

Sl. No.	Name of the Students	Name of the Guide	Project Title	Domain	Sponsored/Award	Remarks by Evaluating team	PO/PSO
1.	Mr.Umesh T	Prof. Laxmi Brungi	Non-Invasive glucometer using Saliva	Biomedical/health care	KSCST (2016-17)	Satisfactory	POs:1,5,6,7,9, 10,11,12 PSOs: 1,2.
	Mr.Shivaprasad K						
	Mr.Sunil T						
	Mr Vinayak S						
2.	Miss. SoumayaSangolli	Prof. Laxmi Brungi	Automatic Plant Watering System	Electrical	VTU (2020-21)	Satisfactory	POs:1,5,6,7,9, 10,11,12 PSOs: 1,2.
	Miss. Priya Zadappannavar						
	Miss. Ashiwini Aiholli						
	Miss. Surekha Rathod						
3.	Miss. Shafiya	Prof. Laxmi Brungi	Non-Invasive Saliva glucometer tracking and informing the caretaker.	Biomedical/health care	KSCST (2021-22)	On going	POs:1,5,6,7,9, 10,11,12 PSOs: 1,2.
	Mr. Prem Mole						
	Mr. Santosh Sonar						
	Mr. Shridhar S						

#### F. IEI paper presented list

Sl.No	Name of Students	Name of conference	Title	Name of Guide
1	Mr Pavan Chavadi	NCPSE21-11	Economical Analysis of Grid- connected and Off- Grid Hybrid Electric Systems Using the software Homer Pro	Dr G H Kulkarni- HOD, Prof Vinod SP, Jain College of Engineering, Belgaum
2	Mr Neel Tavanshetti			
3	Mr Rohit Veer			
4	Mr Prashant			

List of completed projects: Batch 1- Dr G H Kulkarni

Sl. No.	Name of the Students	Name of the Guide	Project Title	Domain	Sponsored/ Award	Remarks by Evaluating team	PO/PSO
1	Pooja Desai	Dr G H Kulkarni	Analysis of F11 feeder	Electrical	-----	-----	PO1,PO2, PO3, PO11/PSO1
2	Anuradha Mahadev Savant	Dr G H Kulkarni	Analysis of F11 feeder	Electrical	-----	-----	PO1,PO2, PO3, PO11/PSO1
3	Anant shivaji gavas	Dr G H Kulkarni	Analysis of F11 feeder	Electrical	-----	-----	PO1,PO2, PO3, PO11/PSO1
4	Patil Kartik B	Dr G H Kulkarni	Analysis of F11 feeder	Electrical	-----	-----	PO1,PO2, PO3, PO11/PSO1

## 2.2.4. Initiative related to Industry Interaction

The industry interaction helps the students to strengthen their skills and makes them ready for corporate careers ahead. The various initiatives taken are invited lectures which imparts current state of the art knowledge to the students and faculty members.

### A. Industry supported laboratories (5)

SL.No	Name of the Lab	Supporting Organization	Scheme /Year of establishment	Amount Section	Outcome
1	Power System Lab	VGST	K-FIST 1/2014	20Lakhs	For practicing and working engineers on modern tools of power system and distribution

### B. Industry involvement in the program design and partial delivery of any regular courses for students (5) Industrial Visit

Date of visit	Name of the Industry/plant	No. of Students Visited	Course Relevance
25/10/2016	Industrial tour on to the wind power generation plant	50	PO1, PO5
7th – 9th Oct 2016	Industrial visit to Supadam Ganeshgudi	52	PO1, PO6, PO7, PO12

Guest lectures by industrial experts for academic year (2017-18)

SL.No	Date	Name of the Program	Topic/Event	Resource Person	Relevance to Academic Course
1	1/10/2018	Expert Technical talk on “Distribution automation and SCADA”	Use of SCADA, Energy management system, Power line carrier communication in Distributed automation with real time examples	Dr Girish Athreyas, ALDC HESCOM Hubli	PO1, PO6, PO7, PO12
2	27/2/2017	Role of Power Electronics in Electrical Engineering	Power Electronics applications in Electrical Engineering	Dr H N Nagaraja, Pro VC and Dean Engineering, Graphic University, Dehradun	PO1, PO6, PO12

Guest lectures by industrial experts for academic year (2018-19)

SL.No	Date	Name of the Program	Topic/Event	Resource Person	Relevance to Academic Course
1	29/3/2019	Career Guidance for budding Electrical Engineers	Basics of Electrical Engineering application wise	Er.B.S.Kolaki, Retd SE KPTCL, Belagavi	PO1, PO6, PO12

Guest lectures by industrial experts for academic year (2019-20)

SL.No	Date	Name of the Program	Topic/Event	Resource Person	Relevance to Academic Course
1	17th-19th Feb 2020	Hands on Training program using Simulation software/Hardware for power system analysis and protection	Simulation modules such as load flow studies, Short circuit analysis, Hardware modules such as Protection relay Trainer, IDMT over current relay trainer	Prof Pasala Naresh	PO1, PO5, PO11

2	2/7/2020	CYME Workshop”	Importance of power system studies, Load flow analysis, Hands on using CYME/MiPower, Demonstration of Power Transmission Trainer, Distribution generation	Dr G H Kulkarni, Prof Laxmi B, Prof Pasala Naresh, Prof Shubha B, Prof Vinod P	PO1, PO5, PO11
3	10-12th June 2020	Virtual FDP on “Trends and challenges in Next Generation Energy Technologies”	Green house gas emissions, Fossil Fuels, Improve country’s grid networks	Prof : Channappa A, Prof IIIT Dharwad	PO1, PO6, PO12

### C. Impact Analysis of industry institute interaction and actions taken there of

- Practical knowledge is gained by the students through industry internship, summer training etc
- Projects are done based on the industry needs.
- Students get exposed to industrial environment which makes them confident when they attend placement interviews.
- It allows the department to get guest experts, in-plant training and industrial visit and hence it is a value addition to the department.


## 2.2.5 Initiative related to Industry Internship/summer training (15)

### A. INDUSTRIAL TRAINING

As per OBE of VTU regulations governing degree of Bachelor of Engineering, every student has to undergo internship. The students undergo internship both in odd and even semester. As per VTU norms, accordingly Jain College of Engineering students carry out internship in reputed industries and public sector undertaking. The sample copy is herewith attached.

Request letter sent to HESCOM to accord permission for internship

Permission granted by HESCOM for carrying out internship in their organization

 **JAIN COLLEGE OF ENGINEERING**  
(Approved by AICTE, New Delhi & Affiliated to VTU, Belagavi)

Ref. No.: \_\_\_\_\_

Date: **4 DEC 2019**

To,  
The General Manager (ELE),  
Corporate Office, HESCOM,  
PB Road, Navanagar, Hubballi-580025

Sir,

Subject: Request to accord permission for Internship

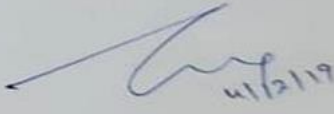
It is my proud privilege to recommend following students for doing 'Internship' at your esteemed organization. Internship would be a dynamic exposure to the learning process beyond classroom environment & also a meaningful interaction between Institution & Industry.

I request you to extend an opportunity to the candidates for Internship in your organization for a period of 3 weeks between 10/01/2020 to 30/01/2020.

Please do contact us for any query, clarification in this regard.

With warm regards.

Enclosing here with the details of the students and the groups.

  
4/12/19

**Group Head Office**  
91/2, Dr. A N Krishna Rao Road,  
V V Puram, Bengaluru - 560 004  
P +91 80 2661 5246

**Campus**  
599/2, T S Nagar, Hunchanhatti C  
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ಹುಬ್ಬಳ್ಳಿ ವಿದ್ಯುತ್ ಸರಬರಾಜು ಕಂಪನಿ ನಿಯಮಿತ  
(ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸಂಪೂರ್ಣ ಸ್ವಾಮ್ಯಕ್ಕೆ ಒಳಪಟ್ಟಿದೆ.)  
ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು (ಆ & ಮ.ಸಂ.ಅ)  
ಹೆಚ್‌ಆರ್‌ಡಿ ಶಾಖೆ, ನಿಗಮ ಕಛೇರಿ,  
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Phone: +91836 2324196



**HUBLI ELECTRICITY SUPPLY COMPANY LIMITED**  
(Wholly owned Govt. of Karnataka undertaking)  
**General Manager (A&HRD)**  
Company Office,  
Navanagar, P.B. Road, Hubballi-580025  
E-mail Id: eehrd.hescom@gmail.com

No. HCO-50/ B41/ 19-20

Encl:

Date: 20 FEB 2020

**OFFICIAL MEMORANDUM**

**Sub:** Permission for Internship in HESCOM for the students of Jain Institute of Technology, Belagavi, SKSVMA CET, Laxmeshwar, AGMR CET, Varur - reg.

**Ref:** 1. Letter No: Nil, Dated: 04.12.2019.  
2. Letter No: KLEMSSCET/EE/1055, Dated: 14.12.2019.  
3. Letter No: SKSV/18-19, Dated: 02.01.2020.  
4. Letter No: AGMRCET/EST/2019/20/15663, 15665, 15667, Dated: 02<sup>nd</sup>, 6<sup>th</sup> and 8<sup>th</sup> Jan 2020.

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Anent to the above subject and vide above reference the following students of Jain College of Engineering, Belagavi, KLE Dr. MS Sheshgiri College of Engineering and Technology, Belagavi, SKSVM Agadi College of Engineering and Technology, Laxmeshwar, AGMR College of Engineering and Technology, Varur are permitted to get Internship training in HESCOM as per the schedule of dates given below:

**Jain College of Engineering, Belagavi**

Sl. No.	USN No	Name of the Student	Batch No
1	2JI17EE037	Mr. Shivraj Vijay Patil	01
2	2JI17EE051	Mr. Yash Bidikar	
3	2JI17EE018	Miss. Nikita	
4	2JI17EE047	Miss. Vaishnavi M. Allappanavar	
5	2JI17EE016	Mr. Nikhil Patil	
6	2JI17EE036	Mr. Shivaraj Lamani	
7	2JI17EE038	Mr. Shubham Shivaji Karale	02
8	2JI17EE040	Miss. Siri C S	
9	2JI17EE019	Miss. Ningamma Ittannavar	
10	2JI17EE004	Miss. Archana Hanamappa Dandin	
11	2JI17EE049	Miss. Varsha R Doddamani	03
12	2JI17EE014	Mr. Neel Tavanshetti	
13	2JI17EE022	Mr. Pavan Chalvadi	
14	2JI17EE029	Mr. Rohit Burud	
15	2JI17EE030	Mr. Rohit Rajaram Veer	

ನೋಂದಾಯಿತ ಕಛೇರಿ: ಕಂಪನಿ ಕಛೇರಿ, ನವನಗರ, ಪಿ.ಬಿ.ರೋಡ್, ಹುಬ್ಬಳ್ಳಿ - 580025, ಕರ್ನಾಟಕ  
Registered Office: Company Office, Navanagar, P. B Road, Hubballi - 580025, Karnataka  
website: www.hescom.co.in

## B Industrial visit /internship/summer training

The student has to execute a project work preferably at industry/R&D institution. The industrial training is assessed by external and internal examiners through presentation and viva- voce

### \*Implementation Details and Impact Analysis:

The College/placement cell will facilitate and monitor the student internship program.

The College/Department/placement cell will strongly encourage students to undergo Internship during vacation

The internal guide has to visit the organization to know the performance of students during internship period.

The student shall make a midterm presentation of the activities undertaken during the internship to a panel comprising Internship guide, a senior faculty from the department and Head of the Department.

The student has to submit internship report to the Department.

## C. Impact Analysis:

Students have undergone the internship at various reputed government institutions like HESCOM and other public sector undertakings. They have shown keen interest in undergoing the internship which has served the purpose. Some students are able to think critically and solve problems given. Students have exhibited their skills and team work which has also aided in their placement activities.

## D. Student Feedback

### Impact Analysis

Student name	USN	Critical Thinking / Problem Solving			Team work			Skills			Benefiting semester examinations			Serving base for Project work			Aiding in placements		
		Strongly agree	Agree	Fair	Strongly agree	Agree	Fair	Strongly agree	Agree	Fair	Strongly agree	Agree	Fair	Strongly agree	Agree	Fair	Strongly agree	Agree	Fair
DARSHANA JOGIN	2JI15EE008			✓		✓			✓			✓			✓				✓
LIVOVAJ D'SOUZA	2JI15EE009		✓			✓				✓		✓				✓		✓	
NAGARAJ V PUJERI	2JI15EE021			✓			✓			✓		✓				✓			✓
SURESH LALI	2JI15EE048		✓			✓			✓				✓		✓				✓
ABHIJIT SAHA	2JI16EE001		✓			✓			✓			✓			✓			✓	
AKHILESH PUJARI	2JI16EE003			✓			✓			✓			✓			✓		✓	
AKSHAY VASANT BAGI	2JI16EE004	✓				✓			✓			✓			✓			✓	
ANKITA A BHANDARI	2JI16EE005		✓			✓			✓			✓			✓				✓
ARUN DOREGOL	2JI16EE007			✓			✓		✓				✓			✓			✓
ASHWINI HAVANUR	2JI16EE008		✓			✓			✓			✓			✓			✓	
BHARATI MURAKUTI	2JI16EE010		✓			✓			✓			✓			✓			✓	
CHETANA BHUPALI	2JI16EE012	✓			✓				✓			✓			✓			✓	
DEEPA DESAI	2JI16EE013		✓			✓			✓			✓			✓			✓	
DEEPA GATADE	2JI16EE014		✓			✓			✓			✓			✓			✓	
JYOTI KALYAGOL	2JI16EE015		✓						✓			✓			✓			✓	
K C BHIM PRAKASH	2JI16EE016		✓		✓				✓			✓			✓			✓	
MAHESH KAMAKAR	2JI16EE017	✓			✓				✓			✓		✓				✓	

### 3. COURSE OUTCOMES AND PROGRAM OUTCOMES

Define the Program specific outcomes

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

Total Marks 20.00

PSO1	Apply principles of Electrical Sciences for developing, testing, operation and maintenance of electrical systems.
PSO2	Study, design, and analyse electrical engineering systems.
PSO3	Work professionally in power systems engineering, control systems engineering and software industries.

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

Institute Marks : 5.00

Note: Number of Outcomes for a Course is expected to be around 6.

Course Name :	C2 05	Course Year :	2017-2018
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Course Name	Statements
C205.1	Design and analyze combinational & sequential circuits.
C205.2	Design circuits like adder, sub tractor, code converter etc.
C205.3	Understand counters and sequence generators.

Course Name :	C2 10	Course Year :	2017-2018
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Course Name	Statements
C210.1	Describe the working of hydroelectric, steam, nuclear power plants and state functions of major equipment of the power plants.
C210.2	Classify various substations and explain the importance of grounding.
C210.3	Understand the economic aspects of power system operation and its effects.
C210.4	Explain the importance of power factor improvement.

Course Name:	C3 06	Course Year :	2018-2019
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Course Name	Statements
C306.1	Discuss causes of energy scarcity and its solution, energy resources and availability of renewable energy.
C306.2	Discuss energy from sun, energy reaching the Earth's surface and solar thermal energy applications
C306.3	Discuss types of solar collectors, their configurations, solar cell system, its characteristics and their applications.
C306.4	Discus generation of energy from hydrogen, wind, geothermal system, solid waste and agriculture refuse.
C306.5	Discuss production of energy from biomass, biogas.
C306.6	Discuss tidal energy resources, energy availability and power generation.
C306.7	Discuss power generation sea wave energy and ocean thermal energy.



<b>Course Name :</b>	<b>C3 11</b>	<b>Course Year :</b>	<b>2018-2019</b>
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<b>Course Name</b>	<b>Statements</b>
<b>C311.1</b>	Compute the DFT of various signals using its properties and linear filtering of two sequences
<b>C311.2</b>	Apply fast and efficient algorithms for computing DFT and inverse DFT of a given sequence
<b>C311.3</b>	Design infinite impulse response Butterworth digital filters using impulse invariant / bilinear transformation technique.
<b>C311.4</b>	Design infinite impulse response Chebyshev digital filters using impulse invariant or bilinear transformation technique.
<b>C311.5</b>	Realize a digital IIR filter by direct, cascade, parallel and ladder methods of realization.
<b>C311.6</b>	Discuss different window functions and frequency sampling method used for design of FIR filters.
<b>C311.7</b>	Design FIR filters by use of window function or by frequency sampling method.
<b>C311.8</b>	Realize a digital FIR filter by direct, cascade, and linear phase form.

Course Name :	C4 02	Course Year :	2019-2020
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Course Name : C4 02	Course Year: 2019-20
COs	Statement
C4 02.1	Discuss performance of protective relays, components of protection scheme and relay terminology over current protection.
C4 02.2	Explain the working of distance relays and the effects of arc resistance, power swings, line length and source impedance on performance of distance relays.
C4 02.3	Discuss pilot protection; wire pilot relaying and carrier pilot relaying.
C4 02.4	Discuss construction, operating principles and performance of differential relays for differential protection.
C4 02.5	Discuss protection of generators, motors, Transformer and Bus Zone Protection.
C4 02.6	Explain the principle of circuit interruption in different types of circuit breakers.
C4 02.7	Describe the construction and operating principle of different types of fuses and to give the definitions of different terminologies related to a fuse.
C4 02.8	Discuss protection against Over voltages and Gas Insulated Substation (GIS).

Course Name :	C4 10	Course Year :	2019-2020
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Course Name : C4 02	Course Year: 2019-20
COs	Statement
C410.1	Explain the advantages and choice of electric drive.
C410.2	Explain dynamics and different modes of operation of electric drives.
C410.3	Suggest a motor for a drive and control of dc motor using controlled rectifiers.

Course Name : C4 02	Course Year: 2019-20
C410.4	Analyze the performance of induction motor drives under different conditions.
C410.5	Control induction motor, synchronous motor and stepper motor drives.
C410.6	Suggest a suitable electrical drive for specific application in the industry.

### 3.1.2 CO-PO matrices of courses selected in 3.1.1 (Six matrices to be mentioned; one per semester from 3rd to 8th semester) (5)

#### COURSE NAME : C205

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C205.1	2	1	2	-	-	1	-	-	-	-	-
C205.2	2	1	2	-	-	1	-	-	-	-	-
C205.3	2	1	2	-	-	1	-	-	-	-	-
Average	2.00	1.00	2.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

#### COURSE NAME: C210

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C210.1	3	-	-	-	-	2	2	-	-	-	-	2
C210.2	3	-	-	-	-	2	2	-	-	-	-	-
C210.3	3	2	2	-	-	-	-	-	-	-	-	-
C210.4	3	2	2	-	-	-	-	-	-	-	-	-
Average	3.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00

**COURSE NAME: C306**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C306.1	3	-	-	-	-	1	1	-	-	-	-	1
C306.2	3	-	-	-	-	1	1	-	-	-	-	1
C306.3	3	-	-	-	-	1	1	-	-	-	-	1
C306.4	3	-	-	-	-	1	1	-	-	-	-	1
C306.5	1	-	-	-	-	1	1	-	-	-	-	1
C306.6	3	-	-	-	-	-	-	-	-	-	-	1
C306.7	3											1
Average	2.71	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00

**COURSE NAME : C311**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C311.1	2	2	-	-	-	1	-	-	-	-	-	1
C311.2	2	1	-	-	-	1	-	-	-	-	-	1
C311.3	2	1	-	-	-	1	-	-	-	-	-	1
C311.4	2	1	-	-	-	1	-	-	-	-	-	1
C311.5	2	1	-	-	-	1	-	-	-	-	-	1
C311.6	2	1	-	-	-	1	-	-	-	-	-	1
C311.7	2	1				1						1
C311.8	2	1				1						1
Average	2.00	1.13	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00

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**COURSE NAME: C402**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C402.1	-	1	1	1	-	-	-	-	-	-	-	1
C402.2	-	1	1	1	-	-	-	-	-	-	-	1
C402.3	-	1	1	1	-	-	-	-	-	-	-	1
C402.4	-	1	1	1	-	-	-	-	-	-	-	1
C402.5	-	1	1	1	-	-	-	-	-	-	-	1
C402.6	-	1	1	1	-	-	-	-	-	-	-	1
C402.7		1	1	1								1
C402.8		1	1	1								1
Average	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00

**COURSE NAME: C410**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C410.1	3	-	-	-	-	-	-	-	-	-	-	-
C410.2	3	-	-	-	-	-	-	-	-	-	-	-
C410.3	2	2	-	-	-	-	-	-	-	-	-	-
C410.4	2	2	-	-	-	-	-	-	-	-	-	-
C410.5	3	1	2	-	-	-	-	-	-	-	-	-
Average	2.67	1.50	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**. Course Name: C205**

Course	PSO1	PSO2	PSO3
C205.1	2	-	-
C205.2	2	-	-
C205.3	2	-	-
Average	2.00	0.00	0.00

**Course Name: C210**

Course	PSO1	PSO2	PSO3
C210.1	3	2	3
C210.2	3	2	3
C210.3	2	2	2
C210.4	2	2	2
Average	2.50	2.00	2.50

**Course Name: C306**

Course	PSO1	PSO2	PSO3
C306.1	1	1	1
C306.2	2	2	2
C306.3	2	2	1
C306.4	2	2	1
C306.5	1	1	-
C306.6	1	1	1
C306.7	1	1	1
Average	1.43	1.43	1.17

**. Course Name: C311**

Course	PSO1	PSO2	PSO3
C311.1	2	2	1
C311.2	2	2	1
C311.3	2	2	1
C311.4	2	2	-
C311.5	2	2	-
C311.6	2	2	1
C311.7	2	2	1
C311.8	2	2	
Average	2.00	2.00	1.00

. Course Name: C402

Course	PSO1	PSO2	PSO3
C402.1	1	1	-
C402.2	1	1	-
C402.3	1	1	-
C402.4	1	1	-
C402.5	1	1	-
C402.6	1	1	-
C402.7	1	1	
C402.8	1	1	
Average	1.00	1.00	0.00

**Course Name: C410**

Course	PSO1	PSO2	PSO3
C410.1	2	2	2
C410.2	2	2	2
C410.3	2	2	2
C410.4	2	2	2
C410.5	2	2	2
C410.6	2	2	2
Average	2.00	2.00	2.00

**3.1.3 - A Program level Course-PO matrix of all courses  
INCLUDING first year courses (10)  
Institute Marks : 10.00**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	2	3	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C102	1.6	1.6	PO3	PO4	PO5	PO6	0.4	PO8	PO9	PO10	PO11	1.8
C103	3	2	3	PO4	PO5	PO6	PO7	PO8	2	2	PO11	2
C104	1.6	2	3	PO4	3	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C105	3	3	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C106	3	2	3	PO4	PO5	PO6	PO7	PO8	2	2	PO11	2
C107	2	2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2
C108	PO1	PO2	PO3	PO4	PO5	PO6	3	PO8	PO9	PO10	PO11	PO12
C109	1.2	1.4	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C110	1.8	1.8	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	3
C111	3	3	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C112	3	3	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12



Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C113	3	2	1	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.2
C114	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	3	PO10	PO11	1.2
C115	3	3	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2
C201	1.6	1.4	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C202	3	3	3	3	PO5	PO6	PO7	PO8	PO9	PO10	PO11	3
C203	2.5	2.5	2.75	1.75	1.33	1	1	PO8	PO9	PO10	PO11	PO12
C204	2.33	2	2	PO4	PO5	2	PO7	PO8	PO9	PO10	PO11	2
C205	2	1	2	PO4	PO5	1	PO7	PO8	PO9	PO10	PO11	2.5
C206	3	2	PO3	PO4	PO5	1	PO7	PO8	PO9	PO10	PO11	2.5
C207	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C208	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C209	1.8	1.6	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C210	3	2	2	PO4	PO5	2	2	PO8	PO9	PO10	PO11	2
C211	2.4	2	2	PO4	2	2	2	PO8	PO9	PO10	PO11	PO12
C212	3	1.5	2	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C213	3	PO2	2	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1
C214	2	1	1.75	PO4	PO5	1	PO7	PO8	PO9	PO10	PO11	PO12
C215	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C216	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C217	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C218	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C301	PO1	PO2	2	PO4	1	2	PO7	2	2.5	2.6	2.25	1

C302	3	PO2	1.83	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.38
C303	2	1	2	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304	2	2	PO3	PO4	PO5	1.29	PO7	PO8	PO9	PO10	PO11	1.57
C305	3	2	3	2	PO5	2	2	2	2.5	2	3	2.17
C306	2.71	PO2	PO3	PO4	PO5	1	1	PO8	PO9	PO10	PO11	1
C307	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C308	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C309	2.33	2.33	2.33	2.33	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2.56
C310	1.5	2.5	2.5	2.67	1.67	1	1	PO8	PO9	PO10	PO11	1
C311	2	1.13	PO3	PO4	PO5	1	PO7	PO8	PO9	PO10	PO11	1
C312	1.5	2	2.83	2	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C313	3	3	3	1.75	2	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C314	3	PO2	PO3	PO4	PO5	1	PO7	PO8	PO9	PO10	PO11	1.29
C315	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C316	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C401	2.43	2.43	2.29	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.71
C402	PO1	1	1	1	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1
C403	PO1	1	1	1	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1
C404	3	2	2	PO4	PO5	2	PO7	PO8	PO9	PO10	PO11	PO12
C405	2.8	2	2	2	PO5	1	PO7	PO8	PO9	PO10	PO11	PO12
C406	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C407	3	3	PO3	PO4	3	PO6	PO7	PO8	3	PO10	PO11	2
C408	3	3	3	3	3	2	1	3	3	3	3	3
C409	2.43	2.43	PO3	PO4	PO5	2.29	PO7	PO8	PO9	PO10	PO11	1.71
C410	2.67	1.5	1.5	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C411	2	2	PO3	2.67	2	2	2.71	PO8	PO9	PO10	PO11	PO12
C412	PO1	2	PO3	2	2	2	2	PO8	2	3	PO11	1
C413	3	3	3	3	3	2	1	3	3	3	3	3

C414	3	3	PO3	PO4	2	1	1	1	PO9	3	PO11	1
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**3.1.3 - B Program level Course-PSO matrix of all courses INCLUDING first year courses :**

Course	PSO1	PSO2	PSO3
C101	2	PSO2	PSO3
C102	2	PSO2	PSO3
C103	2	PSO2	PSO3
C104	2	PSO2	PSO3
C105	2	PSO2	PSO3
C106	2	PSO2	PSO3
C107	2	PSO2	PSO3
C108	2	PSO2	PSO3
C109	2	PSO2	PSO3
C110	2	PSO2	PSO3
C111	2	PSO2	PSO3
C112	2	PSO2	PSO3
C113	2	PSO2	PSO3
C114	2	PSO2	PSO3
C115	2	PSO2	PSO3
C201	2	PSO2	PSO3

C202	3	3	2
C203	2.75	2.5	2.5
C204	2	PSO2	PSO3
C205	2	PSO2	PSO3
C206	3	2	1
C207	3	3	3
C208	3	3	3
C209	PSO1	PSO2	PSO3
C210	2.5	2	2.5
C211	2.6	2.4	2
C212	1	PSO2	PSO3
C213	2	PSO2	PSO3
C214	2.25	PSO2	2
C215	3	3	3
C216	3	3	3
C217	PSO1	PSO2	PSO3
C218	PSO1	PSO2	PSO3
C301	PSO1	PSO2	2.88
C302	2	2	1
C303	2	2	1
C304	2	1	1
C305	2.13	2.63	1.63
C306	1.43	1.43	1.17
C307	3	3	3
C308	3	3	3
C309	2.33	2.33	PSO3

C202	3	3	2
C310	2.38	2.63	1.88
C311	2	2	1
C312	1.25	2.75	1.88
C313	1.83	2.33	1
C314	2.14	PSO2	PSO3
C315	3	3	3
C316	3	3	3
C401	2	2	2
C402	1	1	PSO3
C403	1	1	PSO3
C404	3	2.13	1
C405	2.75	1.8	2.67
C406	3	3	3
C407	3	3	3
C408	3	3	3
C409	2	2	2
C410	2	2	2
C411	2.2	1.67	PSO3
C412	3	3	3
C413	3	3	3
C414	3	3	3

## 3.2 Attainment of Course Outcomes (50)

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

#### Process of CO attainment and tools used

**Step 1:** Define Course Outcomes (COs) in line with Course outcomes provided by the University in respective syllabus. (Faculties can change, re-order, define and re-def in

**Step 2:** Prepare CO-PO/PSO matrix by setting attainment level of defined COs between 1 to 3 (Mapping the subject to PO/PSO)

**Step 3:** Decide tools which are considered to attain CO, PO and PSO. (Provided in the table below)

**Step 4:** Set target for the course to attain CO. Then attain the CO by CIE and SEE (Direct) and by student feedback, site visits, guest lectures etc (Indirect).

Tools identified to attain COs

Assessment for Theory Course		
Assessment Type	Assessment Tools	
Direct Attainment	Internal assessment (15 + 05 = 20)	CIE -1 + assignment - 1
		CIE -2 + assignment - 2
		CIE -3 + assignment - 3
	Sem End Examination (80)	By VTU
Indirect Attainment	Through feedback from students at the end of the semester Site Visits (Optional) Experts talks (Optional)	
<b>Note:</b> <b>Computation of direct CO attainment:</b> <b>20% Internals attainment + 80% SEE attainment</b>  <b>Computation of Overall CO attainment:</b> <b>90% Direct attainment + 10% Indirect attainment</b>		
<b>Process:</b> CIE: There will be 3 CIE tests. Each test is for 30 marks, which are reduced to 15 marks. Student will write 3 CIE test, average of best two of three tests are considered as CIE marks. Assignment: In a semester, 3 assignments are given. Each carry 05 marks. Average of 3 assignments is considered. Therefore, Internal assessment will be evaluated the total marks for 20 marks (CIE + Assignment: 15 + 05 = 20) SEE: At the end of every semester, VTU conducts "Semester End Examination" for 100 marks. Results obtained are for 100 marks are reduced to 80 marks. Indirect Attainment: At the end of every semester, students are interviewed and got the feedback of their CO attainment. Students are taken to industry visit etc. Meanwhile in the semester subject experts, experts' talks are arranged		
Assessment for Laboratory Course		
Assessment Type	Assessment Tools	
Direct Attainment	Internal assessment (20 marks)	By their attendance and performance, evaluated in the lab slots itself (5 marks)
		Laboratory records (10 marks)
		CIE (5 marks)
	Sem End Examination (80 marks)	By VTU (100 marks)
Indirect Attainment	1. Through feedback from students at the end of the semester	

**Note:**

**Computation of direct CO attainment:**

**20% Internals attainment + 80% SEE attainment**

**Computation of Overall CO attainment:**

**90% Direct attainment + 10% Indirect attainment**

**Assessment for Projects, mini projects, internship, and seminars**

Assessment Type	Assessment Tools	
Direct Attainment	Internal assessment	Project/seminar/internship Phase - 1
		Project/seminar/internship Phase - 2
		Internship and Seminar
	Sem End Examination	By VTU
Indirect Attainment	1. Through feedback from students at the end of the semester	


**Note:**

**Computation of direct CO attainment:**

**20% Internals attainment + 80% SEE attainment**

**Computation of Overall CO attainment:**

**Sample of one course (Digital System Design) explaining CO attainment**  
**Course Details**

<b>Course Name: Digital System Design</b>	<b>Course Code: 15EE35</b>
<b>Number of Lecture Hours/Week : 04 (Actual)</b>	<b>Credits : 03</b>
<b>Total Number of Lecture Hours: 50</b>	<b>Exam Hours: 03</b>
<b>Final Exam Marks: 80</b>	<b>CIE Marks: 20</b>
<b>Staff In charge: Prof. Nagaraj Aiholli</b>	<b>Staff Signature: </b>
<b>Year of Study : 2017 - 2018</b>	<b>Semester: 05</b>

**Course Outcomes (CO)**

<b>15EE35.1</b>	<b>Design and analyze combinational &amp; sequential circuits</b>
<b>15EE35.2</b>	<b>Design circuits like adder, sub tractor, code converter etc</b>
<b>15EE35.3</b>	<b>Understand counters and sequence generators.</b>

**Textbooks & Reference books are mentioned in the Syllabus Print copy by VTU.**

**Methods of Assessment (Direct): Total 100 Marks**

**CIE (15% Marks, (Average of best 2 Tests)**

**Assignment (05% Marks, Average of 3 Assignments)**




**University Exams (80%)**

**Question Paper pattern.**

**SEE Question paper pattern: described in the Syllabus copy.**

**CIE Question Paper pattern: There will be 2 parts in the question paper (PART - A and PART - B). Each part will have 2 main Questions, each of 15 marks. Students need to answer any 2 full questions selecting at least one one full question from each part. Each CIE is evaluated for 30 marks. Average of best 2 CIE is made. Later, the obtained marks are reduced to 15.**

**Methods of Assessment (Indirect):**

Assessment of Course Outcome from Students (By Feedback, Once in semester)		
<b>Prepared by (Course Instructor)</b>	<b>Approved by HOD (Before start of Semester)</b>	<b>Approved by HOD (After start of Semester)</b>
<b>Signature:</b> 	<b>Signature:</b> 	<b>Signature:</b> 
<b>Name: Prof. Nagaraj Aiholli</b>	<b>Name: Prof. Nagaraj Aiholli</b>	<b>Name: Dr. G. H. Kulkarni</b>
<b>Review/Comments by HOD (At the end of the semester)</b>		
<b>90% Direct attainment + 10% Indirect attainment</b>		

### Set Target

CO attainment Target Levels	
Previous year Set Target	40%
Current year Set Target	40% (Threshold value being set as 40% of total marks scored)
<p>Explanation for the set target: Digital System Design includes analysis and design of digital systems. After studying previous year student's results, it is decided to have 40%</p>	

Previous and current Year Attainment Levels			
Target Statement	Attainment Level Points		
Achieved More than 40%	1	For Direct Attainment only	
Achieved More than 50%	2		
Achieved More than 60%	3		
Achieved Less than 40%	0		



**Example: Process of Direct (Internal Exam) Attainment**

			CIE-I									
			CO	C O1	C O1	CO 1	CO 1	CO 1	CO 1	CO 1	CO 1	
			Marks	7	8	7	8	7	8	7	8	30
Roll No.	USN	Name		Q1 a	Q1b	Q2a	Q2b	Q3a	Q3b	Q4a	Q4b	TOTAL _CIE1
1	2JI16EE 001	ABHIJIT SAHA				6	8	3	4			21
2	2JI16EE 003	AKHILESH PUJARI		0	1			2	4			7
3	2JI16EE 004	AKSHAY VASANT BAGI				2	4			4	5	15
4	2JI16EE 005	ANKITA A BHANDARI		6	8			6	8			28
5	2JI16EE 007	ARUN DOREGOL		7	8			7	8			30
6	2JI16EE 008	ASHWINI HAVANUR		6	8			7	8			29
7	2JI16EE 010	BHARATI MARAKUTI		5	6			4	5			20
8	2JI16EE 012	CHETNA R BHUPALI		5	7			5	7			24
9	2JI16EE 013	DEEPA DESAI		5	6			6	8			25
10	2JI16EE 014	DEEPA GATADE				6	7			3	4	20
11	2JI16EE 015	JYOTI KALYAGOL				7	8			6	8	29
12	2JI16EE 016	K C BHIM PRAKASH				2	3	4	5			14
13	2JI16EE 017	MAHESH NAGENDRA KAMAKAR		1	3					3	4	11
14	2JI16EE 018	MAHIMA CHIKKALAKI				2	4	3	5			14
15	2JI16EE 019	MALLASARJA BAPUSAHEB DESAI				1	2			2	4	9
16	2JI16EE 020	MALLIKARJUN S KONNUR		4	5					3	5	17
17	2JI16EE 022	MAYURI J DHANAGAR		7	8					7	8	30
18	2JI16EE	MAYURI SUKUMAR				7	8	4	6			25

	023	VARALE										
19	2JI16EE 025	MOHAMMEDTAHSINRAZA M RAZAVI				1	3	6	7			17
20	2JI16EE 027	NAHIDA C PANIBANDH				6	8			7	8	29
21	2JI16EE 028	NEENA BUDIYAL				4	5			6	7	22
22	2JI16EE 029	NIDHI C PAKHANNAWAR				7	8			5	6	26
23	2JI16EE 030	NIKITA GAJABAR		6	7			7	8			28
24	2JI16EE 031	NISHA G APTENNAVAR		5	7			4	6			22
25	2JI16EE 032	NIYAZAHMAD I HULAGURI				3	5			5	7	20
26	2JI16EE 033	OLI BIJAY KUMAR K				7	8	7	8			30
27	2JI16EE 035	PADMASHRI SIDDAPPA PADASALAGI		6	7					6	8	27
28	2JI16EE 036	PADMINI ASHOK PATIL		7	8					7	8	30
29	2JI16EE 037	POOJA NAVALGER		5	7			7	8			27
30	2JI16EE 039	PRASANNAKUMAR PANDRE				7	8			6	8	29
31	2JI16EE 040	PRITAM SHITALKUMAR KAMATE				5	7			4	5	21
32	2JI16EE 041	RAHUL R CHAVALAGI				4	6	7	8			25
33	2JI16EE 042	RAJU S BIRADAR		5	6			3	5			19
34	2JI16EE 043	RANI MURAGUNDI		6	8					7	8	29
35	2JI16EE 047	SAMEEKSHA PRAMOD NAIK				4	6			7	8	25
36	2JI16EE 048	SANKET GUMMADI				1	3	3	4			11
37	2JI16EE 049	SANKETA SIDDAPPA HULLOLI		7	8					7	8	30
38	2JI16EE 050	SHARADA JAMBAGI				0	1	3	4			8
39	2JI16EE 051	SHIVAJI GANPATI CHIKKALKAR		7	8					7	8	30

40	2JI16EE 052	SHIVAPRASAD KADAGI				2	4	4	6			16
41	2JI16EE 053	SOUMYA ASHOK AKKISAGAR				7	8			7	8	30
42	2JI16EE 054	SRUSHTI BEVINAGIDAD				0	1	0	1			2
43	2JI16EE 055	SWATI MALWAD				0	1			4	6	11
44	2JI16EE 056	TANVI P KULKARNI		6	8					7	8	29
45	2JI16EE 057	TEJASHWINI ASHOK BELAGANVI		7	8			7	8			30
46	2JI16EE 058	VAISHALI PUNDALIK GENUCHE				7	8			6	7	28
47	2JI16EE 059	VANISHREE MELAGIRI		7	8					7	8	30
48	2JI17EE 400	ANKUR DATTA TARI		5	6			3	5			19
49	2JI17EE 401	ASHWINI S HURDE		1	3			3	4			11
50	2JI17EE 402	BALKRISHNA YASHWANT BHANDRE				3	4	6	7			20
51	2JI17EE 403	BASAVARAJ MADAR		2	3					2	3	10
52	2JI17EE 404	DANESHWARI NASHI				7	8	5	7			27
53	2JI17EE 405	DYANESHWAR BASAWANT PATIL		6	7			7	8			28
54	2JI17EE 406	ERUM KINIKAR		5	7					6	7	25
55	2JI17EE 407	HUJOOR MAHAT				0	1			2	3	6
56	2JI17EE 408	KIRAN SHANKAR PAWAR				6	7			7	8	28
57	2JI17EE 409	NAGARAJ MUCHANDI		6	8			7	8			29
58	2JI17EE 410	PRASAD ULHAS GOKRAL		6	8					7	8	29
59	2JI17EE 411	PRAVEEN R KAMBLE		2	3					4	6	15
60	2JI17EE 412	PRIYA BABU DHARMAR		7	8			1	3			19
61	2JI17EE 413	RAHUL A GAIKWAD		6	8					6	7	27

62	2JI17EE 414	RASHIKA SURESH PATIL				6	8	7	8			29
63	2JI17EE 415	ROHIT K TAKALE				7	8			7	8	30
64	2JI17EE 417	SRUSHTI KATTIMANI				4	5	7	8			24
65	2JI17EE 418	SUPRIYA SADASHIV DESURKAR				2	3			4	6	15
66	2JI17EE 419	VISHAL PATIL		7	8					6	7	28

STUDENT COUNT	66											
TOTAL MARKS		173	219	133	178	155	199	18	22	146		
NO.OF STUDENTS ATTEMPTED		32	33	29	33	31	32	34	34	66		
AVERAGE MARKS OF A QUESTION		6	7	5	6	5	7	6	7	23		
Attainment threshold marks (TARGET)	40 %	2.8	3.2	2.8	3.2	2.8	3.2	2.8	3.2	12		
No of Cand. Above threshold	40 %	28	28	21	24	29	30	31	32	56		

	% OF STDS more than threshold (Att. Level)	42 %	42 %	32 %	36 %	44 %	45 %	47 %	48 %	85 %
50 >= %										
60 >= %										
70 >= %										

LEVEL Of Attainment	0.0 2	0.0 2	0	0	0.0 4	0.0 5	0.0 7	0.0 8	3
No. of Cos	3								

			CIE-II								
			CO 2	CO 2	CO 2	CO 2	CO 2	CO 2	CO 2	CO 2	
			7	8	7	8	7	8	7	8	30
Roll No.	USN	Name	Q1 a	Q1 b	Q2 a	Q2 b	Q3 a	Q3 b	Q4 a	Q4 b	TOTAL_CI E2
1	2JI16EE001	ABHIJIT SAHA			4	5			6	7	22
2	2JI16EE003	AKHILESH PUJARI	4	5			7	8			24
3	2JI16EE004	AKSHAY VASANT BAGI	5	6					6	8	25
4	2JI16EE005	ANKITA A BHANDARI	6	8					6	8	28
5	2JI16EE007	ARUN DOREGOL			1	2	5	6			14

6	2JI16EE008	ASHWINI HAVANUR	1	2			5	7	15	
7	2JI16EE010	BHARATI MARAKUTI			2	4	7	8		21
8	2JI16EE012	CHETNA R BHUPALI	5	6			5	7		23
9	2JI16EE013	DEEPA DESAI	0	2			5	7		14
10	2JI16EE014	DEEPA GATADE			3	4	6	8		21
11	2JI16EE015	JYOTI KALYAGOL	7	8			7	8		30
12	2JI16EE016	K C BHIM PRAKASH			1	3	5	6		15
13	2JI16EE017	MAHESH NAGENDRA KAMAKAR	0	1				5	6	12
14	2JI16EE018	MAHIMA CHIKKALAKI			0	2	6	7		15
15	2JI16EE019	MALLASARJA BAPUSAHEB DESAI			2	3	2	3		10
16	2JI16EE020	MALLIKARJUN S KONNUR	1	2				7	8	18
17	2JI16EE022	MAYURI J DHANAGAR			6	7	3	5		21
18	2JI16EE023	MAYURI SUKUMAR VARALE	7	8			7	8		30
19	2JI16EE025	MOHAMMEDTAHSINRAZA M RAZAVI			7	8		5	7	27
20	2JI16EE027	NAHIDA C PANIBANDH	7	8			7	8		30
21	2JI16EE028	NEENA BUDIYAL	7	8				7	8	30
22	2JI16EE029	NIDHI C PAKHANNAWAR			6	8	7	8		29
23	2JI16EE030	NIKITA GAJABAR	2	3			6	8		19
24	2JI16EE031	NISHA G APTTENNAVAR	7	8				7	8	30
25	2JI16EE032	NIYAZAHMAD I HULAGURI			6	8		6	8	28
26	2JI16EE033	OLI BIJAY KUMAR K	7	8				7	8	30
27	2JI16EE035	PADMASHRI SIDDAPPA PADASALAGI			4	6		5	6	21
28	2JI16EE036	PADMINI ASHOK PATIL			6	8		5	6	25
29	2JI16EE037	POOJA NAVALGER	6	8			7	8		29
30	2JI16EE039	PRASANNAKUMAR PANDRE	4	6				6	7	23
31	2JI16EE040	PRITAM SHITALKUMAR KAMATE			7	8		7	8	30
32	2JI16EE041	RAHUL R CHAVALAGI			7	8	5	7		27
33	2JI16EE042	RAJU S BIRADAR	6	8			6	8		28
34	2JI16EE043	RANI MURAGUNDI	7	8				7	8	30
35	2JI16EE047	SAMEEKSHA PRAMOD NAIK			7	8	7	8		30

36	2JI16EE048	SANKET GUMMADI	6	7			7	8			28
37	2JI16EE049	SANKETA SIDDAPPA HULLOLI	7	8					6	8	29
38	2JI16EE050	SHARADA JAMBAGI	0	1			3	5			9
39	2JI16EE051	SHIVAJI GANPATI CHIKKALKAR	5	7					4	6	22
40	2JI16EE052	SHIVAPRASAD KADAGI	1	3			5	6			15
41	2JI16EE053	SOUMYA ASHOK AKKISAGAR	7	8			6	8			29
42	2JI16EE054	SRUSHTI BEVINAGIDAD			0	1			0	2	3
43	2JI16EE055	SWATI MALWAD	7	8			6	8			29
44	2JI16EE056	TANVI P KULKARNI			2	3			6	7	18
45	2JI16EE057	TEJASHWINI ASHOK BELAGANVI	7	8					7	8	30
46	2JI16EE058	VAISHALI PUNDALIK GENUCHE	3	4			4	5			16
47	2JI16EE059	VANISHREE MELAGIRI	7	8					7	8	30
48	2JI17EE400	ANKUR DATTA TARI			3	4	5	6			18
49	2JI17EE401	ASHWINI S HURDE			4	6	6	8			24
50	2JI17EE402	BALKRISHNA YASHWANT BHANDRE			7	8	2	4			21
51	2JI17EE403	BASAVARAJ MADAR	3	5					6	7	21
52	2JI17EE404	DANESHWARI NASHI			3	4			4	6	17
53	2JI17EE405	DYANESHWAR BASAWANT PATIL	6	7					7	8	28
54	2JI17EE406	ERUM KINIKAR			4	6			3	5	18
55	2JI17EE407	HUJOOR MAHAT	7	8			7	8			30
56	2JI17EE408	KIRAN SHANKAR PAWAR	2	4			4	5			15
57	2JI17EE409	NAGARAJ MUCHANDI			2	3			4	6	15
58	2JI17EE410	PRASAD ULHAS GOKRAL	6	7					2	4	19
59	2JI17EE411	PRAVEEN R KAMBLE	7	8			6	8			29
60	2JI17EE412	PRIYA BABU DHARMAR	1	3					6	8	18
61	2JI17EE413	RAHUL A GAIKWAD	4	6					5	6	21
62	2JI17EE414	RASHIKA SURESH PATIL	7	8					7	8	30
63	2JI17EE415	ROHIT K TAKALE			5	7	6	8			26
64	2JI17EE417	SRUSHTI KATTIMANI			5	7	3	5			20
65	2JI17EE418	SUPRIYA SADASHIV			7	8			6	8	29

		DESURKAR									
66	2JI17EE419	VISHAL PATIL			0	2	6	7			15

STUDENT COUNT	66									
TOTAL MARKS		181	229	112	153	186	235	177	223	1496
NO.OF STUDENTS ATTEMPTED		34	37	26	29	34	34	31	32	66
AVEARGE MARKS OF A QUESTI0N		6	7	5	6	6	7	6	7	23
Attainment threshold marks (TARGET)	40%	2.8	3.2	2.8	3.2	2.8	3.2	2.8	3.2	12
No of Cand. Above threshold	40%	29	30	19	20	32	33	30	31	62

		% OF STDS more than threshold (Att. Level)	44	45	29	30	48	50	45	47	94
			%	%	%	%	%	%	%	%	%
> 50											
= %											
> 60											
= %											
> 70											
= %											

LEVEL Of Attainment	0.04	0.05	0	0	0.08	0.1	0.05	0.07	3
No. of Cos									

			CIE-III								
			CO 3	CO 3	CO 3	CO 3	CO 3	CO 3	CO 3	CO 3	
			7	8	7	8	7	8	7	8	30
Roll No.	USN	Name	Q1a	Q1b	Q2a	Q2b	Q3a	Q3b	Q4a	Q4b	TOTAL_CIE 3
1	2JI16EE001	ABHIJIT SAHA	7	8					7	8	30
2	2JI16EE003	AKHILESH PUJARI			1	2			2	3	8
3	2JI16EE004	AKSHAY VASANT BAGI			0	2	5	7			14
4	2JI16EE005	ANKITA A BHANDARI	5	7			7	8			27
5	2JI16EE007	ARUN DOREGOL	0	1					5	7	13
6	2JI16EE008	ASHWINI HAVANUR	3	4					3	4	14
7	2JI16EE010	BHARATI MARAKUTI	7	8					5	7	27
8	2JI16EE012	CHETNA R BHUPALI	4	6					6	8	24
9	2JI16EE013	DEEPA DESAI	1	2			5	7			15
10	2JI16EE014	DEEPA GATADE	5	6			5	7			23
11	2JI16EE015	JYOTI KALYAGOL			7	8	7	8			30
12	2JI16EE016	K C BHIM PRAKASH	7	8			6	8			29
13	2JI16EE017	MAHESH NAGENDRA KAMAKAR	6	8			2	4			20
14	2JI16EE018	MAHIMA CHIKKALAKI			4	6	5	6			21

15	2JI16EE019	MALLASARJA BAPUSAHEB DESAI	7	8			7	8			30
16	2JI16EE020	MALLIKARJUN S KONNUR			5	7	4	6			22
17	2JI16EE022	MAYURI J DHANAGAR			3	4	7	8			22
18	2JI16EE023	MAYURI SUKUMAR VARALE	6	8					5	7	26
19	2JI16EE025	MOHAMMEDTAHSINRAZA M RAZAVI	5	6					2	3	16
20	2JI16EE027	NAHIDA C PANIBANDH	7	8			7	8			30
21	2JI16EE028	NEENA BUDIYAL			3	5	6	7			21
22	2JI16EE029	NIDHI C PAKHANNAWAR			7	8			5	7	27
23	2JI16EE030	NIKITA GAJABAR	5	6					4	5	20
24	2JI16EE031	NISHA G APTTENNAVAR			7	8			2	4	21
25	2JI16EE032	NIYAZAHMAD I HULAGURI	2	4					6	7	19
26	2JI16EE033	OLI BIJAY KUMAR K	7	8					6	8	29
27	2JI16EE035	PADMASHRI SIDDAPPA PADASALAGI	4	6			4	6			20
28	2JI16EE036	PADMINI ASHOK PATIL	5	7					6	8	26
29	2JI16EE037	POOJA NAVALGER	5	6					7	8	26
30	2JI16EE039	PRASANNAKUMAR PANDRE	4	6					5	7	22
31	2JI16EE040	PRITAM SHITALKUMAR KAMATE	6	8					3	5	22
32	2JI16EE041	RAHUL R CHAVALAGI	5	7			5	7			24
33	2JI16EE042	RAJU S BIRADAR			7	8	2	3			20
34	2JI16EE043	RANI MURAGUNDI			7	8			7	8	30
35	2JI16EE047	SAMEEKSHA PRAMOD NAIK			6	8			5	7	26
36	2JI16EE048	SANKET GUMMADI			1	3			3	5	12
37	2JI16EE049	SANKETA SIDDAPPA HULLOLI			7	8	7	8			30
38	2JI16EE050	SHARADA JAMBAGI	6	8					2	3	19
39	2JI16EE051	SHIVAJI GANPATI CHIKKALKAR	7	8			2	4			21
40	2JI16EE052	SHIVAPRASAD KADAGI	7	8			6	7			28
41	2JI16EE053	SOUMYA ASHOK AKKISAGAR	7	8					7	8	30
42	2JI16EE054	SRUSHTI BEVINAGIDAD			7	8			6	8	29
43	2JI16EE055	SWATI MALWAD	0	2					3	5	10
44	2JI16EE056	TANVI P KULKARNI			3	4	5	7			19
45	2JI16EE057	TEJASHWINI ASHOK BELAGANVI			6	8	7	8			29
46	2JI16EE058	VAISHALI PUNDALIK GENUCHE			2	3			4	6	15
47	2JI16EE059	VANISHREE MELAGIRI			6	8	7	8			29
48	2JI17EE400	ANKUR DATTA TARI			6	7			5	7	25
49	2JI17EE401	ASHWINI S HURDE	0	1					5	6	12
50	2JI17EE402	BALKRISHNA YASHWANT BHANDRE			5	7			7	8	27
51	2JI17EE403	BASAVARAJ MADAR			0	2	4	5			11
52	2JI17EE404	DANESHWARI NASHI	1	2			6	7			16
53	2JI17EE405	DYANESHWAR BASAWANT PATIL			7	8			5	7	27
54	2JI17EE406	ERUM KINIKAR	2	4					6	7	19
55	2JI17EE407	HUJOOR MAHAT			0	1			1	3	5
56	2JI17EE408	KIRAN SHANKAR PAWAR	2	3					5	6	16
57	2JI17EE409	NAGARAJ MUCHANDI			1	3	4	6			14



58	2JI17EE410	PRASAD ULHAS GOKRAL	6	7			2	3			18
59	2JI17EE411	PRAVEEN R KAMBLE			2	4	3	5			14
60	2JI17EE412	PRIYA BABU DHARMAR	5	7			4	5			21
61	2JI17EE413	RAHUL A GAIKWAD			7	8	2	3			20
62	2JI17EE414	RASHIKA SURESH PATIL	7	8			7	8			30
63	2JI17EE415	ROHIT K TAKALE			4	6			7	8	25
64	2JI17EE417	SRUSHTI KATTIMANI	3	4			5	7			19
65	2JI17EE418	SUPRIYA SADASHIV DESURKAR	2	3			4	5			14
66	2JI17EE419	VISHAL PATIL	1	2			6	7			16

STUDENT COUNT	66										
TOTAL MARKS		169	221	121	162	165	21	15	20	14	
NO.OF STUDENTS ATTEMPTED		35	38	25	28	33	33	33	33	66	
AVERAGE MARKS OF A QUESTION		5	6	5	6	5	7	5	7	22	
Attainment threshold marks (TARGET)	40%	2.8	3.2	2.8	3.2	2.8	3.2	2.8	3.2		
No of Cand. Above threshold	40%	28	30	20	21	28	30	28	29	60	

	% OF STDS more than threshold (Att. Level)	42 %	45 %	30 %	32 %	42 %	45 %	42 %	44 %	42 %
>= 50 %		1								
>= 60 %		2								
>= 70 %		3								

LEVEL Of Attainment	0.02	0.05	0	0	0.02	0.05	0.02	0.04	0.02
No. of Cos	3								

CO:									
			30	15	5	5	5	5	20
Roll No.	USN	Name	Average	Rounded_30	Ast 1	Ast 2	Ast 3	Avg Ast.	Total
1	2JI16EE001	ABHIJIT SAHA	26	13	5	5	5	5	18
2	2JI16EE003	AKHILESH PUJARI	16	8	5	5	5	5	13
3	2JI16EE004	AKSHAY VASANT BAGI	20	10	5	5	5	5	15
4	2JI16EE005	ANKITA A BHANDARI	28	14	5	5	5	5	19
5	2JI16EE007	ARUN DOREGOL	22	11	5	5	5	5	16
6	2JI16EE008	ASHWINI HAVANUR	22	11	5	5	5	5	16

7	2JI16EE010	BHARATI MARAKUTI	24	12	5	5	5	5	17
8	2JI16EE012	CHETNA R BHUPALI	24	12	5	5	5	5	17
9	2JI16EE013	DEEPA DESAI	20	10	5	5	5	5	15
10	2JI16EE014	DEEPA GATADE	22	11	5	5	5	5	16
11	2JI16EE015	JYOTI KALYAGOL	30	15	5	5	5	5	20
12	2JI16EE016	K C BHIM PRAKASH	22	11	5	5	5	5	16
13	2JI16EE017	MAHESH NAGENDRA KAMAKAR	16	8	5	5	5	5	13
14	2JI16EE018	MAHIMA CHIKKALAKI	18	9	5	5	5	5	14
15	2JI16EE019	MALLASARJA BAPUSAHEB DESAI	20	10	5	5	5	5	15
16	2JI16EE020	MALLIKARJUN S KONNUR	20	10	5	5	5	5	15
17	2JI16EE022	MAYURI J DHANAGAR	26	13	5	5	5	5	18
18	2JI16EE023	MAYURI SUKUMAR VARALE	28	14	5	5	5	5	19
19	2JI16EE025	MOHAMMEDTAHSINRAZA M RAZAVI	22	11	5	5	5	5	16
20	2JI16EE027	NAHIDA C PANIBANDH	30	15	5	5	5	5	20
21	2JI16EE028	NEENA BUDIYAL	26	13	5	5	5	5	18
22	2JI16EE029	NIDHI C PAKHANNAWAR	28	14	5	5	5	5	19
23	2JI16EE030	NIKITA GAJABAR	24	12	5	5	5	5	17
24	2JI16EE031	NISHA G APTTENAVAR	26	13	5	5	5	5	18
25	2JI16EE032	NIYAZAHMAD I HULAGURI	24	12	5	5	5	5	17
26	2JI16EE033	OLI BIJAY KUMAR K	30	15	5	5	5	5	20
27	2JI16EE035	PADMASHRI SIDDAPPA PADASALAGI	24	12	5	5	5	5	17
28	2JI16EE036	PADMINI ASHOK PATIL	28	14	5	5	5	5	19
29	2JI16EE037	POOJA NAVALGER	28	14	5	5	5	5	19
30	2JI16EE039	PRASANNAKUMAR PANDRE	26	13	5	5	5	5	18
31	2JI16EE040	PRITAM SHITALKUMAR KAMATE	26	13	5	5	5	5	18
32	2JI16EE041	RAHUL R CHAVALAGI	26	13	5	5	5	5	18
33	2JI16EE042	RAJU S BIRADAR	24	12	5	5	5	5	17
34	2JI16EE043	RANI MURAGUNDI	30	15	5	5	5	5	20
35	2JI16EE047	SAMEEKSHA PRAMOD NAIK	28	14	5	5	5	5	19
36	2JI16EE048	SANKET GUMMADI	20	10	5	5	5	5	15
37	2JI16EE049	SANKETA SIDDAPPA HULLOLI	30	15	5	5	5	5	20
38	2JI16EE050	SHARADA JAMBAGI	14	7	5	5	5	5	12
39	2JI16EE051	SHIVAJI GANPATI CHIKKALKAR	26	13	5	5	5	5	18

40	2JI16EE052	SHIVAPRASAD KADAGI	22	11	5	5	5	5	16
41	2JI16EE053	SOUMYA ASHOK AKKISAGAR	30	15	5	5	5	5	20
42	2JI16EE054	SRUSHTI BEVINAGIDAD	16	8	5	5	5	5	13
43	2JI16EE055	SWATI MALWAD	20	10	5	5	5	5	15
44	2JI16EE056	TANVI P KULKARNI	24	12	5	5	5	5	17
45	2JI16EE057	TEJASHWINI ASHOK BELAGANVI	30	15	5	5	5	5	20
46	2JI16EE058	VAISHALI PUNDALIK GENUCHE	22	11	5	5	5	5	16
47	2JI16EE059	VANISHREE MELAGIRI	30	15	5	5	5	5	20
48	2JI17EE400	ANKUR DATTA TARI	22	11	5	5	5	5	16
49	2JI17EE401	ASHWINI S HURDE	18	9	5	5	5	5	14
50	2JI17EE402	BALKRISHNA YASHWANT BHANDRE	24	12	5	5	5	5	17
51	2JI17EE403	BASAVARAJ MADAR	16	8	5	5	5	5	13
52	2JI17EE404	DANESHWARI NASHI	22	11	5	5	5	5	16
53	2JI17EE405	DYANESHWAR BASAWANT PATIL	28	14	5	5	5	5	19
54	2JI17EE406	ERUM KINIKAR	22	11	5	5	5	5	16
55	2JI17EE407	HUJOOR MAHAT	18	9	5	5	5	5	14
56	2JI17EE408	KIRAN SHANKAR PAWAR	22	11	5	5	5	5	16
57	2JI17EE409	NAGARAJ MUCHANDI	22	11	5	5	5	5	16
58	2JI17EE410	PRASAD ULHAS GOKRAL	24	12	5	5	5	5	17
59	2JI17EE411	PRAVEEN R KAMBLE	22	11	5	5	5	5	16
60	2JI17EE412	PRIYA BABU DHARMAR	20	10	5	5	5	5	15
61	2JI17EE413	RAHUL A GAIKWAD	24	12	5	5	5	5	17
62	2JI17EE414	RASHIKA SURESH PATIL	30	15	5	5	5	5	20
63	2JI17EE415	ROHIT K TAKALE	28	14	5	5	5	5	19
64	2JI17EE417	SRUSHTI KATTIMANI	22	11	5	5	5	5	16
65	2JI17EE418	SUPRIYA SADASHIV DESURKAR	22	11	5	5	5	5	16
66	2JI17EE419	VISHAL PATIL	22	11	5	5	5	5	16

STUDENT COUNT		66													
TOTAL MARKS			157	208	1414	1566	783	330	330	330	330	1113	1578	1606	1524
NO. OF STUDENTS ATTEMPTED			33	33	66	66	66	66	66	66	66	66	66	66	66
AVERAGE MARKS OF A QUESTION			5	7	22	24	12	5	5	5	5	17	24	25	24
Attainment threshold marks (TARGET)		40%	2.8	3.2	12	12	6	2	2	2	2	8	12.66667	12.66667	12.66667
No of Cand. Above threshold		40%	28	29	60	66	66	66	66	66	66	66	56	63	62
% OF STDS more than threshold (Att. Level)			42%	44%	91%	100%	100%	100%	100%	100%	100%	100%	85%	95%	94%
>= 50%		1													
>= 60%		2													
>= 70%		3													
LEVEL OF Attainment			0.02	0.04	3	3	3	3	3	3	3	3	3	3	3
No. of Cos		3											3	3	3

Similarly, CO attainment will be done by VTU Exam result (By averaging method  
Direct + Indirect CO Attainment

COs	Direct Attainment	Indirect Attainment	Final CO Attainment
CO1	1.464	3	1.6176
CO2	1.464	3	1.6176
CO3	1.464	3	1.6176
Average of CO Attainment =			1.6176

Note: Similar Spread sheets are made to attain COs of Lab courses, seminars, projects and internships

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

2016-2020 Batch Subject Allotment												
Seme ster	Sub Code	Sub Name	Co de	C O1	C O2	C O3	C O4	C O5	C O6	C O7	C O8	C O9
I	15MA T11	Engineering Maths- I	C1 01	1.8	1.8	1.8	1.8	1.8				
I	15CHE 12	Engineering Chemistry	C1 02	3	3	3	3	3				
I	15PCD 13	Programming in C and Data Structures	C1 03	2.4	2.4	2.4	2.4	2.4				
I	15CED 14	Computer Aided Engineering Drawing	C1 04	3	3	3	3	3				
I	15ELN 15	Basic Electronics	C1 05	1.8	1.8	1.8	1.8	1.8				
I	15CPL 16	Computer Programming Lab	C1 06	2.4	2.4	2.4	2.4	2.4				
I	15CHE L17	Engineering Chemistry Lab	C1 07	3	3	3	3	3				
I	15CIV 18	Environmental Studies	C1 08	2	2							
II	15MA T21	Engineering Maths- II	C1 10	1.8	1.8	1.8	1.8	1.8				
II	15PHY 22	Engineering Physics	C1 11	1.8	1.8	1.8	1.8	1.8				
II	15CIV 23	Elements of Civil Engineering and Engineering Mechanics	C1 12	2	2	2	2	2				
II	15EME 24	Elements of Mechanical Engineering	C1 13	1.8	1.8	1.8	1.8	1.8				
II	15ELE 25	Basic Electrical Engineering	C1 14	1.5	1.5	1.5	1.5	1.5				
II	15WSL 26	Workshop Practice	C1 15	1.5	1.5	1.5	1.5	1.5				

2016-2020 Batch Subject Allotment												
Semester	Sub Code	Sub Name	Code	C 01	C 02	C 03	C 04	C 05	C 06	C 07	C 08	C 09
II	15PHY L27	Engineering Physics Lab	C1 16	2	2	2						
III	15MA T31	Engineering Mathematics-III	C2 01	2	2	2						
III	15EE3 2	Electric Circuit Analysis	C2 02	1.2	1.2	1.2						
III	15EE3 3	Transformers and Generators	C2 03	1.2	1.2	1.2	1.2					
III	15EE3 4	Analog Electronic Circuits	C2 04	1.2	1.2	1.2						
III	15EE3 5	Digital System Design	C2 05	1.2	1.2	1.2						
III	15EE3 6	Electrical and Electronic Measurements	C2 06	1.2	1.2	1.2	1.2					
III	15EEL 37	Electrical Machines Laboratory -1	C2 07	1.5	1.5	1.5	1.5					
III	15EEL 38	Electronics Laboratory	C2 08	1.5	1.5	1.5	1.5					
IV	15MA T41	Engineering Mathematics-IV	C2 09	1.5	1.5	1.5	1.5	1.5				
IV	15EE4 2	Power Generation and Economics	C2 10	1.5	1.5	1.5	1.5					
IV	15EE4 3	Transmission and Distribution	C2 11	1.2	1.2	1.2	1.2	1.2				
IV	15EE4 4	Electric Motors	C2 12	1.2	1.2	1.2	1.2	1.2				
IV	15EE4 5	Electromagnetic Field Theory	C2 13	1.5	1.5	1.5	1.5	1.5	1.5			
IV	15EE4 6	Operational Amplifiers and Linear ICs	C2 14	1.2	1.2	1.2	1.2					
IV	15EEL 47	Electrical Machines Laboratory -2	C2 15	1.5	1.5	1.5	1.5	1.5	1.5			
IV	15EEL 48	Op- amp and Linear ICs Laboratory	C2 16	1.5	1.5	1.5	1.5					
V	15EE5 1	Management and Entrepreneurship	C3 01	1.2	1.2	1.2	1.2	1.2	1.2			
V	15EE5 2	Microcontroller	C3 02	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
V	15EE5 3	Power Electronics	C3 03	1.2	1.2	1.2	1.2	1.2	1.2	1.2		
V	15EE5 4	Signals and Systems	C3 04	1.2	1.2	1.2	1.2	1.2	1.2	1.2		
V	15EE5 53	Professional Elective – I Estimating and Costing	C3 05	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	
V	15EE5 63	Open Elective - I Renewable Energy Systems	C3 06	1.4	1.4	1.4	1.4	1.4	1.4	1.4		
V	15EEL 57	Microcontroller Laboratory	C3 07	1.5	1.5	1.5	1.5	1.5	1.5			
V	15EEL 58	Power Electronics Laboratory	C3 08	1.5	1.5	1.5	1.5	1.5	1.5			
VI	15EE6 1	Control Systems	C3 09	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
VI	15EE6 2	Power System Analysis – 1	C3 10	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
VI	15EE6 3	Digital Signal Processing	C3 11	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
VI	15EE6 4	Electrical Machine Design	C3 12	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
VI	15EE6 51	Professional Elective – II Computer Aided Electrical Drawing	C3 13	1.5	1.5	1.5	1.5	1.5	1.5			
VI	15EE6 62	Open Elective - II Sensors and Transducers	C3 14	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
VI	15EEL 67	Control System Laboratory	C3 15	1.5	1.5	1.5	1.5	1.5	1.5			
VI	15EEL 68	Digital Signal Processing Laboratory	C3 16	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
VII	15EE7 1	Power System Analysis - 2	C4 01	1.2	1.2	1.2	1.2	1.2	1.2	1.2		

2016-2020 Batch Subject Allotment												
Seme ster	Sub Code	Sub Name	Co de	C O1	C O2	C O3	C O4	C O5	C O6	C O7	C O8	C O9
VII	15EE7 2	Power System Protection	C4 02	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	
VII	15EE7 3	High Voltage Engineering	C4 03	1.4	1.4	1.4	1.4	1.4	1.4			
VII	15EE7 42	Professional Elective – III Utilization of Electrical Power	C4 04	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	
VII	15EE7 52	Professional Elective – IV Testing and Commissioning of Power System Apparatus	C4 05	1.4	1.4	1.4	1.4	1.4				
VII	15EEL 76	Power system Simulation Laboratory	C4 06	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
VII	15EEL 77	Relay and High Voltage Laboratory	C4 07	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
VII	15EEP 78	Project Phase – I + Seminar	C4 08	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
VIII	15EE8 1	Power System Operation and Control	C4 09	1.4	1.4	1.4	1.4	1.4	1.4	1.4		
VIII	15EE8 2	Industrial Drives and Applications	C4 10	1.4	1.4	1.4	1.4	1.4	1.4			
VIII	15EE8 33	Professional Elective – V Integration of Distributed Generation	C4 11	1.4	1.4	1.4	1.4	1.4	1.4	1.4		
VIII	15EE8 4	Internship / Professional Practice	C4 12	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
VIII	15EEP 85	Project Work Phase -II	C4 13	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
VIII	15EES 86	Seminar	C4 14	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
			AV G	1.6	1.6	1.5	1.6	1.6	1.4	1.4	1.3	1.2

## Attainment Level

CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8	CO9
1.9	1.9	1.9	1.9	1.9				
3	3	3	3	3				
2.9	2.9	2.9	2.9	2.9				
1.1	1.1	1.1	1.1	1.1				
2.1	2.1	2.1	2.1	2.1				
2.9	2.9	2.9	2.9	2.9				
3	3	3	3	3				
3	3							
1.9	1.9	1.9	1.9	1.9				
1.9	1.9	1.9	1.9	1.9				

CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8	CO9
3	3	3	3	3				
2.1	2.1	2.1	2.1	2.1				
2.1	2.1	2.1	2.1	2.1				
1.3	1.3	1.3	1.3	1.3				
3	3	3						
3	3	3						
3	3	3						
0.8	0.8	0.8	0.8					
0.7	0.8	0.8						
1.6	1.6	1.6						
3	3	3	3					
3	3	3	3					
3	3	3	3					
2.5	2.5	2.5	2.5	2.5				
3	3	3	3					
3	3	3	3	3				
3	3	3	3	3				
0.9	0.9	0.9	0.9	0.9	0.9			
1.6	1.6	1.6	1.6					
3	3	3	3	3	3			
3	3	3	3					
3	3	3	3	3	3			
3	3	3	3	3	3	3	3	
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		

CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8	CO9
3	3	3	3	3	3	3	3	
3	3	3	3	3	3	3		
3	3	3	3	3	3			
3	3	3	3	3	3			
3	3	3	3	3	3	3	3	3
3	3	3	3	3	3	3	3	
3	3	3	3	3	3	3	3	
3	3	3	3	3	3	3	3	
3	3	3	3	3	3			
1.6	1.6	1.6	1.1	1.6	1.5	1.6		
3	3	3	3	3	3			
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		
3	3	3	3	3	3	3	3	
3	3	3	3	3	3			
3	3	3	3	3	3	3	3	
3	3	3	3	3	3			
3	3	3	3	3	3	3		
3	3	3	3	3	3	3	3	
3	3	3	3	3	3			
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		
3	3	3	3	3	3	3		



CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8	CO9
3	3	3	3	3	3	3		
2.7	2.7	2.6	2.7	2.7	2.9	2.9	3	3

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

**Total Marks 50.00**

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

**Specific Outcomes (10)**  
**10.00**

**Institute Marks :**

##### Process of PO/PSO attainment

**Step 1:** Prepare CO-PO/PSO matrix by setting attainment level of defined COs between 1 to 3 (Mapping the subject to PO/PSO). Mapping itself is considered as target for PO/PSO attainment.

**Step 3:** POs attainment is done by considering all the tools used for CO attainment. Direct PO/PSO attainment is calculated as “PO attainment = (percentage of CO attained \* PO(and PSO target))”

**Step 4:** For Indirect PO/PSO attainment, feedback from students, employers.

**Tools identified to attain PO/PSOs**

Assessment for Theory Course		
Assessment Type	Assessment Tools	
Direct Attainment	Internal assessment(15 + 05 = 20)	CIE -1 + assignment - 1
		CIE -2 + assignment - 2
		CIE -3 + assignment - 3
	Sem End Examination (80)	By VTU
Indirect Attainment	Through feedback from students at the end of the semester Site Visits (Optional) Experts talks (Optional)	
Note: “PO attainment = (percentage of CO attained * PO(and PSO target))”		
Assessment for Laboratory Course		
Assessment	Assessment Tools	

Type		
Direct Attainment	Internal assessment(20 marks)	By their attendance and performance, evaluated in the lab slots itself (5 marks)
		Laboratory records (10 marks)
		CIE (5 marks)
	Sem End Examination (80 marks)	By VTU (100 marks)
Indirect Attainment	1. Through feedback from students at the end of the semester	
Note: “PO attainment = (percentage of CO attained * PO(and PSO target))”		
Assessment for Projects, mini projects, internship, and seminars		
Assessment Type	Assessment Tools	
Direct Attainment	Internal assessment	Project/seminar/internship Phase - 1
		Project/seminar/internship Phase - 2
		Extensive survey camp, Internship site work
	Sem End Examination	By VTU
Indirect Attainment	1. Through feedback from students at the end of the semester	
Note: “PO attainment = (percentage of CO attained * PO(and PSO target))”		

### CO-PO Matrix and Overall PO attainment format

	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)				
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	2			1						
CO2	2	1	2			1						
CO3	2	1	2			1						
CO4												
CO5												
CO6												
CO7												
CO8												

CO9												
CO10												
CO11												
CO12												
PO Mapped	2	1	2			1						
PO Attained	1.08	0.54	1.08			0.54						
Gap Points	0.92	0.46	0.92			0.46						
Gap %	46%	46%	46%			46%						

**Provide results of evaluation of PO&PSO (40) Institute**

**Marks: 40.00**

**PO Attainment**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	1.8	1.8	1.8									2
C102	3	3	3									2.46
C103	2.4	2.4	2.4									2.90
C104	3	3	3									2.00
C105	1.8	1.8	1.8									2.10
C106	2.4	2.4	2.4									2.50
C107	2	2	2									3.00
C108	2	2										2.00
C109	1.8	1.8	1.8									2
C110	1.8	1.8	1.8									
C111	2	2	2									3.00
C112	1.8	1.8	1.8									
C113	1.5	1.5	1.5									0.97

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C114	1.5	1.5	1.5									0.36
C115	3	3	3									3.00
C201	1.8	1.8	1.8	1.8	1.8							2
C202	3	3	1									3
C203	2.33	2	2			2						0.54
C204	2.33	2	2			2						0.56
C205	2	1	2			1						
C206	3	2				1						2.5
C207	3	1.5							2			1.25
C208	2		2.75						2			1.25
C209	1.8	1.8	1.8	1.8	1.8							2
C210	3	2	2			2	2					1.97
C211	2.4	2	2		2	2	2					
C212	3	1.5	2									
C213	3		2									0.28
C214	2	1	1.75			1						
C215	3	2							2			1
C216	2		1.75						2		1.75	1.25
C301			2		1	2		2	2.5	2.6	2.25	1
C302	3		1.83									1.38
C303	2	1	2									
C304	2	2										1.57
C305	3	2	3	2		2	2	2	2.5	2	3	2.17
C306	2.71					1	1					1
C307	2	1	2		1.5				1		2	2

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C308	3	1							2			1
C309	2.33	2.33	2.33	2.33								2.55
C310	1.5	2.5	2.5	2.66	1.66	1	1					1
C311	2	1.25				1						1
C312	1.5	2	2.83	2								
C313	3	3	3	1.75	2							
C314	3					1					1.29	0.65
C315	2.17	2.83	2.33	2.67	2				2	1		2
C316	2	2			1.43	1.71						1.57
C401	2.43	2.43	2.3									1.72
C402	2	1	1									1
C403	2	1	1									1
C404	3	2	2			2						
C405	2.8	2	2	2		1						
C406	2	2			1	1.57						1.71
C407	2.86	1.71	2	1.5	2	1.33	1.5		1	1		2
C408	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3
C409	2.43	2.43				2.23						1.72
C410	2.66	1.5	1.5									
C411	2	2		2.67	2	2	2.71					
C412	2.75	2.12	2.25	1.6	1.8	1.86	2	1.55	2.99	2.33	2.5	2.05
C413	2.75	2.12	2.25	1.6	1.8	1.86	2	1.55	2.99	2.33	2.5	2.05
C414	2.75	2.12	2.25	1.6	1.8	1.86	2	1.55	2.99	2.33	2.5	2.05
AVG	2.3	1.7	1.6	0.5	0.4	0.6	0.3	0.2	0.5	0.2	0.3	1.4

### PO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
<b>CO Attainment</b>	2.04	1.94	1.58	1.42	1.99	1.35	1.55	1.95	2.58	2.29	1.98	<b>1.46</b>
<b>Direct Attainment</b>	1.80	1.67	1.23	1.48	2.24	0.94	1.19	1.69	2.58	2.16	1.97	<b>1.32</b>
<b>In Direct Attainment</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>1.2</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2.6</b>	<b>2.8</b>	<b>2</b>	<b>2</b>

### PSO Attainment

### PSO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
<b>C101</b>	1.92	1.92	1.92									2
<b>C102</b>	3	3	3									2.46
<b>C103</b>	2.9	2.9	2.9									2.90
<b>C104</b>	1.08	1.08	1.08									2.00
<b>C105</b>	2.1	2.1	2.1									2.10
<b>C106</b>	2.9	2.9	2.9									2.50
<b>C107</b>	3	3	3									3.00
<b>C108</b>	2	2										2.00
<b>C109</b>	1.92	1.92	1.92									2
<b>C110</b>	1.92	1.92	1.92									
<b>C111</b>	3	3	3									3.00
<b>C112</b>	2.1	2.1	2.1									
<b>C113</b>	2.1	2.1	2.1									0.97
<b>C114</b>	1.25	1.25	1.25									0.36
<b>C115</b>	3	3	3									3.00

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
<b>C201</b>	1.92	1.92	1.92	1.92	1.92					1.92	1.92	2
<b>C202</b>	3	3	1									3
<b>C203</b>	0.63	0.54	0.54			0.54						0.54
<b>C204</b>	0.65	0.56	0.56			0.56						0.56
<b>C205</b>	1.08	0.54	1.08			0.54						
<b>C206</b>	3	2				1						2.5
<b>C207</b>	3	1.5							2			1.25
<b>C208</b>	2		2.75						2			1.25
<b>C209</b>	1.92	1.92	1.92	1.92	1.92					1.92	1.92	2
<b>C210</b>	3	2	2			1.97	1.97					1.97
<b>C211</b>	2.4	2	2		2	2	2					
<b>C212</b>	3	1.5	2									
<b>C213</b>	0.85	0.57										0.28
<b>C214</b>	1.05	0.52	0.92			0.52						
<b>C215</b>	3	2							2			1
<b>C216</b>	2		1.75						2		1.75	1.25
<b>C301</b>			2		1	2		2	2.5	2.6	2.25	1
<b>C302</b>	3		1.83									1.38
<b>C303</b>	2	1	2									
<b>C304</b>	2	2										1.57
<b>C305</b>	3	2	3	2		2	2	2	2.5	2	3	2.17
<b>C306</b>	2.71					1	1					1
<b>C307</b>	2	1	2		1.5				1		2	2
<b>C308</b>	3	1							2			1
<b>C309</b>	2.33	2.33	2.33	2.33								2.55

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
<b>C310</b>	1.5	2.5	2.5	2.66	1.66	1	1					1
<b>C311</b>	2	1.13				1						1
<b>C312</b>	1.5	2	2.83	2								
<b>C313</b>	3	3	1.75	2								
<b>C314</b>					0.51							0.65
<b>C315</b>	2.17	2.83	2.33	2.67	2				2	1		2
<b>C316</b>	2	2			1.43	1.71						1.57
<b>C401</b>	2.43	2.43	2.3									1.72
<b>C402</b>	2	1	1									1
<b>C403</b>	2	1	1									1
<b>C404</b>	3	2	2			2						
<b>C405</b>	2.8	2	2	2		1						
<b>C406</b>	2	2			1.86	1.57						1.71
<b>C407</b>	2.86	1.71	2	1.5	2	1.33	1.5		1	1		2
<b>C408</b>	3	3	3	3	3	3	3	3	3	3	3	3
<b>C409</b>	2.43	2.43				2.23						1.72
<b>C410</b>	2.66	1.5	1.5									
<b>C411</b>	2	2		2.67	2	2	2.71					
<b>C412</b>	2.75	2.12	2.25	1.6	1.8	1.86	2	1.55	2.99	2.33	2.5	2.05
<b>C413</b>	2.75	2.12	2.25	1.6	1.8	1.86	2	1.55	2.99	2.33	2.5	2.05
<b>C414</b>	2.75	2.12	2.25	1.6	1.8	1.86	2	1.55	2.99	2.33	2.5	2.05
<b>AVG</b>	2.2	1.7	1.6	0.5	0.5	0.6	0.3	0.2	0.5	0.3	0.4	1.4



Course	PSO1	PSO2	PSO3
CO Attainment	1.93	2.06	1.96
Direct Attainment	1.66	1.83	1.70
In Direct Attainment	3	3	3

## CRITERIA 4

## STUDENTS' PERFORMANCE

**Table 4.1**

Item  (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY (2021-22)	CAY <sub>m1</sub> (2020-21)	CAY <sub>m2</sub> (2019-20)	CAY <sub>m3</sub> (LYG) (2018-19)	CAY <sub>m4</sub> (LYG <sub>m1</sub> ) (2017-18)	CAY <sub>m5</sub> (LYG <sub>m2</sub> ) (2016-17)	CAY <sub>m6</sub> (LYG <sub>m3</sub> ) (2015-16)
Sanctioned intake of the program (N)	60	60	60	60	60	60	60
Total number of students admitted in first year <i>minus</i> number of students migrated to other programs/institutions plus no. of students migrated to this program (N1)	24-0=24	29-2=27	33-1=32	53-6-2+3=48	52-0=52	60-4=56	55-4=51
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	-	23	33	13	20	20	20
Separate division students, if applicable (N3)	0	0	0	0	0	0	0
Total number of students admitted in the Program (N1 + N2 + N3)	24	50	65	61	72	76	71

**Table 4.2**

Year of entry	$N1 + N2 + N3$ (As defined above)	Number of students who have successfully graduated without backlogs in any semester/year of study (Without Backlog means no compartment or failures in any			
		I Year	II Year	III Year	IV Year
<b>CAY (2021-22)</b>	24				
<b>CAY<sub>m1</sub> (2020-21)</b>	27+23+0=50	09			
<b>CAY<sub>m2</sub> (2019-20)</b>	32+33+0=65	24	15		
<b>CAY<sub>m3</sub> (LYG) (2018-19)</b>	48+13+0=61	32	23	23	
<b>CAY<sub>m4</sub> (LYG<sub>m1</sub>) (2017-18)</b>	52+20+0=72	40	33	32	31
<b>CAY<sub>m5</sub>(LYG<sub>m2</sub>) (2016-17)</b>	56+20+0=76	38	32	31	31
<b>CAY<sub>m5</sub>(LYG<sub>m3</sub>) (2015-16)</b>	51+20+0=71	35	14	14	14

**Table 4.3**

Year of entry	$N1 + N2 + N3$ (As defined above)	Number of students who have successfully graduated (Students with backlog in stipulated period of study)			
		I Year	II Year	III Year	IV Year
<b>CAY (2021-22)</b>	24	0			
<b>CAY<sub>m1</sub> (2020-21)</b>	27+23+0=50	25			
<b>CAY<sub>m2</sub> (2019-20)</b>	32+33+0=65	31	63		
<b>CAY<sub>m3</sub> (LYG) (2018-19)</b>	48+13+0=61	44	55	52	
<b>CAY<sub>m4</sub> (LYG<sub>m1</sub>) (2017-18)</b>	52+20+0=72	50	63	63	60
<b>CAY<sub>m5</sub>(LYG<sub>m2</sub>) (2016-17)</b>	56+20+0=76	49	67	67	66
<b>CAY<sub>m5</sub>(LYG<sub>m3</sub>) (2015-16)</b>	51+20+0=71	45	50	48	47

## 4.1 Enrolment Ratio

Enrolment Ratio= N1/N

	N (From Table 4.1)	N1 (From Table 4.1)	Enrollment Ratio [(N1/N) *100]
<b>2021-22 (CAY)</b>	60	24	40
<b>2020-21 (CAYm1)</b>	60	27	45
<b>2019-20 (CAYm2)</b>	60	32	53.33
<b>Average [ (ER1 + ER2 + ER3) / 3 ] : 46.11</b>			
<b>Assessment: 0.00</b>			

## 4.2 Success Rate in the Stipulated period of the program

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

Item	Latest Year of Graduation, LYG (2017-18)	Latest Year of Graduation minus 1, LYG <sub>m1</sub> (2016-17)	Latest Year of Graduation minus 2, LYG <sub>m</sub> (2015-16)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	72	76	71
Number of students who have graduated without backlogs in the stipulated period	31	31	14
Success Index (SI)	0.43	0.4	0.19
Average SI	0.34		
Average SI [ (SI1 + SI2 + SI3) / 3 ] : 0.34			
Assessment [25 * Average SI]: 8.5			

#### 4.2.2 Success rate in stipulated period

Item	Latest Year of Graduation, LYG (2017-18)	Latest Year of Graduation minus 1, LYGm1 (2016-17)	Latest Year of Graduation minus 2, LYGm (2015-16)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	72	76	71
Number of students who have graduated with backlog in the stipulated period	60	66	47
Success Index (SI)	0.83	0.86	0.66
Average Success Index	0.78		
Assessment [15 * Average SI] : 11.7			

**Note:** If 100% students clear without any backlog then also total marks scored will be 40 as both 4.2.1 & 4.2.2 will be applicable simultaneously.

#### 4.3 Academic Performance in Third Year

Academic Performance	CAY <sub>m3</sub> (2018-19)	LYG (2017-18)	LYG M1 (2016-17)
Mean of CGPA or Mean Percentage of all successful students (X)	7.95	7.85	7.25
Total no. of successful students (Y)	52	63	66
Total no. of students appeared in the examination (Z)	55	63	67
API = x* (Y/Z)	7.52	7.85	7.3
Average API = (AP1 + AP2 + AP3)/3	7.54		
Assessment [1.5 * Average API]: 11.31			

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

Academic Performance	CAY <i>m</i> 2 (2019-20)	CAY <i>m</i> 3 (2018-19)	LYG (2017-18)
Mean of CGPA or Mean Percentage of all successful students (X)	7.98	7.79	7.76
Total no. of successful students (Y)	63	55	63
Total no. of students appeared in the examination (Z)	65	57	70
API = X* (Y/Z)	7.7	7.5	6.9
Average API = (AP1 + AP2 + AP3)/3	7.37		
Assessment [ 1.5 * Average API] :	11.055		

#### 4.5 Placement, Higher Studies and Entrepreneurship

Item	LYG (2017-18)	LYG <i>m</i> 1 (2016-17)	LYG <i>m</i> 2 (2015-16)
Total No. of Final Year Students (N)	63	67	48
No. of students placed in companies or Government Sector (x)	38	23	19
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (y)	3	5	3
No. of students turned entrepreneur in engineering/technology (z)	1	0	2
$x + y + z =$	42	28	24
Placement Index: $(x + y + z)/N$	0.67	0.42	0.5
Average placement= $(P1 + P2 + P3)/3$	0.53		
Assessment [ 40 * Average Placement]:	21.2		

**Program Name:**

**Assessment Year Name: CAYm1**

Sl.No	Student Name	Enrollment	Employee Name	Appointment No
1	PUNDALEEK CHULAK	2JI17EE026	VECTOR India Pvt. Ltd.	OFFER LETTER
2	SUMEET YADAWADI	2JI17EE043	VECTOR India Pvt. Ltd.	OFFER LETTER
3	ADITI SANJAY HANAGOJI	2JI17EE001	Cognizant Technology Solutions India Pvt. Ltd.	17654265
4	KIRANYALIGAR	2JI18EE407	Infosys	HRD/3T/1003105780/21-22
5	SHIVARAJLAMANI	2JI17EE036	Cognizant Technology Solutions India Pvt. Ltd.	18973878
6	SANIYAPEERZADE	2JI17EE034	Dxc technology	OFFER LETTER
7	SOUMYASANGOLLI	2JI17EE042	ZF India	OFFER LETTER
8	PRAJWALPATTAR	2JI17EE023	Collins Aerospace	OFFER LETTER
9	PRIYAVIJAY ZADAPANNAVAR	2JI17EE025	ACCENTURE	OFFER LETTER
10	VARSHADODDAMANI	2JI17EE049	Capgemini India	OFFER LETTER
11	NEEL TAVANSHETTI	2JI17EE014	Hescom (Apprenticeship)	OFFER LETTER
12	PAVAN CHALVADI	2JI17EE022	gold plus float glass pvt ltd	LOI/0003/082011
13	ROHITBURUD	2JI17EE029	Wipro	OFFER LETTER
14	DANESHMANPINITOD	2JI17EE007	NTT DATA Global Services PvtLmtd.	OFFER LETTER
15	VISHWANATH MANGOND	2JI17EE050	MPHASIS	RH8877/264955
16	BHOOMIKA EKKERIMATH	2JI17EE005	CAPGEMINI	813032
17	SIRI C S	2JI17EE040	Accenture	C10412746



Sl.No	Student Name	Enrollment	Employee Name	Appointment No
18	HEENA NABIWALE	2JI17EE010	Wipro	OFFER LETTER
19	NINGAMMAITTA NAVAR	2JI17EE019	INFOSYS	HRD/3T/1002127380/21-22
20	DYANANDJAMBAGI	2JI17EE008	Continental	Continental/TCI/2022/627/172858BR
21	VINAYALLAPPANAVAR	2JI18EE418	TCS	TCSL/dt/20229771758/1778761/Hyderabad
22	SAMARTH MALI	2JI17EE032	experis	OFFER LETTER
23	APPASAHEBDANLOLLI	2JI17EE003	Capgemini	46149429/1126850
24	SHUBHAMKARALE	2JI17EE038	Bombardier Transportation India Private Limited, an Alstom Group Company	Alstom/Bangalore/291230/2022
25	ONKAR B BALIKAI	2JI17EE020	All state solutions Private Limited	OFFER LETTER
26	ASHWINIAIHOLLI	2JI18EE402	TCS	TCSL/DT20229629064/1771973/PUNE
27	NIHAL SALIM JAMADAR	2JI17EE015	ZF India Private Limited	25699
28	RAJU D ANGADI	2JI18EE415	Tata Consultancy Services	TCSL/DT20229971024/Chennai
29	SIDDHANT S KARAGAVE	2JI17EE039	Syngenta India Private Limited	Offer Letter
30	ARCHANA HANAMAPPA DANDIN	2JI17EE004	Cognizant Technology Solutions India Pvt. Ltd.	18965130
31	SHIVANI SAVANT	2JI17EE035	Mindtree	Offer Letter
32	NIKHIL N PEDNEKAR	2JI18EE411	ZF India Private Limited	5503252
33	NIKITA	2JI17EE018	Cognizant Technology Solutions India Pvt. Ltd.	Offer Letter
34	SAIRAJ KUDALKAR	2JI18EE408	FLUID & POWER AUTOMATION	FPA-0707-075
35	ROHIT RAJARAM VEER	2JI17EE030	HESCOM (Apprenticeship) GOVT.	HESCOM/ITC/GM(ADMIN&HRD)/EE(HRD&IT C)/21-22/CYS-4111
36	VAIBHAV KUMKALE	2JI17EE046	DR.RAJKUMAR ACADEMY	Letter
37	NIKHIL PATIL	2JI17EE016	VECTOR INDIA PVT. LTD.	Letter
38	VAISHNAVI SANIKOPPA	2JI17EE048	PENTAGON SPACE	Offer Letter

#### Assessment Year Name: CA Ym2

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	SHIVAPRASADKADAGI	2JI16EE052	TCS	OFFER LETTER

2	NIDHI C PAKHANNAWAR	2JI16EE029	CONVISTA	OFFER LETTER
3	ROHITTAKALE	2JI17EE415	Valeo India Private Limited	OFFER LETTER
4	PRAVEEN R KAMBLE	2JI17EE411	KPIT	OFFER LETTER
5	ASHWINI HURDE	2JI17EE401	TCS	TCS/DT20219383337/1749566/Chennai
6	ANKITABHANDARI	2JI16EE005	Brightchamps	OFFER LETTER
7	MAYURIVARALE	2JI16EE023	Infosys	OFFER LETTER
8	PADMSHRIPADASALAGI	2JI16EE035	Virсутa	OFFER LETTER
9	POOJANAVALGER	2JI16EE037	Happiest Minds Tech Ltd	OFFER LETTER
10	HUJOORMAHAT	2JI17EE407	NextoryPvt Ltd	OFFER LETTER
11	RAJUBIRADAR	2JI16EE042	Cognizent	18969699
12	TEJASWINIBELAGANVI	2JI16EE057	MICROCHIP TECH	I166014
13	MALLIKARJUNKONNUR	2JI16EE020	ACCIONLABS	AL210L-2542
14	AKSHAY VASANT BAGI	2JI16EE004	Valeo India Private Limited	3935
15	SHARADA JAMBAGI	2JI16EE050	Spacegraph	offer Letter
16	ANKUR DATTATARI	2JI17EE400	Ion Exchange India Ltd	offer Letter
17	JYOTI KALYAGOL	2JI16EE015	Bosch India	34227015
18	AKHILESH PUJARI	2JI16EE003	Sevitech systems	offer Letter
19	PADMINI ASHOKPATIL	2JI16EE036	IQZDESIGNI DESIGNS	offer Letter
20	NIKITA GAJABAR	2JI16EE030	Cognizent	18964332
21	AVINASH	2JI16EE009	VECTOR INDIA PVT. LTD.	Letter
22	RAHUL GAIKAWAD	2JI17EE413	LAXMI ELECTRICALS	offer Letter
23	ARUN DOREGOL	2JI16EE009	LAXMI ELECTRICALS	offer Letter

**Assessment Year Name: CAYm3**

Sl.N	Student Name	Enrollment	Employee Name	Appointment No
1	SHREYA DHANASHREE	2JI15EE040	NOVOPAY SOLUTIONS	OFFER LETTER

2	GURURAJ KULKARNI	2JI15EE013	QUALCOMM THROUGH LEADSOC	OFFER LETTER
3	BABAN ASHOK SHINDE	2JI15EE007	ENZIGMA SOFTWARE PVT.LTD	OFFER LETTER
4	SHWETA NINGANAGOUDAR	2JI16EE415	ABLE DESIGN ENGINEERING SERVICES	HR-OL2122-ABLE-1131
5	GUNDAPKIRANMARUTI	2JI15EE012	HEXAWARE TECHNOLOGIES	OFFER LETTER
6	DINKARSHINDE	2JI15EE011	UNVIRED SOFTWARE INDIAPVT.LTD	OFFER LETTER
7	VRUSHA B KHOT	2JI15EE054	INFOSYS	HRT/3T/1002822158/21-
8	POOJA KOPARADE	2JI15EE027	KYNDRYL SOLUTIONS PRIVATE LIMITED	U72900KA2022PTC1429
9	MAYURI PATIL	2JI15EE018	SHRIMAHADEV	OFFER LETTER
10	SANDESH MANIK PADOLKAR	2JI15EE035	SHEOREY DIGITAL	H1920_SMP_0LO119.D
11	SURESH KUMAR LAGALI	2JI15EE048	IONIDEA INTERACTIVE PVT LTD	OFFER LETTER
12	ROOPALIMANDOLI	2JI15EE031	CAPGEMINI	1928302
13	KARTIKPATIL	2JI15EE025	SENSEGIZ	OFFER LETTER
14	SANOBER M KHANAPURI	2JI15EE036	AKTIVOLT	AKTI/OFFER/02/2021-22
15	DARSHANA V JOGIN	2JI15EE008	DESIGNTECH	APP/KAR240810/4599
16	POOJA DESAI	2JI15EE026	ALLSTATE	U74900KA2012FTC0642
17	MAITHILI S SHIVANGEKAR	2JI15EE016	PERFAWARE INDIA PVT LTD.	OFFER LETTER
18	VINOD RATHOD	2JI15EE053	LAXMI ELECTRICALS	offer Letter
19	NAGARAJ V PUJERI	2JI15EE021	DR.RAJKUMAR ACADMY	Letter

## 4.6 Professional Activities

### 4.6.1 Professional societies/ chapters and organizing engineering events

#### About IE(I) Students' Chapter (Electrical)

The Institution of Engineers India Student Chapter (Electrical) was established in the year 2014. The Institution of Engineers (India) is the national organization of engineers in India. It has more than one million members in 15 engineering disciplines; it has 84 local centers, 27 state centers, and 5 overseas centers or chapters. It is the world's largest multi-disciplinary engineering professional society in engineering and technology world. The Institution of Engineers (India) was established in 1920 in Kolkata, West Bengal and has pioneered non-formal education in engineering. The student enrolls for membership by paying prescribed fees to IE(I) through the faculty advisor. The Student Members (SMIE) are entitled to enjoy following benefits of getting free e-access to IEI journals and can avail the journal hard copies at a concessional rate. Further, Student Members (SMIE) gets access to the IEI Library (Sir R N Mookerjee Engineering Information Service Centre) at the headquarters as well as State and Local Centres of IEI. Additionally, Student Members are entitled to receive the monthly colour tabloid 'IEI NEWS' free of cost and opportunity to participate in technical events e.g. Seminars, Symposia, Conventions, Workshops etc. organized by various IEI centres at State, National and International levels at concessional rate. Student members may avail the opportunity of staying in any of the IEI guest houses. Student groups consisting of SMIEs only will be given preference in release of grants for their final year project/thesis work. Further around 400 students have registered in this chapter till date.

Sl. No	Membership No	Name of Student Member	Year	BRANCH
1	590014/JCEB/EL/181	RAJU S BIRADAR	2017	Electrical & Electronics Engineering.
2	590014/JCEB/EL/182	ABHIJIT SAHA	2017	Electrical & Electronics Engineering.
3	590014/JCEB/EL/183	AKSHAY VASANT BAGI	2017	Electrical & Electronics Engineering.
4	590014/JCEB/EL/184	ANKITA A BHANDARI	2017	Electrical & Electronics Engineering.
5	590014/JCEB/EL/185	BHARATI MURAKUTI	2017	Electrical & Electronics Engineering.
6	590014/JCEB/EL/186	CHETANA R BHUPALI	2017	Electrical & Electronics Engineering.
7	590014/JCEB/EL/187	DEEPA DESAI	2017	Electrical & Electronics Engineering.
8	590014/JCEB/EL/188	DEEPA GATADE	2017	Electrical & Electronics Engineering.
9	590014/JCEB/EL/189	JYOTI KALYAGOL	2017	Electrical & Electronics Engineering.
10	590014/JCEB/EL/190	K C BHIM PRAKASH	2017	Electrical & Electronics Engineering.

Sl. No	Membership No	Name of Student Member	Year	BRANCH
11	590014/JCEB/EL/191	MAYURI J DHANAGAR	2017	Electrical & Electronics Engineering.
12	590014/JCEB/EL/192	MAYURI SUKUMAR VARALE	2017	Electrical & Electronics Engineering.
13	590014/JCEB/EL/193	NAHIDA C PANIBANDH	2017	Electrical & Electronics Engineering.
14	590014/JCEB/EL/194	NEENA R BUDIYAL	2017	Electrical & Electronics Engineering.
15	590014/JCEB/EL/195	NIDHI C PAKHANNAWAR	2017	Electrical & Electronics Engineering.
16	590014/JCEB/EL/196	NISHA G PATTENNAVAR	2017	Electrical & Electronics Engineering.
17	590014/JCEB/EL/197	OLI BIJAY KUMAR K	2017	Electrical & Electronics Engineering.
18	590014/JCEB/EL/198	PADMINI ASHOK PATIL	2017	Electrical & Electronics Engineering.
19	590014/JCEB/EL/199	PRITAM S KAMATE	2017	Electrical & Electronics Engineering.
20	590014/JCEB/EL/200	RAHUL R CHAVALAGI	2017	Electrical & Electronics Engineering.
21	590014/JCEB/EL/201	SAMEEKSHA P NAIK	2017	Electrical & Electronics Engineering.
22	590014/JCEB/EL/202	SHIVAJI G CHIKKALKAR	2017	Electrical & Electronics Engineering.
23	590014/JCEB/EL/203	SHIVAPRASAD KADAGI	2017	Electrical & Electronics Engineering.
24	590014/JCEB/EL/204	SOUMYA A AKKISAGAR	2017	Electrical & Electronics Engineering.
25	590014/JCEB/EL/205	SRUSHTI BEVINAGIDAD	2017	Electrical & Electronics Engineering.
26	590014/JCEB/EL/206	SWATI MALWAD	2017	Electrical & Electronics Engineering.
27	590014/JCEB/EL/207	TANVI P KULKARNI	2017	Electrical & Electronics Engineering.
28	590014/JCEB/EL/208	TEJASHWINI A B	2017	Electrical & Electronics Engineering.
29	590014/JCEB/EL/209	VAISHALI P GENUCHE	2017	Electrical & Electronics Engineering.
30	590014/JCEB/EL/210	VANISHREE MELAGIRI	2017	Electrical & Electronics Engineering.
31	590014/JCEB/EL/211	ANKUR TARI	2017	Electrical & Electronics Engineering.
32	590014/JCEB/EL/212	DNYANESHWAR PATIL	2017	Electrical & Electronics Engineering.
33	590014/JCEB/EL/213	NAGARAJ	2017	Electrical & Electronics

Sl. No	Membership No	Name of Student Member	Year	BRANCH
		MUCHANDI		Engineering.
34	590014/JCEB/EL/214	SNEHAL SAWANT	2017	Electrical & Electronics Engineering.
35	590014/JCEB/EL/215	SUSHANT PINGAT	2017	Electrical & Electronics Engineering.

Sl. No	Name of the Student	Membership No.	Year of Enrolment/Renewal	Branch	Mobile No
1	SmitaNelkanthMelagiri	590014/JCEB/EL/00216	2018	EL	9380610567
2	AditiHanagoji	590014/JCEB/EL/00217	2018	EL	8495927996
3	AppasabDanolli	590014/JCEB/EL/00218	2018	EL	9590152214
4	ArcahanaDandin	590014/JCEB/EL/00219	2018	EL	9110216101
5	BhoomikaEkkerimath	590014/JCEB/EL/00220	2018	EL	9164090122
6	ChanadanaDattawad	590014/JCEB/EL/00221	2018	EL	7204635005
7	DaneshmanPinitod	590014/JCEB/EL/00222	2018	EL	9148302974
8	DayanandJambagi	590014/JCEB/EL/00223	2018	EL	7624809634
9	GoutamMallannavar	590014/JCEB/EL/00224	2018	EL	9880298485
10	HeenaNabiwale	590014/JCEB/EL/00225	2018	EL	7338060232
11	KiranRasale	590014/JCEB/EL/00226	2018	EL	8550801951
12	Neel Tavanshetti	590014/JCEB/EL/00227	2018	EL	7676722631
13	NihalJamadar	590014/JCEB/EL/00228	2018	EL	9945191411
14	Nikhil Patil	590014/JCEB/EL/00229	2018	EL	9620791256
15	Nikhil Kurahatti	590014/JCEB/EL/00230	2018	EL	9611303351
16	Nikita Belkire	590014/JCEB/EL/00231	2018	EL	8123881822
17	NingammaIttannavar	590014/JCEB/EL/00232	2018	EL	8073650531
18	OnkarBalikai	590014/JCEB/EL/00233	2018	EL	9379984831
19	AsmitaPatil	590014/JCEB/EL/00234	2018	EL	91138342

Sl. No	Name of the Student	Membership No.	Year of Enrolment/Renewal	Branch	Mobile No
		0234			62
20	PavanChalvadi	590014/JCEB/EL/0235	2018	EL	9591307804
21	PrajwalPattar	590014/JCEB/EL/0236	2018	EL	8431978800
22	ShivaniSawant	590014/JCEB/EL/0237	2018	EL	8884633585
23	Priya Zadapannavar	590014/JCEB/EL/0238	2018	EL	9591179152
24	PundaleekChulaki	590014/JCEB/EL/0239	2018	EL	9889905625
25	Ramesh Dalawai	590014/JCEB/EL/0240	2018	EL	8546807920
26	Rohit NagendraBurud	590014/JCEB/EL/0241	2018	EL	7996267765
27	Rohit Rajaram Veer	590014/JCEB/EL/0242	2018	EL	6362299402
28	Saloni S Bijagarni	590014/JCEB/EL/0243	2018	EL	7676422441
29	Samarth Pramod Mali	590014/JCEB/EL/0244	2018	EL	8970737785
30	Sammed Sunil Rayagoudar	590014/JCEB/EL/0245	2018	EL	8880792855
31	SaniyaPeerzade	590014/JCEB/EL/0246	2018	EL	9663130703
32	Shivraj Vijay Patil	590014/JCEB/EL/0247	2018	EL	8277435007
33	Shubham Karale	590014/JCEB/EL/0248	2018	EL	9986564623
34	Siddhant Kargave	590014/JCEB/EL/0249	2018	EL	9740481058
35	Siri C S	590014/JCEB/EL/0250	2018	EL	9591664727
36	Sohail Mulla	590014/JCEB/EL/0251	2018	EL	9886921145
37	Soumya Sangolli	590014/JCEB/EL/0252	2018	EL	7406823198
38	Sumeet Yadawadi	590014/JCEB/EL/0253	2018	EL	9964427108
39	SurekhaRathod	590014/JCEB/EL/0254	2018	EL	8296341524
40	TejashreePatil	590014/JCEB/EL/0255	2018	EL	9535698834
41	VaibhavKumakale	590014/JCEB/EL/0256	2018	EL	8123023821



Sl. No	Name of the Student	Membership No.	Year of Enrolment/Renewal	Branch	Mobile No
42	VaishnaviAllappanavar	590014/JCEB/EL/0257	2018	EL	7338146239
43	VaishnaviSanikop	590014/JCEB/EL/0258	2018	EL	8747047740
44	VarshaDoddamani	590014/JCEB/EL/0259	2018	EL	81235545053
45	VishwanathMangond	590014/JCEB/EL/0260	2018	EL	7996877860
46	YashBidikar	590014/JCEB/EL/0261	2018	EL	7795516506
47	SaishAgarwadekar	590014/JCEB/EL/0262	2018	EL	9764426746
48	Swati Halaki	590014/JCEB/EL/0263	2018	EL	9449765745
49	ChaturKarekar	590014/JCEB/EL/0264	2018	EL	9403959804
50	SairajKudalkar	590014/JCEB/EL/0265	2018	EL	9130341406
51	ManjunathMannolkar	590014/JCEB/EL/0266	2018	EL	9741024880
52	RajuAngadi	590014/JCEB/EL/0267	2018	EL	8904859735
53	NagrajPatil	590014/JCEB/EL/0268	2018	EL	9844956655
54	ShivarajLamani	590014/JCEB/EL/0269	2018	EL	9738818833
55	PrashantHiremath	590014/JCEB/EL/0270	2018	EL	9886323727
56	KapilDulbaji	590014/JCEB/EL/0271	2018	EL	8088360289
57	ShivajiRatnakar Desai	590014/JCEB/EL/0272	2018	EL	7848871085
58	DaneshwariUmeshNashi	590014/JCEB/EL/0273	2018	EL	7619116587
59	Erumkinikar	590014/JCEB/EL/0274	2018	EL	8792000810
60	Rashika Suresh Patil	590014/JCEB/EL/0275	2018	EL	8867812656
61	PriyaBabuDharmar	590014/JCEB/EL/0276	2018	EL	9632993098
62	Ashwini S Hurude	590014/JCEB/EL/0277	2018	EL	8861097702
63	Shweta I Ninganagoudar	590014/JCEB/EL/0278	2018	EL	9686262126
64	Mangesh L Chavan	590014/JCEB/EL/0	2018	EL	90088078



Sl. No	Name of the Student	Membership No.	Year of Enrolment/Renewal	Branch	Mobile No
		0279			84
65	SpurtiSadanandPai	590014/JCEB/EL/00280	2018	EL	9008976547
66	Somashekhara S Kademani	590014/JCEB/EL/00281	2018	EL	8971309401
67	Roopali Rajesh Mandloi	590014/JCEB/EL/00282	2018	EL	7090092604
68	AmrutaJagadishChikamath	90014/JCEB/EL/00283	2018	EL	8951844594
69	VinodTanajiJagatap	90014/JCEB/EL/00284	2018	EL	8123574986
70	Nisha Ashok Ghatage	90014/JCEB/EL/00285	2018	EL	8123248214
71	PoojaRaveendra Desai	590014/JCEB/EL/00286	2018	EL	7829626090
72	ShreyaDhanashree	590014/JCEB/EL/00287	2018	EL	9632795552
73	Pooja C Patil	590014/JCEB/EL/00288	2018	EL	8296811362
74	Shreedevi A Kalyagol	590014/JCEB/EL/00289	2018	EL	9039722178

Sl. No	Name of the Student	Membership No	Year Of Study	Branch	Mobile No
1	Abhinandan BShirahatti	590014/Jceb/El/00290	2019	El	9686072358
2	Abhishek BalasahebKagawad	590014/Jceb/El/00291	2019	El	9611281375
3	Akshata AshokBelavi	590014/Jceb/El/00292	2019	El	7829393242
4	Anand N Kyabani	590014/Jceb/El/00293	2019	El	9535955191
5	Anjum Biradar	590014/Jceb/El/00294	2019	El	8197893764
6	Basavaraj Gadakari	590014/Jceb/El/00295	2019	El	6362560342
7	Basavaraj Ainapure	590014/Jceb/El/00296	2019	El	9632941149

Sl. No	Name of the Student	Membership No	Year Of Study	Bra nch	Mobile No
8	Bhagyashree Sidramayya Math	590014/Jceb/El/00297	2019	El	7975201363
9	Bhakti Bastwadkar	590014/Jceb/El/00298	2019	El	9902996621
10	Bharati T Hadimani	590014/Jceb/El/00299	2019	El	9483140970
11	Deepak Jamdar	590014/Jceb/El/00300	2019	El	7022489814
12	Divya B Kulkarni	590014/Jceb/El/00301	2019	El	9902825803
13	Gad Prathamesh Shivaji	590014/Jceb/El/00302	2019	El	8830540803
14	Jyoti B Olekar	590014/Jceb/El/00303	2019	El	8310937414
15	Kiran Mallikarjun Ligade	590014/Jceb/El/00304	2019	El	8904744649
16	Laxmikant Basavanni Kaloji	590014/Jceb/El/00305	2019	El	9740858854
17	Mahantesh U Patil	590014/Jceb/El/00306	2019	El	8792330557
18	Mole Prem	590014/Jceb/El/00307	2019	El	8880173939
19	Nagesh Doddashivannavar	590014/Jceb/El/00308	2019	El	8095714377
20	Nandeesh T A	590014/Jceb/El/00309	2019	El	7259773768
21	Pooja B Patil	590014/Jceb/El/00310	2019	El	7204747813
22	Pramodkumar Hunashyal	590014/Jceb/El/00311	2019	El	8050437696
23	Praveen Shivappa Magadum	590014/Jceb/El/00312	2019	El	9663253371
24	Priyanka	590014/Jceb/El/00313	2019	El	7353601479
25	Sandhya Shirodakar	590014/Jceb/El/00314	2019	El	7624819157
26	Santosh Pujari	590014/Jceb/El/00315	2019	El	7349646434
27	Santosh Suresh Sonar	590014/Jceb/El/00316	2019	El	7892468781
28	Shabaz Mulla	590014/Jceb/El/00317	2019	El	9901419308
29	Shafiya Haidarali Jagadal	590014/Jceb/El/00318	2019	El	9845954780
30	Shashikumar Koppad	590014/Jceb/El/00319	2019	El	8147202002
31	Shridhar Solakanavar	590014/Jceb/El/00320	2019	El	7259940609
32	Shrusti M Bharamannavar	590014/Jceb/El/00321	2019	El	8151034077
33	Siddharth Deepak Vernekar	590014/Jceb/El/00322	2019	El	9483386022
34	Siddharth Patil	590014/Jceb/El/00323	2019	El	8147183489
35	Supriya	590014/Jceb/El/00324	2019	El	8197337811
36	Vandana Khetagoudar	590014/Jceb/El/00325	2019	El	9740674555
37	Vasant MahanteshDodamani	590014/Jceb/El/00326	2019	El	9108438311
38	VedadattaKadappagola	590014/Jceb/El/00327	2019	El	9535933960
39	Yogesh	590014/Jceb/El/00328	2019	El	9972939277
40	Abhishek R Palekar	590014/Jceb/El/00329	2019	El	7760860202
41	BandodkarTanay Mohandas	590014/Jceb/El/00330	2019	El	8847789281
42	Dessai Shodhan Ashok	590014/Jceb/El/00331	2019	El	9834429505

Sl. No	Name of the Student	Membership No	Year Of Study	Bra nch	Mobile No
43	Dyavannanavar AnilkumarShekappa	590014/Jceb/EI/00332	2019	EI	8830941852
44	Rohit Laxman Alwani	590014/Jceb/EI/00333	2019	EI	6362326218
45	Mahesh G Dodamani	590014/Jceb/EI/00334	2019	EI	9480030295
46	Taiqmahmmad M Chandshawale	590014/Jceb/EI/00335	2019	EI	8970181505
47	Balesh S Mudalagi	590014/Jceb/EI/00336	2019	EI	9606706761
48	Bhaurao J More	590014/Jceb/EI/00337	2019	EI	7899223348
49	Praveen Rathod	590014/Jceb/EI/00338	2019	EI	9110817178
50	Nandkumar Patil	590014/Jceb/EI/00339	2019	EI	9035462019
51	Aishawarayya Bugadikatti	590014/Jceb/EI/00340	2019	EI	9110618303
52	Pramod Kesti	590014/Jceb/EI/00341	2019	EI	8050546990
53	Rohini Pawale	590014/Jceb/EI/00342	2019	EI	8088048483
54	Shridhar S Badiger	590014/Jceb/EI/00343	2019	EI	8904913921
55	Shashidhar I Goudar	590014/Jceb/EI/00344	2019	EI	8073125922

#### 2020-21 Events list

S.No.	Name of Event	Professional Body	Date
1	A National level FDP on trends and challenges in next generation energy	IE (I)	10th-12th June 2020
2	Alumni meet for 2011& 2012 batch	IE (I)	26th July 2020
3	Teachers' day	IE (I)	5th September 2020
4	Engineer's day	IE (I)	15th Sept 2020
5	Online Aptitude Classes	IE (I)	16th Sept 2020
6	Classical Musical Concert	IE (I)	23thOctober 2020
7	Pick & speak along with signing competition as a part of PRESTINUS 2021	IE (I)	7th& 8th July 2021
8	Alumni Meet 2021 For 2013 Pass Out Batch	IE (I)	10th July 2021
9	Valedictory function of 2020-21 activities and adios 2021	IE (I)	20th July 2021

#### 2019-20

S.No.	Name of Event	Professional Body	Date
1	Teachers' day	IE(I)	5th September 2019
2	Engineers' day	IE(I)	14th September 2019

S.No.	Name of Event	Professional Body	Date
3	Film screening for students	IE(I)	21th September 2019
4	Musical Concert	IE(I)	5th October 2019
5	Faculty Development Program (FDP) on “Next Generation Energy Technologies”	IE(I)	12th and 13th October 2019
6	Inaugural function of TESLA/ IE(I) Activities 2019-20 NAVYA 2019	IE(I)	18th November 2019
7	Training Program Using Simulation Software / Hardware for Power System Analysis and Protection	IE(I)	17th to 19th February 2020
8	Blood Donation Camp	IE(I)	13th February 2020
9	Faculty Development Program (FDP) on “Trends and Challenges in Next Generation Energy Technologies	IE(I)	10th-12th June 2020
10	Online Alumni Meet	IE(I)	26th July 2020

#### 2018-19

S.No.	Name of Event	Professional body	Date
1	Inauguration of 2018-19activities and Navya 2018	IE (I)	29thAugust 2018
2	Teachers’ day	IE (I)	5th September 2018
3	Engineer’s day	IE (I)	15th September 2018
4	Expert talk on ‘DISTRIBUTION AUTOMATION AND SCADA’	IE (I)	1st October, 2018
5	Faculty of the department, designed kits required to meet the need of Basic Electrical Laboratory prescribed by VTU under the able guidance of Dr. G H Kulkarni.	IE (I)	8thSeptember 2018
6	Rangoli competition	IE (I)	27th September 2018
7	classical Musical Concert	IE (I)	28th September 2018
8	Blood Donation Camp	IE (I)	14th Feb 2019
9	Scary house and Brain Olympics	IE (I)	8th and 9th of march 2019
10	Placement classes	IE (I)	30thMarch 2019
11	A Seminar on Career Guidance for Budding Electrical Engineers	IE (I)	25thApril 2019
12	Expert lecture on “Testing & verification of Semiconductor IC’S	IE (I)	13th April 2019
13	Expert lecture on “Unconstrained maxima or minima of continuous and differential functions	IE (I)	14th April 2019
14	Students visited Sharavati Generating station and Supa Hydro power plant as a part of Industrial tour to bridge the gap between academics and industry	IE (I)	17th April 2019

S.No.	Name of Event	Professional body	Date
15	Electrical Premier League (EPL)	IE (I)	26th and 27th April 2019
16	Valedictory function of 2018-19 activities and adios 2019	IE (I)	21st May 2019

#### 4.6.2 Publication of technical magazines, newsletters, etc.

IMPETUS 2016 Volume 1 Issue 1			
S.No.	Name of Editors	Designation	Publisher
1	Prof. Basavaraj V. Madiggond	HOD EEE	Jain College of Engineering, Belagavi, Department of Electrical & Electronics Engineering
2	Prof. Smita U	Asst. Professor	
IMPETUS 2017 Volume 2 Issue 1			
1	Prof. Basavaraj V. Madiggond	HOD EEE	Jain College of Engineering, Belagavi, Department of Electrical & Electronics Engineering
2	Prof. Sangeeta Chandaragi	Asst. Professor	
IMPETUS 2018 Volume 3 Issue 1			
1	Prof. Vinod S. Patil	Asst. Professor	Jain College of Engineering, Belagavi, Department of Electrical & Electronics Engineering
2	Prof. Shidlingayya M C	Asst. Professor	
IMPETUS 2019 Volume 4 Issue 1			
1	Prof. Pasala Naresh	Asst. Professor	Jain College of Engineering, Belagavi, Department of Electrical & Electronics Engineering
2	Prof. Shidlingayya M C	Asst. Professor	
IMPETUS 2020 Volume 5 Issue 1			
1	Prof. Vinod S. Patil	Asst. Professor	Jain College of Engineering, Belagavi, Department of Electrical & Electronics Engineering
2	Dr. Debraj Sarkar	Associate Professor	
3	Dr. Tamilika Chowdary	Asst. Professor	

IMPETUS 2021 Volume 6 Issue 1			
1	Dr. Debraj Sarkar	Associate Professor	Jain College of Engineering, Belagavi, Department of Electrical & Electronics Engineering
2	Prof. Shubha Baravani	Asst. Professor	

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

S.No.	Title of Paper/ Project / Event Name	Author details	Name of Event and Venue	National/International	Participated/ Award
1	Economic Analysis of Grid-connected and Off-Grid Hybrid Electric Systems Using the software Homer Pro	Pavan Chavadi	7th National Conference on Power System Engineering (NCPSE- 2021) at SDMCET Dharwad 14/7/21	National (Within the State)	Participated
		Rohit Veer			
		Prashant H			
		Neel T			
		Dept of EEE, Jain College of Engineering, Belgaum			
2	Design of AC/DC microgrid using HOMER PRO	Niyazahmad I H	Project competition at Sant Gajanan Maharaj College of Engg, Mahagaon Maharashtra	National (Outside the State)	3 <sup>rd</sup> Place
		Mayuri J D			
		Padmshri Padasalagi			
		Sanketa Hulloli			
		Dept of EEE, Jain College of Engineering, Belgaum			

S.No.	Title of Paper/ Project / Event Name	Author details	Name of Event and Venue	National/International	Participated/ Award
3	PROTEUS War	Ms. Ankita Bhandari	Olympus 2k18 SVERI's College of Engineering, Pandharpur Maharashtra	National Level (Outside State)	Runner Up
4	Circuit Sudoku	Ms. Pooja Desai	Olympus 2k17 SVERI's College of Engineering, Pandharpur Maharashtra	National Level (Outside State)	Participated

## Criteria 5: FACULTY INFORMATION AND CONTRIBUTIONS

Name	PAN No.	University degree	Date of receiving degree	Area of Specialization	Research Paper publications	Ph.D. Guidance	Faculty receiving Ph.D.	During the Current designation	Date (Designated as Prof/Assoc. Prof.),	Initial Date of Joining	Association Type	At present working with the Institution	In case of NO, Date of Leaving	IS HOD?
<b>Dr. G H Kulkarni</b>	ABCPK6913D	M.E/M.Tech	01/12/2007	Power System Engineering	63	8	-	Professor and HoD	13/07/2010	13-08-2010	FT	Y		Yes
<b>Prof. Nagaraj Aiholli</b>	AMFPA8975M	M.E/M.Tech	05/04/2013	VLSD Design & Embedded Systems	2					23/07/2012	FT	Y		No
<b>Prof. Shubha Baravani</b>	AYWPB0240M	M.E/M.Tech	03/05/2014	Digital Electronics	5			Assistant Professor		14/8/2010	FT	No	05/05/2022	No
<b>Prof. Vinod Patil</b>	BKAPP7019P	M.E/M.Tech	10/01/2011	Industrial Electronics	5	-	-	Assistant Professor		28/01/2013	FT	Y		No
<b>Prof. Vireshkumar Mathad</b>	CICPM6266N	M.E/M.Tech	22/07/2013	Power System Engineering	6	NA	NA	Assistant Professor		21/07/2013	FT	No	12/04/2022	No
<b>Dr. Debraj Sarkar</b>	AKAPD8177B	M.E/M.Tech and PhD	05/03/2018	Power System Engineering	14	-	-	Associate Professor	01-08-2018	01-08-2018	FT	Y		No



Name	PAN No.	University degree	Date of receiving degree	Area of Specialization	Research Paper publications	Ph.D. Guidance	Faculty receiving Ph.D.	During the Current designation	Date (Designated as Prof/Assoc. Prof.),	Initial Date of Joining	Association Type	At present working with the Institution	In case of NO, Date of Leaving	IS HOD?
<b>Prof.Siddaling ayya C</b>	AWCPC0833B	M.E/M.Tech	21/01/2017	Power Electronics						28/06/2016	FT	No	05/05/2021	No
<b>Dr. Tamalika C</b>	AJQPC1388L	M.E/M.Tech and PhD	04/01/2019	Power System Engineering	10	-	-	Assista nt Profess or		19/08/2019	FT	No	30/10/2021	No
<b>Pasala Naresh</b>	ATIPN9761C	M.E/M.Tech	05/05/2016	Power System Engineering	2					13/10/2015	FT	No	20/02/2020	No
<b>Prof. Laxmi Brungi</b>	CDYPB9954R	M.E/M.Tech	05/04/2013	Power System Engineering	2	NA	NA	Assista nt Profess or		21/07/2013	FT	Y		No
<b>Prof. Akshata Patil</b>	FXGPP6554Q	M.E/M.Tech	03/04/2021	VLSL Design & Embedded Systems				Assista nt Profess or		20-12-21	FT	Y		No
<b>Prof. Priyanka K</b>	EOEPK9298J	M.E/M.Tech	09/01/2018	Digital Communicati on				Assista nt Profess or		20-12-21	FT	Y		No
<b>Girish Uppin</b>	AAKPU5246Q	M.E/M.Tech	20/06/2000	Power and energy systems				Assista nt Profess or		25/08/2015	FT	No	22/07/2021	No
<b>Geeta Hebbal</b>	AWCPH7012D	M.E/M.Tech	09/01/2018	Power system engineering				Assista nt Profess or		04/05/2022	FT	Y		No
<b>Yuvaraj Pundalik Patil</b>	CERPP0614Q	M.E/M.Tech	21/01/2017	Power system engineering				Assista nt Profess or		01/02/2019	Contrac tual	Y		No

Name	PAN No.	University degree	Date of receiving degree	Area of Specialization	Research Paper publications	Ph.D. Guidance	Faculty receiving Ph.D.	During the Current designation	Date (Designated as Prof/Assoc. Prof.),	Initial Date of Joining	Association Type	At present working with the Institution	In case of NO, Date of Leaving	IS HOD?
Prakash M N	CHPPP4989R	M.E/M.Tech	05/04/2013	Power electronics				Assistant Professor		24/07/2017	FT	No	05/05/2021	No
Sarita Umadi	ADCPU8861G	M.E/M.Tech	29/09/2016	Micro electronics control systems				Assistant Professor		05/02/2019	FT	No	05/05/2021	No

## 5.1 Student-Faculty Ratio (20)

UG

No. of UG Programs in the Department - 1

Electrical and Electronics Engineering						
Year of Study	CAY		CAYm1		CAYm2	
	(2021-22)		(2020-21)		(2019-20)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	6	60	6	60	6
3rd year	60	6	60	6	60	12
4th year	60	6	60	12	60	12
Sub-Total	180	18	180	24	180	30
Total	198		204		210	
Grand Total	198		204		210	

**PG****No. of PG Programs in the Department - 1**

<b>Power System Engineering</b>			
<b>Year of Study</b>	<b>CAY</b>	<b>CAYm1</b>	<b>CAYm2</b>
	<b>(2021-22)</b>	<b>(2020-21)</b>	<b>(2019-20)</b>
	<b>Sanction Intake</b>	<b>Sanction Intake</b>	<b>Sanction Intake</b>
<b>1st Year</b>	24	24	24
<b>2nd year</b>	24	24	24
<b>Total</b>	48	48	48
<b>Grand Total</b>	48	48	48

<b>Description</b>	<b>CAY(2021-22)</b>	<b>CAYm1 (2020-21)</b>	<b>CAYm2 (2019-20)</b>
<b>Total No. of Students in the Department(S)</b>	246	252	258
<b>No. of Faculty in the Department(F)</b>	10	15	15
<b>Student Faculty Ratio(SFR)</b>	$\text{SFR1} = \text{S1/F1}$ $24.60$	$\text{SFR2} = \text{S2/F2}$ $16.80$	$\text{SFR3} = \text{S3/F3}$ $17.20$
<b>Average SFR</b>	$\text{SFR} = (\text{SFR1} + \text{SFR2} + \text{SFR3})/3 = 19.53$		

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

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

	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY(2021-22)	9	1
CAYm1(2020-21)	14	1
CAYm2(2019-20)	14	1

**5.2 Faculty Cadre Proportion (25)**

Year	Professors		Associate Professors		Assistant Professors	
	Required (RF1)	Available (AF1)	Required (RF2)	Available (AF2)	Required (RF3)	Available (AF3)
CAY (2021-22)	1	1	2	1	8	7
CAYm1(2020-21)	1	1	2	1	8	12
CAYm2(2019-20)	1	1	2	1	8	12
Average Numbers	1	1	2	1	8	10.33

Cadre Ratio Marks  $[(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 12.5$ : 23.00

### 5.3 Faculty Qualification (25)

	X	Y	F	$FQ = 2.5 \times [(10X + 4Y) / F]$
CAY (2021-22)	2	8	12	10.83
CAYm1(2020-21)	3	12	12	16.25
CAYm2(2019-20)	3	12	12	16.25

Note:

X is no. of faculty with Ph.D.

Y is no. of faculty with M.Tech.

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

### 5.4 Faculty Retention (25)

Description	2020-21	2021-22
No of Faculty Retained	14	9
Total No of Faculty	14	14
% of Faculty Retained	100	64.2

Average: 82.10

Notes:

A- 90% of required Faculties retained during the period of assessment keeping CAYm2 as base year (25)

B-75% of required Faculties retained during the period of assessment keeping CAYm2 as base year (20)

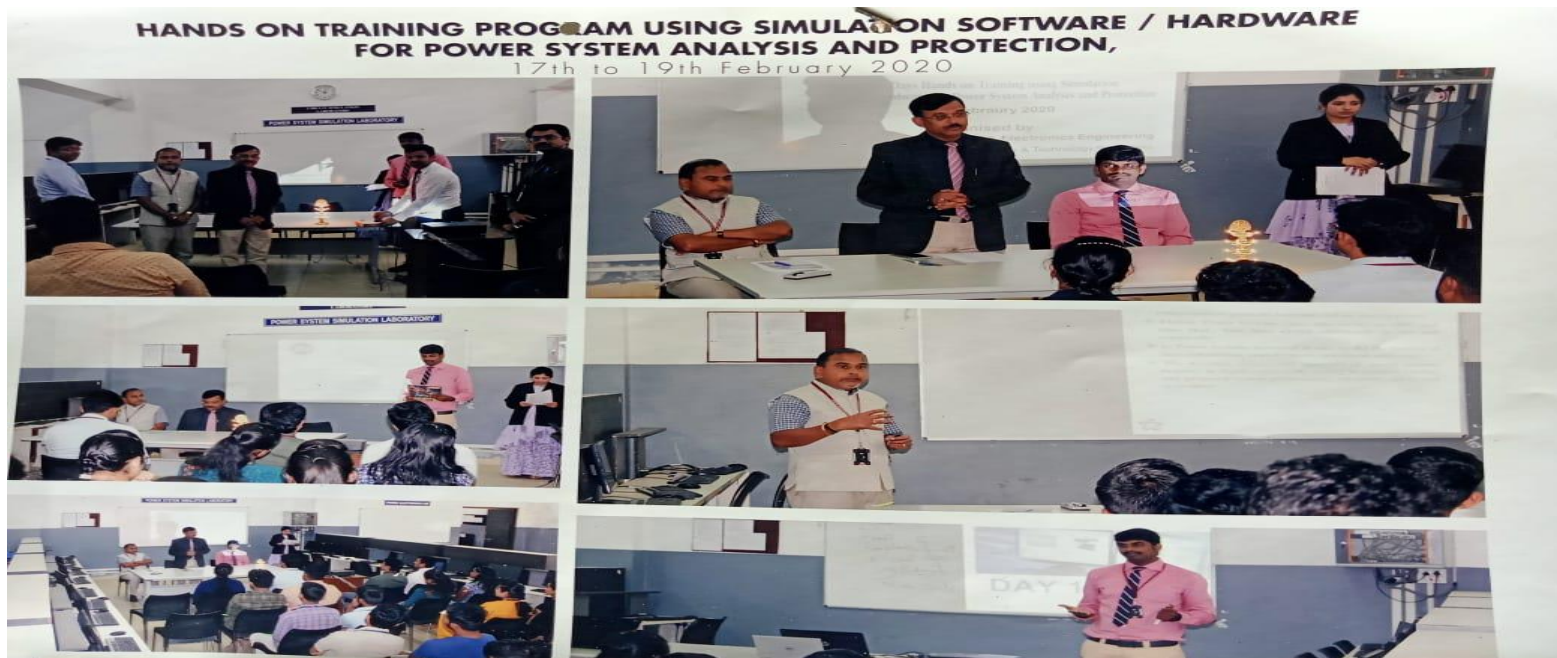
C-60% of required Faculties retained during the period of assessment keeping CAYm2 as base year (15)

D.50% of required Faculties retained during the period of assessment keeping CAYm2 as base year (10)

## 5.5 Innovations by the faculty in Teaching and Learning

- Lectures and Lab Videos by all the faculties for the year 2019-20 and 2020-2021 are uploaded on JCE e-connect YouTube channel.
- Industrial Visits
- Classroom Quiz sessions.
- Use of Simulation software (Mi Power) for power system analysis and Protection.
- Use of CYME software for power system studies.
- Lecture by the faculties through NPTEL Videos.
- Virtual Lab (MAT Lab).
- Industry Collaboration with HESCOM.

### Training Program on Simulation Software/Hardware for Faculties





## Site Visit to Study the Electric Power Generation Plants









## 5.6 Faculty as participants in Faculty development/training activities/STTPs (15)

Name of the faculty	Max 5 Per Faculty		
	2020-21 (CAYm1)	2019-20 (CAYm2)	2018-19 (CAYm3)
Dr. G H Kulkarni	3	3	3
Dr. Debraj Sarkar	3	3	3
Prof. Nagaraj Aiholli		3	3
Prof. Shubha Baravani	5	3	3
Prof. Vinod Patil	3	3	3
Prof. Laxmi Brungi	5	3	3
Prof. Vireshkumar Mathad		3	3
Dr. Tamalika C	3	3	3
Prof. Pasala Naresh	3	3	3
Prof. Shidlingayya M.C	3	3	3
<b>Sum</b>	28.00	30.00	30.00
<b>RF = Number of Faculty required to comply with 20:1 Student Faculty Ratio as per 5.1</b>	12.30	12.60	12.90
<b>Assessment <math>[3*(\text{Sum} / 0.5\text{RF})]</math></b>	13.66	14.29	13.95

**Average assessment over 3 years: 13.97**

## 5.7 Research and Development (30)

### 5.7.1 Academic Research (10)

#### Faculty Publications:

S. No	Paper Title	Author/s	Journal	Year of publication	ISBN/ISSN /DOI
1	Economical Analysis of Grid-connected and Off-grid Hybrid Power Systems Using HOMER PRO	Vinod S. Patil	Techno-Societal 2022 In Collaboration with Springer Book Chapter	2022	Accepted and Under Publication
2	Smart Safety Gadget for Women	Laxmi Brungi	Techno-Societal 2022 In Collaboration with Springer Book Chapter	2022	Accepted and Under Publication
3	Artificial-Neural-Network based Unified Power Flow Controller (UPFC) for Mitigation of Power Oscillations	Vireshkumar G. Mathad and Dr. G. H. Kulkarni	Indonesian Journal of Electrical Engineering and Computer Science, Vol. 24, No. 3 December 2021, pp. 1323 to 1331.	2021	2502-4752
4	Optimal Placement of UPFC using Evolutionary Algorithms	Vireshkumar G. Mathad and Dr. G. H. Kulkarni	Turkish Online Journal of Qualitative Inquiry (TOJQI)	2021	1360-1367
5	Hybrid Energy Network Systems using HOMER pro feasibility study of the Rural Network case study	Vinod S. Patil Gopalkrishna. D. Kamalapur	Turkish Online Journal of Qualitative Inquiry (TOJQI)	2021	1427-1439
6	Analysis of optimized multilevel matrix converter for DFIG based wind energy conversion system	Shubha Baravani , RudrannaNana dihalli , Mohsin A. Mulla	Indonesian Journal of Electrical Engineering and Informatics (IJEI)	2021	2089-3272
7	Matrix converter - Design, Analysis and Performance Evaluation	Shubha Baravani , RudrannaNana dihalli , Vishal W	Turkish Online Journal of Qualitative Inquiry (TOJQI)	2021	1553-1564
8	Dual Motor Control using Double Zero Sequence Injection Method in Five Leg Voltage Source Inverter	Jayaprakash Sabarad and Dr. G. H. Kulkarni	International Journal of Recent Technology and Engineering (IJRTE)	2020	2277-3878
9	Implementation of Arithmetic Unit for RNS using $2^n-3$ Base	Nagaraj Aiholli Rashmi Rachh Uday Wali	Springer Nature	2020	10.1007/978-981-15-8289-9_58
10	Novel Switching Techniques for Five Leg Inverter in Dual Motor Control	Jayaprakash Sabarad and Dr. G. H. Kulkarni	Indonesian Journal of Electrical Engineering and Computer Science	2020	2502-4752
11	Optimal Power Flow and optimum Placement of Unified Power Flow Converter (UPFC) using Optimization Techniques.	Vireshkumar G. Mathad and Dr. G. H. Kulkarni	International Journal of Recent Technology and Engineering (IJRTE)	2020	2277-3878

S. No	Paper Title	Author/s	Journal	Year of publication	ISBN/ISSN /DOI
12	Nine Switch Back to Back Converter-Design and Simulation for Wind Turbines Based on Doubly Fed Induction Generator	Shubha Baravani , RudrannaNana dihalli	International Journal of Recent Technology and Engineering (IJRTE)	2020	<b>2277-3878</b>
13	Implementation of Arithmetic Unit for RNS using $2^n-3$ Base	Nagaraj Aiholli Rashmi Rachh Uday Wali	International Journal of Innovative Technology and Exploring Engineering(IJITEE)	2019	<b>2278-3075</b>
14	Extensive Survey on Wind Energy Conversion Systems-Generator and Power Electronic Topologies	Shubha Baravani , RudrannaNana dihalli	International Journal of Management, Technology and Engineerig	2019	<b>2249-7455</b>
15	‘Renewable Energy based Green Power Generation for Rural Electrification	Mr. Vinod S. Patil, Dr. G. D. Kamalapur	International Journal of Engineering and Advanced Technology (IJEAT)	2019	<b>2249-8958</b>
16	Impedance Control of a Saturated Core Superconducting Fault Current Limiter With an Improved Field Suppression	TapanSantra;S usovanPraman ik;DebrajSark ar;AmalenduB ikash Tamalika Choudhury;De babrata Roy	IEEE Transactions on Applied Superconductivity	2019	<b>051-8223/ 10.1109/TA SC.2018.28 90709</b>
17	Off grid Rural Electrification in Karnataka State of India, Technology Options and modeling Method	Vinod S. Patil	Journal of Emerging Technologies and Innovative Research (IJTIR)	2018	<b>2349-5162</b>
18	Enhancing Power system Performance by Unified Power Flow Controller(UPFC) using Particle swarm Optimization Algorithm	Vireshkumar G. Mathad and Dr. G. H. Kulkarni	Third International Conference on Electrical, Electronics, Computer Technologies and Optimization Techniques(ICEECCO T)	2018	<b>978-1-5386-5130-8</b>
19	Design of Arithmetic Unit for RNS using $2^n-3$ Base	Nagaraj Aiholli Rashmi Rachh Uday Wali	Third International Conference on Electrical, Electronics, Computer Technologies and Optimization Techniques(ICEECCO T)	2018	<b>978-1-5386-8</b>

**Books/Book chapter published by the faculty members:**

SI No.	Title of the book/book chapters	Author/s	Publisher	Year of publication	ISBN/ISSN/DoI
01	Spatial Analysis and Geospatial Technologies / Power supply in urban areas using geoinformatics	Prof. Shubha Baravani, Dr. BR Bagade	LULU Publication, United States	2020	978-1-71682-711-2
02	Power Transmission System Analysis Against Faults and Attacks	Prof. Tamalika Choudhury	CRC Press	2021	978-0-36749777-4

**Ph. D guided / Ph. D awarded:**

Name of the Research Guide	Name of the Research Scholar	Research Topic	Year of Award
<b>Dr. G. H. Kulkarni</b>	K K Tangod	Distributed Data Mining, Neural Networks	2018
	S C Kuri	Image processing, Neural Networks	2019
	Jayaprakash Sabarad	Dual Three Phase Induction Motor Control by Space Vector Pulse Width Modulation Based Five Leg Inverter	2021
	Vireshkumar G M	Unified Power Flow Controller Technique to Improve Power System Performance using Neural Network	2022

**Faculty members of the department pursuing Ph. D**

SI No.	Faculty Name	Research Topic	University/Year of Registration	Research Guide	Research Center	Status
1	Prof. Vinod S Patil	Power Quality Issues in Grid Interactive Renewable Sources based Integrated Generation for Rural Electrification	VTU/2014	Dr. G D Kamlapur	SDMCET Dharwad	Awarded
2.	Prof. Vireshkumar Mathad	Unified Power Flow Controller Technique to Improve Power System Performance	VTU/2015	Dr. G H Kulkarni	JCE Belagavi	Awarded

SI No.	Faculty Name	Research Topic	University/Year of Registration	Research Guide	Research Center	Status
		using Neural Network				
3.	Prof. Nagaraj Aiholli	Implementation of Squarer in Modulator Arithmetic using 2+/-3 as Base	VTU/2015	Dr. Uday Wali	KLE Belagavi	Awaiting for defensive Viva Voce
4.	Prof. Shubha Baravani	Control & Switch Topology approach.	VTU/2017	Dr. Rudranna Nandihalli	RVCE, Bangalore	Completed OS-2

### 5.7.2 Sponsored Research (5)

2020-21 (CAY)			
Project Title	Duration	Funding Agency	Amount
<b>2019-20 (CAYm1)</b>			
<b>Power System Lab</b>	2018--2020	VGST	10Lakhs
<b>Total Amount(Y)</b>			10Lakhs
<b>2018-19 (CAYm2)</b>			
<b>Power System Lab</b>	2014--2018	VGST	10Lakhs
<b>Total Amount(Z)</b>			20Lakhs
<b>Total Amount(X+Y+Z)</b>			

### 5.7.3 Development Activities (10)

#### Product Development:

Product Name	Prepared By	Year
Basic Electrical Engineering Laboratory Kits.	EEE Department	2018-2019



#### Project/product details:

S. No	Project Title	Guide Name	Students Name	Year
01	Non invasive saliva glucometer tracking and informing to caretaker	Prof: laxmi brungi	1. Shafiya jagadal 2. Prem mole 3. Shridhar solakanavar 4. Santosh sonar	2022
02	Automated plant watering system	Prof: laxmi brungi	1. Soumys sangolli 2. Priya zadapannavar 3. Ashwini aiholli 4. Surekha rathod	2021

<b>03</b>	Non invasive glucometer using saliva	Prof: laxmi brungi	1. Shivaprasad karagi 2. Umesh tippannavar 3. Sunil takatarao 4. Vinayak sulagekar	2018
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### **Research laboratories:**

<b>S. No</b>	<b>Name of the Laboratory</b>	<b>Name of the Important facility available for research work</b>	<b>Utilization</b>	<b>Outcome of the facility created</b>
<b>01</b>	Power System Simulation Lab(Mi Power)	Generation, Transmission & Relay panels	UG/ PG course	Students will be able to study performance of transmission lines, unsymmetrical faults in power system, optimal generation scheduling, assess the transient stability. And solve power flow problem.
<b>02</b>	JCE Power System Simulation Lab( CYME)	Distribution system, transmission system and industrial power system.	UG/ PG course	Students will be able to analyze primary and secondary distribution network, optimal capacitor location, reliability and load models.

### **Instructional Material:**

- Power point presentations
- e-notes
- lab manuals

### **Working Models:**

<b>S. No</b>	<b>Model</b>
<b>1</b>	Three Phase Induction Motor a) Squirrel Cage
<b>2</b>	Three Phase Synchronous Machine
<b>3</b>	Single Phase Transformer a) Shell Type
<b>4</b>	Sub-station Model
<b>5</b>	Single Phase Energy Meter.



**Charts:**

S. No	Name of the chart	Laboratory
1.	Do's & Don'ts and safety precautions	All laboratories
2.	Block diagram model of Load Frequency Control( isolated Power System)	Power System Simulation Lab
3.	Turbine Speed Governing System	Power System Simulation Lab
4.	Schematic diagram of Load Frequency and Excitation voltage regulators of a Turbo generator	Power System Simulation Lab
5.	Power Electronics Devices and its Characteristics	Power Electronics
6.	Distributed Generation and Power Quality	Machine Lab I
7.	Earthing	BEE Lab
8.	Overview of Power Disturbances	Power System Lab
9.	Insulators, Cables and Arcing horns	HV and Relay Lab
10.	Single line diagram of Power System and Distribution Schemes	HV and Relay Lab
11.	Basic Logic Gates	DSD Lab
12.	NAND/NOR Gate -Universal Gate	DSD Lab
13.	Electronic Components	Electronic Lab
14.	8051 Microcontroller -Features	Microcontroller Lab

## **5.8 Faculty Performance Appraisal and Development System (FPADS) (30)**

The institute has a comprehensive faculty performance appraisal and development system. The procedure followed is as stated below

1. Each staff is required to submit the 'self-evaluation' form in the prescribed format. (Attached below)
2. Self evaluation form is evaluated by HOD periodically (yearly bases).
3. Evaluation is based on following Criteria. i. Involvement in teaching/learning activities. ii. Participation in departmental/ college/university activities. iii. Adherence to academic calendar and knowledge shared beyond syllabus. iv. Commitment towards the job/role at JCE. v. Research, publications and consultancy.
4. Evaluation would be in scale of 1 to 10, (1 being lowest and 10 being the highest).
5. Committee constituting Principal and Director and Management will further assess the 'self-evaluation' form along with other relevant records to take further decision about staff's yearly increment, promotions and rewards etc.

Evaluation Guidelines:



i. Involvement in teaching learning activities

Teaching activities:

1. Preparation before lecture
2. Notes preparation
3. Solving the students' doubts
4. Effective delivery of class, with fluent English
5. Availability to students

Learning activities:

6. SWAYAM/NPTEL Online Course Registration and competition of courses.
7. Updating with soft skills
8. Research oriented study
9. Preparation for Ph. D
10. Involvement in students' project

ii. Participation in departmental / college /university activities.

Considered points are

1. Involvement in department functions
2. Involvement in seminars/technical talks arranged and in committee visits etc.
3. Involving one with students parents for the betterment of student
4. Involvement with management assigned works
5. Mentoring the students
6. Monitoring the students' discipline in the campus
7. Giving placement opportunities.
8. Building good/friendly environment with students
9. Working beyond Working hours.
10. Attending University duties

iii. Adherence to academic calendar and knowledge shared beyond syllabus.

1. Adherence to time table and curriculum prescribed by the university.
2. Project on thrust area.
3. Report correction, seminar and extensive survey work follow up
4. Encouraging sponsorship /grants.
5. Motivating the students to participate in the inter and intra college activities.
6. Motivating students for higher studies by making them aware of GATE, GRE, TOFFEL, etc

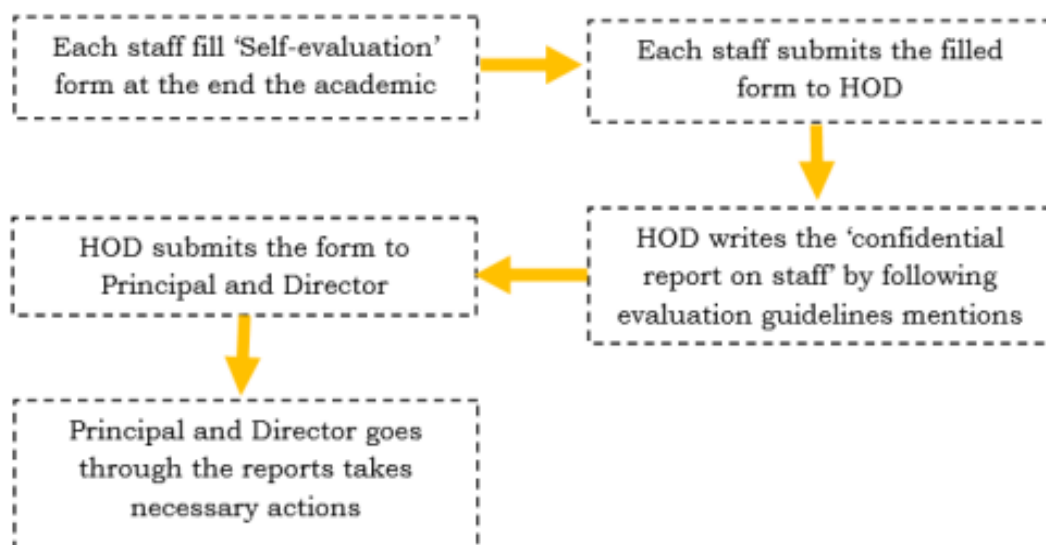
7. Motivating students to take projects solving social problems.
8. Making students aware of industrial needs and preparing them for.
9. Following OBE in to their courses.
10. Involvement in Accreditation works like NBA, NAAC etc.

iv. "Commitment towards the job/role at JCE":

How to evaluate commitment...?

1. Punctuality
2. Interaction
3. Students' feedback
4. Quality time at JCE

The schematic presentation of Self Appraisal form is as follows





## Self Evaluation Format

Name: \_\_\_\_\_ Qualification: \_\_\_\_\_ Designation & Dept: \_\_\_\_\_  
 Total Experience: Teaching- \_\_\_\_\_ Industry- \_\_\_\_\_ DOJ at JCE: \_\_\_\_\_

## 1. Strengths and Abilities:

## 2. Theory subjects handled and average feedback in each subject (previous two semesters-Aug-Dec 2021 &amp; Jan-July 2022)

Class & Subject	Student feedback 1	Student feedback 2	VTU result (% pass)	Remarks

## 3. Role other than teaching:

## 4. Additional information:

- a. Journal papers published: \_\_\_\_\_ b. Conference papers published: \_\_\_\_\_  
 c. Number of UG projects guided: \_\_\_\_\_ d. Number of PG projects guided: \_\_\_\_\_  
 e. Conferences organized: \_\_\_\_\_

## 5. Future plans for individual(personal) development:

Signature with Date

**Confidential Report of HOD: (Evaluation on a scale of 1 to 10, 1 being lowest and 10 being highest)**

1. Involvement in Teaching/Learning activities/knowledge shared beyond syllabus	
2. Participation in Departmental activities other than teaching-	
3. Punctuality in submission of marks/documents etc., required for VTU/AICTE	
4. Seriousness towards the Job role at JCE (Average/Good/Excellent)	
5. Actions initiated for any violations at college/VTU (Give details on backside, if any)	

## Leave record (in days)

From 1 <sup>st</sup> Jan'21 to 31 <sup>st</sup> Dec'21	From 1 <sup>st</sup> Jan'22 to till date	Remarks
CL -      EL -      LWP -	CL -      EL -      LWP -	

Signature of HOD with date

Note: HODs are requested to verify the entries about feedback and VTU result from the database.

**5.9 Visiting/Adjunct/Emeritus Faculty etc. (10)****A. Visiting Faculties**

1. Prof. S S Deshpande, has 32 years of teaching experience
2. Prof. S B Patil, has 35 years of teaching experience

**B. Adjunct Faculty** 1. Prof. Ramana Murthy, has 35 years of teaching and Industry experience

## Criteria 6 FACILITIES AND TECHNICAL SUPPORT

### 6.1. Adequate and well equipped Laboratories, and Technical Manpower (30)

Department of Electrical and Electronics Engineering, has well equipped laboratories and experienced technical manpower. The details are given in Table 6.1

.Sr. No.	Name of the Laboratory	Number of students per set up(Batch size)	Name of the Important equipment	Weekly utilization status(all courses for which the lab is utilized)	Technical Manpower Support		
					Name of the technical staff	Designation	Qualification
1	Basic Electrical Engineering laboratory	30	Experiment kits,  Single phase transformer,  Single phase & Three Phase loads, Single phase & Three Phase Auto transformers,  DC Regulated Power supply,  Merger	18	Mr. Zuberahmed Jinabade	Instructor	BE
2	Electronics laboratory	20	CRO,  Function generator,	9	Mr. Siddaardha Patil	Instructor	BE

.Sr. No.	Name of the Laboratory	Number of students per set up(Batch size)	Name of the Important equipment	Weekly utilization status(all courses for which the lab is utilized)	Technical Manpower Support		
					Name of the technical staff	Designation	Qualification
			DC power Supply,  DMM,  LCR Meter,				
3	Machine lab I	20	DC Shunt &Compound Generator,  DC Shunt &Compound Motors,  AC Motor coupled to DC Generator, Synchronous Motor,  Synchronous Generator with synchronizing panel, Auto transformers, Motor loading arrangement for motors, DC Rectifier 230V 100Amps Unit.	9	Mr. Moneshri P Jadhav	Mechanic	JOC(Electrical)
4	Op-amp & LIC lab	20	Op- amp ICs, CRO, Function generator, DC power Supply,	9	Mr. Siddaardha Patil	Instructor	BE

.Sr. No.	Name of the Laboratory	Number of students per set up(Batch size)	Name of the Important equipment	Weekly utilization status(all courses for which the lab is utilized)	Technical Manpower Support		
					Name of the technical staff	Designation	Qualification
			DMM.				
5	Machine lab II	20	DC machines, AC machines, Motor loading arrangement, DC Rectifier 230V 100Amps Unit.	9	Mr. Moneshri P Jadhav	Mechanic	JOC(Electrical)
6	Power Electronics lab	22	SCR Trainer Kit, IGBT & MOSFET Kit, Chopper, Invertors, TRIAC & DIAC Kit, Universal Motor & speed Control Kit, CRO, DMM.	9	Mr. Shivaji Patil	Mechanic	ITI
7	Micro controller lab	22	LCD Display Module, 7 Segment Display Module, ADC Interface Module, Stepper Motor Interface Module, Interface Kits.	9	Mr. K M Udakeri	Instructor	Diploma (Electrical)
8	DSP lab	20	Computers, MATLAB Software	9	Mr. Zuberahmed Jinabade	Instructor	BE
9	Control System lab	20	PID Controller Unit, DC Servo Motor, DC Power Supply, LCD Display, Phase Angle Meter with Lead/Lag Indication unit,	9	Mr. K M Udakeri	Instructor	Diploma (Electrical)

.Sr. No.	Name of the Laboratory	Number of students per set up(Batch size)	Name of the Important equipment	Weekly utilization status(all courses for which the lab is utilized)	Technical Manpower Support		
					Name of the technical staff	Designation	Qualification
			Auto Transformer, CRO & Function Generator				
<b>10</b>	Power System Simulation lab	20	Computers, MATLAB Software, MiPower	9	Mr. Shivaji Patil	Mechanic	ITI
<b>11</b>	Relay & high voltage lab	20	High voltage set up, Relay kits	9	Mr. Moneshri P Jadhav	Mechanic	JOC(Electrical)

## 6.2. Additional facilities created for improving the quality of learning experience in laboratories (25)

Following additional facilities are provided for students to improve the learning experience in laboratories. The details are given in Table 6.2

Sr. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to POs/PS Os
1	Cyme Software	Version 7.2.1.0032	To analyze primary & secondary distribution network, optimal capacitor location, reliability & load models.	UG/PG	Distribution System, Transmission System & Industrial Power System	PO1,PO2,PO3, PO4,PO5,PO6, PO12,PSO1,PSO2,PSO3
2	Distance Protection Relay Trainer	Input 3 phase DOL Starter panel (EMT1), 1 phase AC input supply panel (EMT16A), 3Phase Power cum Energy meter panel (EMT 34) x2 Nos., Distance Relay Panel(EMT53), CT Panel(EMT48), 415/110VAC, Star/Star Step Down Transformer Panel (EMT54), FWD-OFF-REV, Switch Panel (EMT 4A), Transmission line Panel (EMT38), Resistive Load panel (EMT 42A).	To Make students understand the operation of distance protection relay.	UG/PG	Power System	PO1,PO2,PO3, PO4,PO5,PO6, PO9,PSO1,PSO2,PSO3



Sr. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to POs/PS Os
3	IDMT Over Current Relay & Over/Under Voltage Trainer	1 phase AC input supply panel (EMT 16A), Variable voltage & current Injector panel(EMT23A), Over current & elapsed time measurement panel (EMT 39), Over Current Relay Panel (EMT45/EMT50), Over/Under/ Unbalanced Voltage relay panel.	To Make students understand the working of Over Current Relay & Over/Under Voltage relay.	UG/PG	Power System	PO1,PO2,PO3, PO4,PO5,PO6, PO9,PSO1,PS O2,PSO3
4	Power Transmission Line Trainer	Input 3 phase DOL Starter panel (EMT1), FWD-OFF-REV, Switch Panel (EMT 4A), Integrated AC 3 phase measurement panel (EMT 34) × 2, VAR Compensation panel (dual panel) (EMT43), Transmission line Panel (EMT38) Table Top Panel, RLC load panel EMT42A/B/C, 3 phase dimmer panel EMT20D.	To Make students understand the power transmission.	UG/PG	Power System	PO1,PO2,PO3, PO4,PO5,PO6, PO9,PSO1,PS O2,PSO3

Sr. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to POs/PS Os
5	Transformer Trainer	300 VA- 1 phase (2 nos.), 3 phase(1 nos.) 1KVA/3KVA- 1 phase (1 nos.), 3 phase(1 nos.)	To Make students understand working of Transformer.	UG/PG	Power System	PO1,PO2,PO3, PO4,PO5,PO6, PO9,PSO1,PSO2,PSO3
6	Generation Trainer	Input 3 phase DOL starter panel (EMT 1),FWD/REV, Star-Delta starter panel (EMT 4), Instrumentation Power supply cum Multichannel DPM panel (EMT8),SCR Actuator (variable DC) cum sensor signal conditioning panel (EMT9)x3 nos. ,Rotor Resistance cum 3 phase Synchronous Motor Control Panel (EMT 5A/5B), Integrated AC 3 phase measurement panel (EMT 34),Table Top Panels, M/C's Key Resource, Resistor Load Panel (EMT14A/B), LC Load Panel (EMT 15A/B).	To Make students understand power generation.	UG/PG	Power System	PO1,PO2,PO3, PO4,PO5,PO6, PO9,PSO1,PSO2,PSO3

Sr. No.	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to POs/PS Os
7	Department Library	Collection of Technical Text books, Gate Coaching Books, Project reports and Non-technical books	To meet the needs of students. To provide reference facilities. To refer advanced information for seminar, laboratory projects.	Throughout the semester	Student learning process	PO1,PO12,PSO1,PSO2
8	Internet Facility	Multi craft digital technologies pvt. ltd., BSNL with 100Mbps bandwidth	Facility to enhance browsing, communications, and get connected to WWW	Complete academic year and get connected to world wide web	Gain knowledge apart from curriculum 24X7	PO1,PO2,PO3, PO5, PO12,PSO1, PSO2.
9	Energy Meter	Single phase energy meter-250volts	To understand the working of meter , this meter helps to calculate the electricity bill	UG	During theory classes additional knowledge can be gained	PO1,PO2, PO12,PSO1, PSO2,PSO3
10	E-journal Facility	Elsevier, IEEE, Springer Nature, Taylor& Francis, Emerald publishing, Emerald Buiseness, Pro Quest, Mint Books, originality checking tool	For research and project activities. To know about recent trends in science and technology	Complete academic year	Research activity, Recent trends in engineering, Project activity	PO1, PO2, PO3, PO4, PO12,

Sr. No.	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to POs/PS Os
		(Turnitin), Net Analytics technologies, , MAP systems		is opened to utilize		PSO1,PSO2,PSO3
11	Ward Leonord Speed control of DC Shunt Generator	2.2KW/220V/1500rpm	To understand the speed control of DC Shunt Generator	UG	Speed Control of DC shunt Generator	PO1,PO2,PO3, PO4,PO5,PO6, PO9,PSO1,PSO2, PSO3

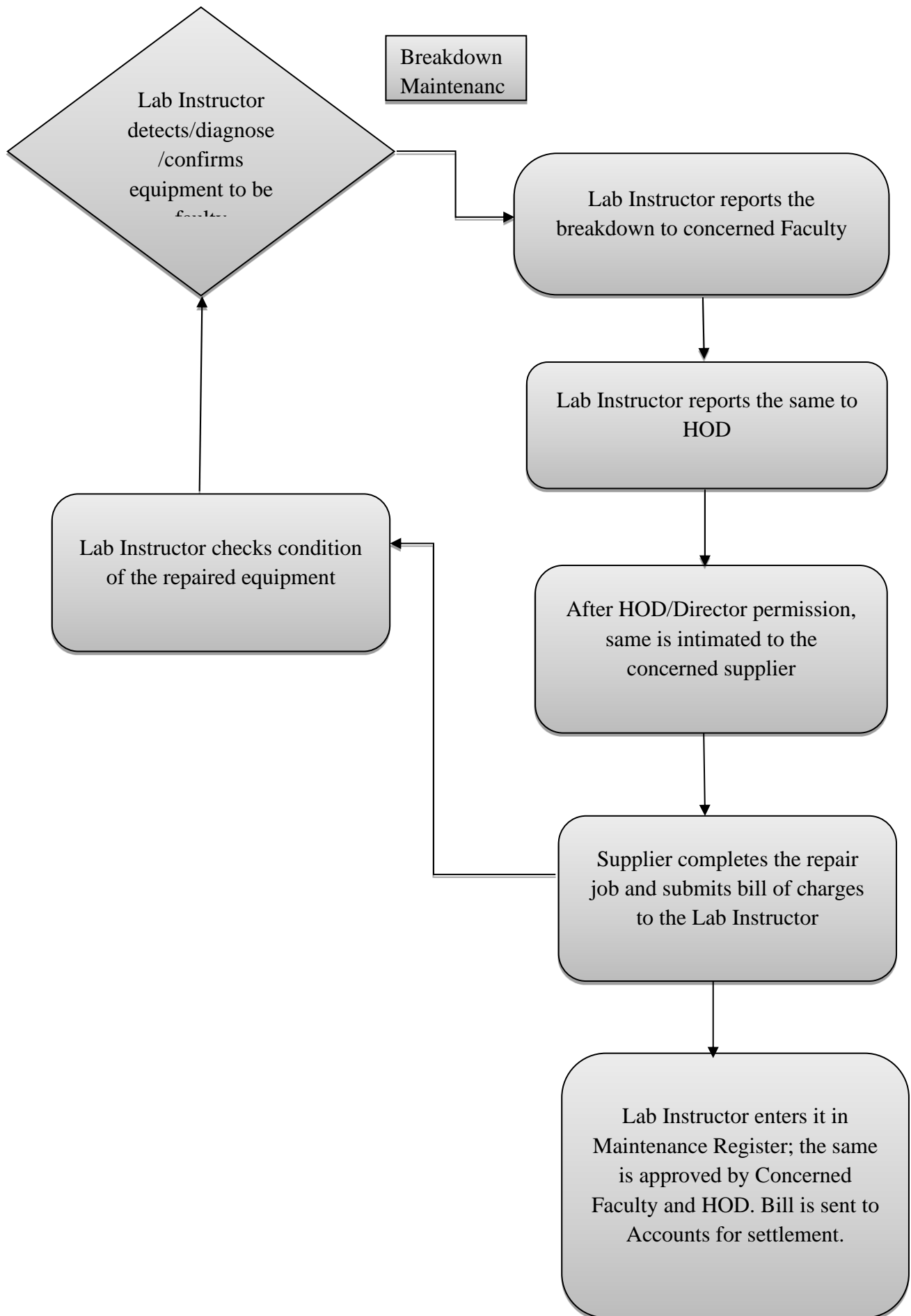
### **6.3. Laboratories: Maintenance and overall ambiance (10)**

The proper function of equipment in all laboratories is ensured in every semester by the lab technicians and minor repairs such as installing replacement parts are carried out by them as and when they are needed. Then it is recoded in service register. Stock register is maintained in all laboratories/ Department to check the availability and working of the equipment in every year.

#### **Maintenance of laboratory equipment:**

- Technical support staff monitors the condition of laboratory equipment in coordination with the faculty member in-charge of each laboratory.
- Preventive maintenance is done before the beginning of a new semester when the equipment is to be used.
- Minor repairs are done by technical staff, and service representatives of equipment suppliers are contacted for any major repairs. The institution has provided funding whenever such support has been found to be necessary.
- Housekeeping staff is assigned to keep the laboratories clean on a regular basis.

The result of these activities is that equipment is in working order. The Process for Maintenance and Repairs of Lab Equipment is represented in fig.6.3



### **Overall ambiance:**

- Laboratories are housed in clean facilities with adequate ventilation and sufficient lighting to provide for a safe and comfortable working atmosphere for students, technical staff, and faculty.
- All laboratories are equipped with essential equipment to meet the requirements of the curriculum.
- The institute has made arrangement for power back-up using diesel generators in case of power supply breakdown. Computers and electronic equipment are powered using uninterrupted power supply outlets for which a centralized battery back-up facility is installed at the institute.
- All the laboratories have adequate and comfortable furnishings.
- Sufficient number of equipment is available so that no equipment is ever overcrowded. The maximum number of students sharing any piece of equipment for any experiment is four.
- Laboratory manuals are available wherever these are relevant.
- Safety precautions are documented and displayed prominently, and students are made aware of safety precautions on the first day of the laboratory sessions every semester.
- All Labs are equipped with white board and computer related labs are equipped with computers and Internet.
- Time table, student list, batch list and experiments list are displayed in the respective lab notice board.
- Lab charts are displayed in each lab along with charts of DO'S and DON'TS.
- First aid kits are kept in all laboratories and department to meet out any eventuality.
- Fire extinguishers of ISI mark of adequate capacity and numbers are provided in eye catching spots in the college buildings especially in all laboratories. Fire extinguishers are well maintained and checked periodically and refilling is done well before the due date.

## Laboratories





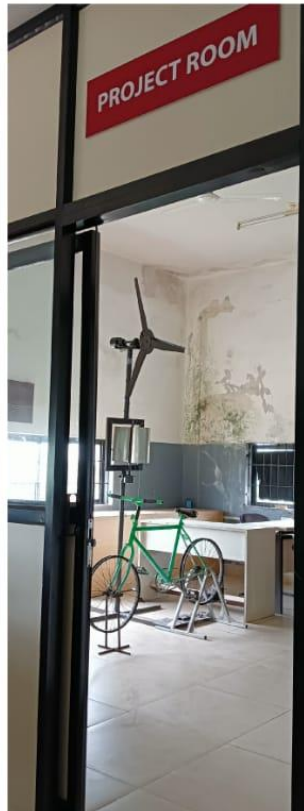
## 6.4 Project Laboratories (5)

Sl. No.	Facility	Specifications	Utilization
1	Pervious year project reports	----	6 <sup>th</sup> to 8 <sup>th</sup> semester students and faculty members
2	Cyme Software	Version 7.2.1.0032	6 <sup>th</sup> to 8 <sup>th</sup> semester students and faculty members
3	DC regulated power supply	0-30V, 2A	3 <sup>rd</sup> to 8 <sup>th</sup> semester students and faculty members
4	CRO	----	3 <sup>rd</sup> to 8 <sup>th</sup> semester students and faculty members
5	Function Generator	2 MHz function pulse generator with 40 MHz frequency counter	3 <sup>rd</sup> to 8 <sup>th</sup> semester students and faculty members
6	Microcontroller kits	----	6 <sup>th</sup> to 8 <sup>th</sup> semester students and faculty members
7	MATLab	MATLab 2008/2010	6 <sup>th</sup> to 8 <sup>th</sup> semester students and faculty members
8	Mi-Power	Version 9.0	6 <sup>th</sup> to 8 <sup>th</sup> semester students and faculty members

**For projects the following facilities are available to the students:**

- 24 X 7 uninterrupted power supply
- 24 x 7 Wi-Fi connections in the campus
- Subscriptions to e-Journals
- Students are free to utilize any faculties under supervision.
- More than 75 % utilization of the equipment available

# Project Laboratory



## 6.5 Safety measures in laboratories (10)

### Common Safety measures in the Laboratories:

1. First Aid kit is available in the entrance of the Laboratory in case of emergency.
2. Fire Extinguisher is available in the Laboratory in case of fire emergency.
3. Students are instructed to avoid direct contact with any voltage source and Power line voltages.
4. Students are advised to wear rubber-soled shoes and avoid loose clothing.
5. Students must assure that their hands are dry and not standing on wet floor.
6. Students are advised not to switch ON the experiments without the permission from the faculty in-charge.
7. Students must make sure that the electric supply is OFF before giving connections.
8. Periodically checking of earthing connection.

Necessary safety measures are provided in all laboratories. The safety measures are listed below.

Sr. No.	Laboratory Name	Safety Measures
1	Basic Electrical Engineering laboratory	Earthing, First aid box, Fire extinguisher, MCB protection, Rubber mat, CCTV camera
2	Electronics laboratory	Earthing, First aid box, Fire extinguisher, CCTV camera
3	Machine lab I	Earthing, First aid box, Fire extinguisher, MCB protection, Rubber mat, CCTV camera
4	Op-amp & LIC lab	Earthing, First aid box, Fire extinguisher, CCTV camera
5	Machine lab II	Earthing, First aid box, Fire extinguisher, MCB protection, Rubber mat, CCTV camera
6	Power Electronics lab	Earthing, First aid box, Fire extinguisher, CCTV camera
7	Micro controller lab	Earthing, First aid box, Fire extinguisher, CCTV camera

Sr. No.	Laboratory Name	Safety Measures
<b>8</b>	DSP lab	Earthing, First aid box, Fire extinguisher, CCTV camera
<b>9</b>	Control System lab	Earthing, First aid box, Fire extinguisher, CCTV camera
<b>10</b>	Power System Simulation lab	Earthing, First aid box, Fire extinguisher, CCTV camera
<b>11</b>	Relay & high voltage lab	Earthing, First aid box, Fire extinguisher, MCB protection, Rubber mat, CCTV camera

## Criteria 7 CONTINUOUS IMPROVEMENT

### 7.1 Actions taken based on the results of evaluation of each of the POs & PSOs (20)

POs Attainment Levels and Actions for Improvement- (2016-2020)

POs	Target Level	Attainment Level	Observations
PO 1 : Engineering Knowledge			
PO 1	1.2	2.2	Target Level attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE33 Transformers and Generators 15EE34 Analog Electronic Circuits 15EE35 Digital System Design 15EE45 Electromagnetic Field Theory 15EE46 Operational Amplifiers and Linear ICs 15EE62 Power System Analysis – 1 15EE63 Digital Signal Processing
Extra classes are taken Quizzes conducted			
PO 2 : Problem Analysis			
PO 2	1.2	1.7	Target Level attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE33 Transformers and Generators 15EE34 Analog Electronic Circuits 15EE35 Digital System Design 15EE46 Operational Amplifiers and Linear ICs 15EE62 Power System Analysis – 1 15EE63 Digital Signal Processing 15EE53 Power Electronics 15EE72 Power System Protection 15EE73 High Voltage Engineering
Extra classes are taken Quizzes conducted Industry visits are organized			
PO 3 : Design/development of Solutions			
PO 3	1.2	1.6	Target Level attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE33 Transformers and Generators 15EE34 Analog Electronic Circuits 15EE35 Digital System Design 15EE46 Operational Amplifiers and Linear ICs 15EE62 Power System Analysis – 1 15EE63 Digital Signal Processing 15EE53 Power Electronics 15EE72 Power System Protection 15EE73 High Voltage Engineering 15EE52 Microcontroller 15EE45 Electromagnetic Field Theory
Quizzes conducted Industry visits are organized Extra classes are taken			
PO 4 : Conduct Investigations of Complex Problems			

POs	Target Level	Attainment Level	Observations
PO 4	1.2	0.5	Target Level not attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE33 Transformers and Generators 15EE72 Power System Protection 15EE73 High Voltage Engineering
Extra classes are taken Quizzes conducted Industry visits are organized			
PO 5 : Modern Tool Usage			
PO 5	1.2	0.5	Target Level not attained. The following courses need improvement 15EE43 Transmission and Distribution 15EE51 Management and Entrepreneurship
Introduction to modern tools were made Workshops conducted Students are encouraged to undergo internship			
<b>PO 6 : The Engineer and Society</b>			
PO 6	1.2	0.6	Target Level not attained. The following courses need improvement 15EE33 Transformers and Generators 15EE34 Analog Electronic Circuits 15EE35 Digital System Design 15EE46 Operational Amplifiers and Linear ICs
<b>Workshops conducted</b>			
<b>PO 7 : Environment and Sustainability</b>			
PO 7	1.2	0.3	Target Level not attained. The following courses need improvement 15EE33 Transformers and Generators 15EE43 Transmission and Distribution 15EE53 Estimating and Costing 15EE563 Renewable Energy Systems
Extra classes with demonstration were done Workshops organized			
<b>PO 8 : Ethics</b>			
PO 8	1.2	0.2	Target Level not attained. The following courses need improvement 15EE51 Management and Entrepreneurship 15EE53 Estimating and Costing
Extra classes with demonstration were done Workshops organized Students are encouraged to undergo internship			
<b>PO 9 : Individual and Team Work</b>			
PO 9	1.2	0.5	Target Level not attained. Attainment is very close to the target

POs	Target Level	Attainment Level	Observations
No actions taken			
<b>PO 10 : Communication</b>			
PO 10	1.2	0.3	Target Level not attained. The following courses need improvement 15EE51 Management and Entrepreneurship 15EE553 Estimating and Costing
Extra classes with demonstration were done Workshops organized Students are encouraged to undergo internship			
<b>PO 11 : Project Management and Finance</b>			
PO 11	1.2	0.4	Target Level not attained. The following courses need improvement 15EE51 Management and Entrepreneurship
Extra classes organized Students are encouraged to undergo internship Quizzes and group discussions are conducted			
<b>PO 12 : Life-long Learning</b>			
PO 12	1.2	1.4	Target Level attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE34 Analog Electronic Circuits 15EE45 Electromagnetic Field Theory 15EE51 Management and Entrepreneurship 15EE52 Microcontroller 15EE662 Sensors and Transducers
Extra classes organized Students are encouraged to undergo internship Quizzes are conducted			

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

PSOs	Target Level	Attainment Level	Observations
<b>PSO 1 : Apply principles of Electrical Sciences for developing, testing, operation and maintenance of electrical systems</b>			
PSO 1	1.2	1.73	Target Level attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE33 Transformers and Generators 15EE34 Analog Electronic Circuits 15EE35 Digital System Design 15EE45 Electromagnetic Field Theory 15EE52 Microcontroller
Extra classes are taken Quizzes conducted			

PSOs	Target Level	Attainment Level	Observations
<b>PSO 2 : Study, design, and analyse electrical engineering systems.</b>			
<b>PSO 2</b>	1.2	1.21	Target Level attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE33 Transformers and Generators 15EE34 Analog Electronic Circuits 15EE35 Digital System Design 15EE45 Electromagnetic Field Theory 15EE52 Microcontroller
Quizzes conducted Extra classes are taken			
<b>PSO 3 : Work professionally in power systems engineering, control systems engineering and software industries.</b>			
<b>PSO 3</b>	1.2	1.05	Target Level not attained. The following courses need improvement 15EE32 Electric Circuit Analysis 15EE45 Electromagnetic Field Theory 15EE52 Microcontroller 15EE742 Utilization of Electrical Power 15EE63 Digital Signal Processing 15EE53 Power Electronics
Extra classes are taken			

## 7.2 Academic Audit and actions taken thereof during the period of Assessment

Academic Audits are conducted to monitor and evaluate the teaching and learning process. It consists of internal audit and external audit committees, (LIC, AICTE). Audit is conducted for teaching process, laboratory maintenance and departmental activities.

### Academic Audit Process:

Faculty adopts various innovative Teaching & Learning methodologies to create the best learning environment for student. These methodologies include traditional black board teaching, power point presentations, and videos.

Before the semester begins, subjects are allotted to faculty taking into account, their area of specialization and subject of interest with priorities. This is coordinated by the Department Academic Coordinator.



Faculty members are advised to consider the performance of previous year students and previous year course file in the subject they will be handling and take corrective measures if required during the semester.

COs, CO-PO and CO-PSO mapping has to be revisited.

Taking into account the above-mentioned factors faculty members build their course file(s).

The academic requisition preparedness is given and checked by the department IQAC at regular intervals.

During audit by Academic coordinator, the course file contents as per checklist are checked.

Faculty members incorporate the changes suggested (if any) by department IQAC. Semester end feedback is taken at the end of the semester.

External Audit committees (LIC) visit the institute once a year. Based on the observations of the teaching learning process, feedback is given to the higher authority, who in turn informs the Faculty to do the needful.

#### **Action taken by the faculty:**

1. If student performance is low, effective teaching methodologies such as use of e-learning resources, power point presentations, etc are planned.
2. For lateral entry students and students having low level learning skills, remedial classes are conducted.
3. Critical subjects are identified on the basis of previous year performance and tutorials are planned for the same
4. Regular industry visits will be conducted for students to understand the practical implementation of some theoretical concepts.

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

**Total Marks 10.0**

<b>Total No. of Final Year Students (N)</b>	<b>63</b>	<b>67</b>	<b>48</b>
<b>No. of students placed in companies or Government Sector (x)</b>	38	23	19
<b>No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, PGCET, NICMAR etc.) (y)</b>	3	5	3
<b>No. of students turned entrepreneur in engineering/technology (z)</b>	1	0	2
<b>x + y + z</b>	42	28	24
<b>Placement Index : (x + y + z )/N</b>	0.67	0.42	0.5
<b>Average placement= (P1 + P2 + P3)/3</b>	0.53		

#### 7.4 Improvement in the quality of students admitted to the program (10)

Item		2021-22	2020-21	2019-20
<b>National Level Entrance Examination</b>  <b>0</b>	No of students admitted	0	0	<b>0</b>
	Opening Score/Rank	0	0	<b>0</b>
	Closing Score/Rank	0	0	<b>0</b>
<b>State/ University/ Level Entrance Examination/ Others</b>  <b>CET</b>	No of students admitted	24	29	<b>33</b>
	Opening Score/Rank	49757	44273	<b>38313</b>
	Closing Score/Rank	159776	134828	<b>211526</b>
<b>Name of the Entrance Examination for Lateral Entry or lateral entry details</b>  <b>DCET</b>	No of students admitted	22	33	<b>14</b>
	Opening Score/Rank	4316	3262	<b>2430</b>
	Closing Score/Rank	14636	11423	<b>14762</b>
<b>Average CBSE/Any other board result of admitted students(Physics, Chemistry &amp; Math's)</b>		<b>73</b>	<b>70</b>	<b>71</b>

**First Year Teaching Faculty (2021-22)**

S. No	Name of the faculty member	PAN No.	Qualification	Date of Receiving Highest degree	Area of Specialization	Designation	Date of Joining	Teaching Load (%)	Currently Associated/Contract (Yes/No)	Nature of Association (Regular/Contract)	Date of leaving (in case Currently Associated is NO)
1	A. P. Deshpande	ADXPD3385P	M.Sc.	05-08-1979	Graph theory	Asst. Prof.	10-09-2011	38	Yes	Regular	
2	Akshata Patil	FXGPP6554Q	M.Tech.	03-04-2021	VLSI Design and Embedded Systems	Asst. Prof.	20-12-2021	79	Yes	Regular	
3	Amey A.Kelkar	BUJPK0483R	M.Tech.	18-04-2011	Civil Structural Engineering	Asst. Prof.	02-02-2015	33	Yes	Regular	
4	Amey Muchandi	BUJPK0483R	M.Tech.	18-03-2017	Digital Electronics and Communication Systems	Asst. Prof.	20-12-2021	100	Yes	Regular	2-11-2022
5	Chetan C Jadhav	AZVPJ4643C	M.Tech.	26-10-2017	Machine Design	Asst. Prof.	06-08-2018	100	Yes	Regular	
6	Dr. Prashant Patil	AWAPP2826P	M.Sc. & Ph.D.	14-04-2014	Mathematics	Asst. Prof.	02-03-2012	38	Yes	Regular	
7	Dr. B K. Manuprasad	CLFPM4849D	M.Sc. & Ph.D.	02-07-2012	Organic Chemistry	Asst. Prof.	26-08-2013	100	Yes	Regular	
8	Dr. Debraj Sarkar	AKAPD8177B	M. Tech & Ph.D.	04-03-2018	Power Systems	Asso.Prof.	01-08-2018	38	Yes	Regular	
9	Dr. G. H. Kulkarni	ABCPK6913D	M. Tech & Ph.D.	02-04-2008	Power systems	Professor	13-08-2010	50	Yes	Regular	
10	Dr. Raghavendra P. B.	AKBPB9203B	M.Sc. & Ph.D.	21-10-2015	Inorganic chemistry	Asst. Prof.	16-07-2015	100	Yes	Regular	
11	Ravi C. B.	ASHPB8610J	M.Sc.	14-10-2011	Electronics	Asst. Prof.	16-01-2012	100	Yes	Regular	

12	Dr. S. M. KERUR	ADUPK3379D	M. Tech & Ph.D.	20-11-2020	Composite Materials	Asso.Prof.	13-08-2010	60	No	Regular	13.10.2021
13	Dr. Sachin M Kulkarni	APTPK2713C	M. Tech & Ph.D.	10-03-2022	Civil Engineering	Asso.Prof.	23-09-2010	30	Yes	Regular	
14	Dr. Shivkumar M.A.	BFSPM9068J	M.Sc. & Ph.D.	18-04-2014	Molecular Spectroscopy and Laser	Asso.Prof.	10-02-2014	100	Yes	Regular	
15	Dr. Veerendrakumar A. K.	EANPK6560G	M.Sc. & Ph.D.	21-12-2015	Chemistry	Asst. Prof.	24-08-2015	73	Yes	Regular	6-12-2022
16	Dr.Raju Kotambri	AXAPK2096F	M.Sc. & Ph.D.	20-06-2019	Graph theory	Asst. Prof.	14-08-2010	38	Yes	Regular	
17	Dr.shankru Guggari	BORPG6388D	M. Tech & Ph.D.	09-11-2020	Computer science and Engineering	Asst. Prof.	08-11-2021	50	Yes	Regular	6-7-2022
18	Jagadeesh S. P.	BYGPP2998P	M.Tech.	06-06-2014	Thermal power Engineering	Asst. Prof.	22-07-2013	67	Yes	Regular	
19	Pratibha C. P.	BLIPP8778C	M.A.	14-07-2014	English Literature	Lecturer	18-03-2021	100	Yes	Contract	
20	Nagaraj Aiholli	AMFPA8975M	M.Tech.	10-09-2012	VLSI Design and Embedded System	Asst. Prof.	23-07-2012	30	Yes	Regular	
21	Pavan Ughade	ADZPU2264N	M.Tech.	18-07-2015	Computer Science and Engineering	Asst. Prof.	27-07-2015	50	No	Regular	31.01.2022
22	Pratik Sayanak	GAYPS7808N	M.Tech.	30-08-2017	Computer Science and Engineering	Asst. Prof.	01-12-2020	30	Yes	Regular	
23	Shafiqahmed Y	ALOPY0032D	M.Sc.	30-05-2007	Mathematics	Asst. Prof.	01-07-2016	38	Yes	Regular	
24	Shashank V.	AOLPV8926K	M.Tech.	20-01-2017	Construction Technology	Asst. Prof.	16-09-2016	15	Yes	Regular	
25	Sushmita Nesarikar	CMVPK4748L	M.Tech.	21-01-2017	Computer Science and	Asst. Prof.	08-04-2022	100	NO	Regular	31.08.2022

					Engineering						
26	Varsha Gokak	APKPG6176J	M. Tech .	05-04-2013	Structural Engineering	Asst. Prof.	21-12-2020	41	Yes	Regular	
27	Vinayak Ratan	BQMPR8410A	M.Tech.	30-11-2014	Engineering Analysis and Design	Asst. Prof.	02-02-2015	50	Yes	Regular	
28	Dr. J. Shivakumar	AEDPJ3012N	Ph.D.	26/07/2008	Mechanical Engineering	Prof.	14/11/2021	100	Yes	Regular	
29	Praveen Y. Chitti	AHNPC4928K	M.Tech.	13-02-2006	Design & Embedded System	Asst. Prof.	16-08-2010	100	Yes	Regular	
30	Rajshekhar Malagihal	AURPM9515D	M.Tech.	01-07-2014	Geotechnical Engineering	Asst. Prof.	01-08-2014	10	Yes	Regular	
31	Dr. Rajani H.P.	AEQPR2354N	Ph.D.	30-09-2015	VLSI DESIGN	Professor	13-11-2021	100	Yes	Regular	
32	Darshan Katageri	BUHPK0994B	M.Tech.	05.04.2013	Computer Integrated Manufacturing	Asst.Prof.	23.07.2014	100	Yes	Regular	
33	Vinayak Nannoji	AMDPN7274L	M.Tech.	30-11-2015	Product Design and Manufacturing	Asst. Prof.	22-07-2013	100	Yes	Regular	

**First Year Teaching Faculty: Academic Year 2020-21**

S. No	Name of the faculty member	PAN No.	Qualification	Date of Receiving Highest degree	Area of Specialization	Designation	Date of Joining	Teaching Load in %	Currently Associated/Contract (Yes/No)	Nature of Association (Regular/Contract)	Date of leaving (in case Currently Associated is NO)
1	A. P. Deshpande	ADXP3385P	M.Sc.	05-08-1979	Graph theory	Asst. Prof.	10-09-2011	38	Yes	Regular	
2	Amey A.Kelkar	BUJPK0483R	M.Tech.	18-04-2011	Civil Structural Engineering	Asst. Prof.	02-02-2015	28	Yes	Regular	
3	Bharat Naik	ARDPN6787H	M.Tech.	23-04-2019	Thermal Engineering	Asst. Prof.	24-07-2019	75	No	Regular	08.02.2021
4	Chetan C Jadhav	AZVPJ4643C	M.Tech.	26-10-2017	Machine Design	Asst. Prof.	06-08-2018	100	Yes	Regular	
5	Dr. Prashant Patil	AWAPP2826P	M.Sc. & Ph.D.	14-04-2014	Mathematics	Asst. Prof.	02-03-2012	38	Yes	Regular	
6	Dr. B K. Manuprasad	CLFPM4849D	M.Sc. & Ph.D.	02-07-2012	Organic Chemistry	Asst. Prof.	26-08-2013	100	Yes	Regular	
7	Dr. Raghavendra P. B.	AKBPB9203B	M.Sc. & Ph.D.	21-10-2015	Inorganic chemistry	Asst. Prof.	16-07-2015	100	Yes	Regular	
8	Ravi C. B.	ASHPB8610J	M.Sc.	14-10-2011	Electronics	Asst. Prof.	16-01-2012	100	Yes	Regular	
9	Dr. S. M. Kerur	ADUPK3379D	M. Tech. & PhD	20-11-2020	Composite Materials	Asso. Prof.	13-08-2010	100	No	Regular	13.10.2021
10	Dr. Sachin M. Kulkarni	APTPK2713C	M. Tech. & Ph.D.	10-03-2022	Civil Engineering	Asso. Prof.	23-09-2010	32	Yes	Regular	
11	Dr. Shivkumar M.A.	BFSPM9068J	M.Sc. & Ph.D.	18-04-2014	Molecular Spectroscopy and Laser	Asso. Prof.	10-02-2014	100	Yes	Regular	

12	Dr. Tamalika C	AJQPC1388L	M. Tech & Ph.D.	04-01-2019	Power Systems	Asst. Prof.	19-08-2019	69	No	Regular	12.04.2021
13	Dr. Veerendrakumar A. K.	EANPK6560G	M.Sc. & Ph.D.	21-12-2015	Chemistry	Asst. Prof.	24-08-2015	100	Yes	Regular	
14	Dr.Raju Kotambri	AXAPK2096F	M.Sc. & Ph.D.	20-06-2019	Graph theory	Asst. Prof.	14-08-2010	38	Yes	Regular	
15	Girish Uppin	AAKPU5246Q	M.Tech.	20-06-2000	Power and Energy System	Asst. Prof.	25-08-2015	69	No	Regular	22.07.2021
16	Pratibha C. P	ACGPF9476R	M.A.	10-01-2017	English	Asst. Prof.	02-08-2019	100	No	Regular	17.07.2020
17	M.Saritha	AMUPM0719N	M.Tech.	12-01-2010	Digital Communications Engineering	Asst. Prof.	15-07-2011	30	Yes	Regular	
18	Namitha Bhat	BQZPB5633C	M.Tech.	30-07-2019	Computer Science and Engineering	Asst. Prof.	01-08-2019	50	Yes	Regular	9-10-2021
19	Rahul Munavalli	BQAPM0914Q	M.Sc.	27-08-2014	Mathematics	Asst. Prof.	15-07-2016	38	Yes	Regular	
20	Shafiqahmed Y	ALOPY0032D	M.Sc.	30-05-2007	Mathematics	Asst. Prof.	01-07-2016	38	Yes	Regular	
21	Srinath Givri	BADPG6209B	M.Tech.	22-01-2016	Thermal Power Engineering	Asst. Prof.	21-08-2017	100	No	Regular	11.01.2022
22	Suhas Honamore	AFGPH5875P	M.Tech.	01-08-2014	Computer Science and Engineering	Asst. Prof.	09-07-2016	30	No	Regular	19.04.2021
23	Sushma Uday K.	DENPK4042E	M.Tech.	03-05-2014	Industrial Electronics	Asst. Prof.	22-07-2013	30	No	Regular	27.07.2021

24	Vinayak Ratan	BQMPPR8410A	M.Tech.	30-11-2014	Engineering Analysis and Design	Asst. Prof.	02-02-2015	100	Yes	Regular	
25	Vireshkumar M.	CICPM6266N	M.Tech.	22-07-2013	Power System Engineering	Asst. Prof.	22-07-2013	38	No	Regular	12.04.2022
26	Vinayak Nannoji	AMDPN7274L	M.Tech.	30-11-2015	Product Design and Manufacturing	Asst. Prof.	22-07-2013	100	Yes	Regular	
27	Mohamed Anees	AHVPA6942P	M.Tech	12-02 -2014	Embedded Systems	Asst. Prof	14-12-2020	50	NO	Regular	24.09.2021
28	Amritkumar T.	AVWPT6980F	M.Tech.	30-07-2019	Computer Science and Engineering	Asst. Prof.	01-08-2019	50	Yes	Regular	4-5-2022

#### First Year Teaching Faculty: Academic Year (2019-20)

S. No	Name of the faculty member	PAN No.	Qualification	Date of Receiving Highest degree	Area of Specialization	Designation	Date of Joining	Teaching load in %	Currently Associated /Contract (Yes/No)	Nature of Association (Regular/Contract)	Date of leaving (in case Currently Associated is NO)
1	A. P. Deshpande	ADXPDP3385P	M.Sc.	05-08-1979	Graph theory	Asst. Prof.	10-09-2011	38	Yes	Regular	
2	Amey A.Kelkar	BUJPK0483R	M.Tech.	18-04-2011	Civil Structural Engineering	Asst. Prof.	02-02-2015	32	Yes	Regular	
3	Amritkumar T.	AVWPT6980F	M.Tech.	30-07-2019	Computer Science and Engineering	Asst. Prof.	01-08-2019	50	Yes	Regular	4-5-2022
4	Bharat Naik	ARDPN6787H	M.Tech.	23-04-2019	Thermal Engineering	Asst. Prof.	24-07-2019	100	No	Regular	08.02.2021



5	Chetan C Jadhav	AZVPJ4643C	M.Tech.	26-10-2017	Machine Design	Asst. Prof.	06-08-2018	100	Yes	Regular	
6	Dr. Prashant Patil	AWAPP2826P	M.Sc. & Ph.D.	14-04-2014	Mathematics	Asst. Prof.	02-03-2012	38	Yes	Regular	
7	Dr. B K. Manuprasad	CLFPM4849D	M.Sc. & Ph.D.	02-07-2012	Organic Chemistry	Asst. Prof.	26-08-2013	100	Yes	Regular	
8	Dr. G. H. Kulkarni	ABCPK6913D	M. Tech. & Ph.D.	02-04-2008	Power systems	Professor	13-08-2010	50	Yes	Regular	
9	Dr. Raghavendra P. B.	AKBPB9203B	M.Sc. & Ph.D.	21-10-2015	Inorganic chemistry	Asst. Prof.	16-07-2015	100	Yes	Regular	
10	Ravi C. B.	ASHPB8610J	M.Sc.	14-10-2011	Electronics	Asst. Prof.	16-01-2012	100	Yes	Regular	
11	S. M. Kerur	ADUPK3379D	/M. Tech. & PhD	20-11-2020	Composite Materials	Asso. Prof.	13-08-2010	80	No	Regular	13.10.2021
12	Sachin M Kulkarni	APTPK2713C	M. Tech. & Ph.D.	10-03-2022	Civil Engineering	Asso. Prof.	23-09-2010	32	Yes	Regular	
13	Dr. Shivkumar M.A.	BFSPM9068J	M.Sc. & Ph.D	18-04-2014	Molecular Spectroscopy and Laser	Asso. Prof.	10-02-2014	100	Yes	Regular	
14	Dr. Veerendrakumar A. K.	EANPK6560G	M.Sc. & Ph.D	21-12-2015	Chemistry	Asst. Prof.	24-08-2015	100	Yes	Regular	
15	Dr.Raju Kotambri	AXAPK2096F	M.Sc. & Ph.D.	20-06-2019	Graph theory	Asst. Prof.	14-08-2010	38	Yes	Regular	
16	Girish Uppin	AAKPU5246Q	M.Tech.	20-06-2000	Power and Energy System	Asst. Prof.	25-08-2015	69	No	Regular	22.07.2021
17	Johnson Fernandez	ACGPF9476R	MA.	10-01-2017	English	Asst. Prof.	02-08-2019	100	No	Regular	17.07.2020
18	Laxmi Brungi	CDYPB9954R	M.Tech.	05-04-2013	Power Systems	Asst. Prof.	22-07-2013	69	Yes	Regular	

19	M.Saritha	AMUPM0719N	M.Tech.	12-01-2010	Digital Communications Engineering	Asst. Prof.	15-07-2011	32	Yes	Regular	
20	Manjula K	BLUPK7396H	M.Sc.	06-12-2007	Graph Theory	Asst. Prof.	01-10-2010	38	Yes	Regular	
21	Namitha Bhat	BQZPB5633C	M.Tech.	30-07-2019	Computer Science and Engineering	Asst. Prof.	01-08-2019	50	Yes	Regular	
22	Pavan Ughade	ADZPU2264N	M.Tech.	18-07-2015	Computer Science and Engineering	Asst. Prof.	27-07-2015	32	No	Regular	31.01.2022
23	Prakashk Sonwalker	BGRPS3127E	M.Tech.	23-07-2010	Computer Science and Engineering	Asst. Prof.	23-07-2012	32	Yes	Regular	
24	Rahul Munavalli	BQAPM0914Q	M.Sc.	27-08-2014	Mathematics	Asst. Prof.	15-07-2016	38	Yes	Regular	
25	Shafiqahmed Y	ALOPY0032D	M.Sc.	30-05-2007	Mathematics	Asst. Prof.	01-07-2016	38	Yes	Regular	
26	Shubha B	AYWPB0240M	M.Tech.	05-03-2014	Digital Electronics	Asst. Prof.	14-08-2010	69	Yes	Regular	5-5-2022
27	Srinath Givri	BADPG6209B	M.Tech.	22-01-2016	Thermal Power Engineering	Asst. Prof.	21-08-2017	100	No	Regular	11.01.2022
28	Suhas Honamore	AFGPH5875P	M.Tech.	01-08-2014	Computer Science and Engineering	Asst. Prof.	09-07-2016	30	No	Regular	19.04.2021
29	Sushma Uday K.	DENPK4042E	M.Tech.	03-05-2014	Industrial Electronics	Asst. Prof.	22-07-2013	30	No	Regular	27.07.2021
30	Vidyasagar Moogi	COIPM9124B	M.Tech.	01-06-2016	Structural Engineering	Asst. Prof.	04-08-2017	32	Yes	Regular	
31	Vinayak Nannoji	AMDPN7274L	M.Tech.	30-11-2015	Product Design and Manufacturing	Asst. Prof.	22-07-2013	100	Yes	Regular	
32	Vireshkumar M.	CICPM6266N	M.Tech.	22-07-2013	Power System Engineering	Asst. Prof.	22-07-2013	69	No	Regular	12.04.2022

33	Praveen Y. Chitti	AHNPC4928K	M.Tech.	13-02-2006	Design & Embedded System	Asst. Prof.	16-08-2010	50	Yes	Regular	
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S. No	Year	Number Of Students(approved intake strength) N	Number of Faculty members(considering fractional load) F
1	2019-20(CAYm2)	600	33
2	2020-21(CAYm1)	600	28
3	2021-22(CAY)	510	33
4	Average	570	31.33

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

S. No	Year	x (Number Of Regular Faculty with Ph.D.)	y (Number Of Regular Faculty with Post graduate Qualification)	RF (Number Of Faculty Members required as per SFR of 20:1)	Assessment Of Faculty Qualification [ (5x+ 3y) / RF ]
1	2019-20	7	28	30	3.97
2	2020-21	9	19	30	3.40
3	2021-22	13	24	26	5.37
Average Assessment: 4.25					

### 8.3 FIRST YEAR ACADEMIC PERFORMANCE

S. No	Academic Performance	2021-22	2020-21	2019-20
1	Mean CGPA of all successful students (X) (All Branches)	7.40	7.54	7.79
2	Total number of successful students (Y)	278	275	372
3	Total number of students appeared in the examination (Z)	282	286	391

4	Academic Performance	7.30	7.25	7.41
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#### 8.4. Attainment of Course Outcomes of first year courses (10)

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

In the Outcome Based Education (OBE), assessment is made through one or more than one processes, carried out by the institution, that identify, collect, and prepare data to evaluate the attainment of Course Outcomes (COs).

Process

Step 1: Define Course Outcomes (COs) in line with Course outcomes provided by the University in respective syllabus. (Faculties can change, re-order, define and re-define COs given by VTU)

Step 2: Prepare CO-PO/PSO matrix by setting attainment level of defined COs between 1 to 3 (Mapping the subject to PO/PSO)

Step 3: Decide tools which are considered to attain CO, PO and PSO. (Provided in the table below)

Step 4: Set target for the course to attain CO. Then attain the CO by CIE and SEE (Direct) and by student feedback, site visits, guest lecturers etc (Indirect).

Tools identified to attain COs

Assessment for Theory Course (2019-20 to 2021-22)			
Assessment type		Assessment Tools	
		2019 and 2020 VTU Scheme	
Direct Attainment	Internal Assessment (30+10=40)	CIE-1 + Assignment-1	
		CIE-2 + Assignment-2	
		CIE-3 + Assignment-3	
	Semester End Examination (60)	By VTU	
Indirect Attainment	1. Through feedback from students at the end of the semester		
	2. Site Visits (Optional)		
	3. Experts Talks (Optional)		

Note:

Computation of direct CO attainment: 40% Internals attainment + 60 % SEE attainment

Computation of overall CO attainment: 90% Direct attainment + 10% Indirect attainment

Process:

CIE: There will 3 CIE test is for 50 marks, which are reduced to 30 marks. Student will write 3CIE tests, average of three tests are considered as CIE marks.

Assignment: In a semester 3 assignments are given. Each assignment carries 10 marks. Average of 3 assignments is considered. Therefore Internal assessment will be evaluated the total marks for 40 (CIE + assignment: 60+10=40)		
SEE: At the end of every semester, VTU conducts "Semester End Examination "for 100 marks. Results obtained are for 100 marks are reduced to 60 marks.		
Indirect Attainment: at the end of every semester, students are interviewed and got the feedback of their CO attainment. Students are taken site visit etc., Meanwhile in the semester subject experts talks are arranged.		
Assessment of Laboratory Course		
Assessment Type	Assessment Tools	
Direct Attainment	Indirect Assessment (40 marks)	Weekly evaluation on each experiment (30 marks) (student conducting experiment and weekly report writing) One Practical test after the completion of all the experiments (10 marks)
	Semester End Examination (60 marks)	By VTU (100 marks)
Indirect Attainment	1. Through feedback from students at the end of the semester	
Note:		
Computation of direct CO attainment: 40% Internals attainment + 60 % SEE attainment		
Computation of overall CO attainment: 90% Direct attainment + 10% Indirect attainment		
Assessment for Theory Course (2021-22)		
Assessment type	Assessment Tools	
	2021 VTU Scheme	
Direct Attainment	Continuous Internal Evaluation (Three Unit Tests:60 Marks) each test of 20 Marks	First test at the end of 5th week of the semester
		Second test at the end of the 10th week of the semester
		Third test at the end of the 15th week of the semester
	Two Assignments (20 marks) Each 10 marks	First assignment at the end of 4th week of the semester Second assignment at the end of 9th week of the semester
	Seminar/Group discussion 20 Marks	Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for 20 Marks (duration 01 hours)
	At the end of the 13th week of the semester , The sum of three tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be scaled down to 50 marks	

	Semester End Examination (50)	Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (duration 03 hours) 1. The question paper will have ten questions. Each question is set for 20 marks. 2. There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), should have a mix of topics under that module.							
Indirect Attainment	1. Through feedback from students at the end of the semester								
	2. Site Visits (Optional)								
	3. Experts Talks (Optional)								
Note:									
Computation of direct CO attainment: 50% Internals attainment + 50 % SEE attainment									
Computation of overall CO attainment: 90% Direct attainment + 10% Indirect attainment									
Process:									
The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 35% ( 18 Marks out of 50)in the semester-end examination(SEE), and a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together									
Assessment of Laboratory Course									
Assessment Type	Assessment Tools								
Direct Attainment	Indirect Assessment (50 marks)	Weekly evaluation on each experiment (30 marks) + One Lab Internal Test (20 Marks) (student conducting experiment and weekly report writing) One Practical test after the completion of all the experiments (10 marks)							
	Semester End Examination (50 marks)	By VTU							
Indirect Attainment	1. Through feedback from students at the end of the semester								
Note:									
Computation of direct CO attainment: 50% Internals attainment + 50 % SEE attainment									
Computation of overall CO attainment: 90% Direct attainment + 10% Indirect attainment									

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

Program shall have set attainment levels for all first year courses.

(The attainment levels shall be set considering average performance levels in the institution level examination or any higher value set as target for the assessment years. Attainment level is to be measured in terms of student performance in internal assessments with respect the COs of a subject plus the performance in the institution level examination)

**Table 8.4.2. Record the attainment of Course Outcomes of all first year courses (2021--22)**

S. No	Course Code	Course	Subject Code	Target Level						Attainment Level					
				CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6
1	C101	Calculus & Diff. Equations	21MAT11	1.65	1.65	1.65	1.65	1.65		1.55	1.65	1.55	1.65	1.65	
2	C102	Engineering Physics	21PHY12/22	3	3	3	3	3		3	3	3	3	3	
3	C103	Basic Electrical Engineering	21ELE13/23	1.5	1.5	1.5	1.5			2.25	1.85	1.25	1.25		
4	C104	Elements of Civil Engg. & Mech.	21CIV14/24	1.5	1.5	1.5	1.5	1.5		1.2	1.2	1.2	1.2	1.2	
5	C105	Engineering Visualization	21EVNL15/25	1.38	1.38	1.38	1.38	1.38		2.16	2.16	2.16	2.16	2.16	
6	C106	Engg. Physics Lab.	21PHYL16/26	3	3	3				3	3	3			
7	C107	Basic Electrical Engg Lab.	21EEL17/27	3	3	3	3	3	3	2.08	2.5	3	2.85	2.8	2.8
8	C108	Prof. Writing Skill in English	21EGH18/28	2	2					2	2				
9	C109	Innovative & design thinking	21IDT19/29	1.5	1.5	1.5	1.5			3	3	3	3		
10	C110	Advanced Cal. & Num. methods	21MAT21	1.65	1.65	1.65	1.65	1.65	1.65	1.55	1.65	1.55	1.65	1.65	
11	C111	Engineering Chemistry	21CHE12/22	3	3	3	3	3		3	3	3	3	3	
12	C112	Problem Solving through Programming	21PSP13/23	3	3	3	1		3	2.8	3	3	0.5		3
13	C113	Basic Electronics	21ELN14/24	1.8	1.8	1.8	1.8	1.8		2.1	2.1	2.1	2.1	2.1	
14	C114	Elements of Mech. Engg.	21EME15/25	1.2	1.2	1.2	1.2	1.2		3	1.92	3	2.65	3	
15	C115	Engg. Chemistry Lab.	21CHEL16/26	3	3					3	3				
16	C116	C-Programming Lab.	21CPL17/27	3	3	3	3		3	3	2.5	3	3		2.5
16	C117	Scientific foundation and health	21SFH18/28	2.4	2.4	2.4	2.4	2.4	2.4	2.9	2.9	2.9	2.9	2.9	2.9

**Table 8.4.2.1 Record the attainment of Course Outcomes of all first year courses (2020--21)**

S. No	Course Code	Course	Subject Code	Target Level					Attainment Level				
				CO1	CO2	CO3	CO4	CO5	CO1	CO2	CO3	CO4	CO5
1	C101	Calculus & Linear Algebra	18MAT11	1.65	1.65	1.65	1.65	1.65	1.92	1.92	1.92	1.92	1.92

2	C102	Engineering Physics	18PHY12/22	2	2	2	2	2	3	3	3	3	3
3	C103	Basic Electrical Engineering	18ELE13/23	1.5	1.5	1.5	1.5	1.5	1.23	1.23	1.23	1.23	1.23
4	C104	Elements of Civil Engg. and Mechanics	18CIV14/24	1.95	1.95	1.95	1.95	1.95	2.4	2.4	2.4	2.4	2.4
5	C105	Engineering Graphics	18EGDL15/25	3	3	3	3	3	1.08	1.08	1.08	1.08	1.08
6	C106	Engineering Physics Laboratory	18PHYL16/26	2	2	2			3	3	3		
7	C107	Basic Electrical Engineering Laboratory	18EEL17/27	1.5	1.5	1.5	1.5		1.85	2.15	2.15	2.15	
8	C108	Technical English	18EGH18/28	2	2				3	3			
9	C109	Advanced calculus and Numerical Method	18MAT21	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9
10	C110	Engineering Chemistry	18CHE11/22	3	3	3	3	3	3	3	3	3	3
11	C111	C-Programming for problem solving	18CPC13/23	1.5	1.5	1.5	1.5	1.5	2.8	3	3	0	3
12	C112	Basic Electronics & Communication Engineering	18ELN14/24	1.8	1.8	1.8	1.8	1.8	2.1	2.1	2.1	2.1	2.1
13	C113	Elements of Mechanical Engineering	18EME15/25	1.5	1.5	1.5	1.5	1.5	2.1	2.1	2.1	2.1	2.1
14	C114	Engineering Chemistry Laboratory	18CHEL16/26	3	3	3	3	3	3	3	3	3	3
15	C115	C-Programming Laboratory	18CPL17/27	2.4	2.4	2.4	2.4		2.9	2.9	2.9	2.9	

**Table 8.4.2.2 Record the attainment of Course Outcomes of all first year courses (2019--20)**

S. No	Course Code	Course	Subject Code	Target Level					Attainment Level				
				C01	C02	C03	C04	C05	C01	C02	C03	C04	C05
1	C101	Calculus & Linear Algebra	18MAT11	1.65	1.65	1.65	1.65	1.65	1.82	1.2	1.92	1.2	1.92
2	C102	Engineering Physics	18PHY12/22	3	3	3	3	3	3	3	3	3	3
3	C103	Basic Electrical Engineering	18ELE13/23	1.5	1.5	1.5	1.5	1.5	1.23	1.23	1.23	1.23	1.23
4	C104	Elements of Civil Engineering and Mechanics	18CIV14/24	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.2	1.2	1.2
5	C105	Engineering Graphics	18EGDL15/25	0.85	1.93	1.93	0.85	1.93	1.26	1.26	1.26	1.26	1.26
6	C106	Engineering Physics Laboratory	18PHYL16/26	3	3	3			3	3	3		
7	C107	Basic Electrical Engineering Laboratory	18EEL17/27	1.5	1.5	1.5	1.5		1.85	2.15	2.15	2.15	
8	C108	Technical English	18EGH18/28	2	2				3	3			
9	C109	Advanced calculus and Numerical Method	18MAT21	1.8	1.8	1.8	1.8	1.8	2.9	2.9	2.8	3	2.9
10	C110	Engineering Chemistry	18CHE11/22	3	3	3	3	3	3	3	3	3	3
11	C111	C-Programming for problem solving	18CPC13/23	3	3	3	1	3	2.8	3	3	0.5	3
12	C112	Basic Electronics & Communication Engineering	18ELN14/24	1.8	1.8	1.8	1.8	1.8	2.1	2.1	2.1	2.1	2.1
13	C113	Elements of Mechanical Engineering	18EME15/25	1.5	1.5	1.5	1.5	1.5	2.1	2.1	2.1	2.1	2.1
14	C114	Engineering Chemistry Laboratory	18CHEL16/26	3	3				3	3			
15	C115	C-Programming Laboratory	18CPL17/27	3	3	3	3	3	3	2.5	3	3	2.5



## 8.5. Attainment of Program Outcomes from first year courses [2021-22]

### 8.5.1 Indicate results of evolution of each relevant PO and/or PSO, if applicable

The PO attainment of all the first-year courses is detailed in tables 8.5.1.1, 8.5.1.2, and 8.5.1.3 for 2021 (CAY), 2020 (CAYm1), and 2019 (CAYm2)

**Table 8.5.1.1 PO Attainment: First Year Courses of CAY 2021-22**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	1.5	1.2	0.1									0.5
C102	1	1										1
C103	2.85	1.08	0.85									1.25
C104	1.3	1.3										
C105	1.58	1.44	1.73		2.16							
C106	1	1										1
C107	3	2.25	2			1			3			2
C108										1		
C109			1		2	2	2				1	1
C110	1.5	1.2	0.1									0.5
C111	1.6	1.6					0.4					1.8
C112	1.8	1.6	1									0.6
C113												
C114	1.81	1.36			0.91		0.91	0.91	0.91	0.91		0.91
C115	2	2										1
C116	1	3	3		3							
C117							0.9		1.9			2.9

Results of Even Semester 2021-22 are awaiting.

**Table 8.5.1.2 PO Attainment: First Year Courses of CAY 2020-21**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	0.9	0.8										0.3
C102	1.8	1.8										1
C103	1.23	0.92	0.41									0.49
C104	2.4	2.4										
C105	0.58	0.72	1.08									
C106	1	1										

C107	2.08								1			0.86
C108										1		
C109	1.6	1.6					0.4					1.8
C110	2.8	1.8	2.8									1.8
C111	2.1	2.1										
C112	2.1	1.4										
C113	2	2										1
C114	2.8	1.8	2.8									1.8
C115	0.768	0.862										

**Table 8.5.1.3 PO Attainment: First Year Courses of CAY 2019-20**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	1.2	1										0.5
C102	1	1										1
C103	1.23	0.92	0.41									0.49
C104	1.3	1.3										
C105	0.8	1	1.5		1.5							
C106	1	1										1
C107	2.08								0.69			0.86
C108										1		
C109	2.2	2.2	0.2									0.9
C110	1.6	1.6										1.8
C111	1.5	1.5	0.75									0.5
C112												
C113												
C114	2	2										1
C115	1	3	3		3							

#### 8.5.2. Actions taken based on the results of evaluation of relevant Pos [2020-21]

The observations for the deviation of attained PO to the target PO and actions suggested for the improvement of PO attainment are indicated in table 8.5.2.1, 8.5.2.2, and 8.5.2.3 for the academic year 2021 (CAY), 2020 (CAYm1), and 2019 (CAYm2)

**Table 8.5.2.2 PO Attainment level and Actions for Improvement-CAYm1 (2020-21)**

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Direct Attainment	1.72	1.47	1.77	0	1.08	0	0	0	1	1	0	1.31
CO Attainment	1.72	1.47	1.77	0	1.08	0	0	0	1	1	0	1.31

Pos	Target Level	Attainment Level	Observations
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**PO1: Engineering Knowledge**

Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

<b>PO1</b>	<b>2</b>	<b>1.72</b>	In the following subjects, attainment is low. 1. Engineering Graphics (18EGDL15/25) C105, 2. Advanced calculus, and Numerical methods (18MAT11/21) C109
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Actions:

1. Students are advised to solve more problems given as assignment.
2. Video Lectures prepared by faculty of mathematics are shared with students

**PO2: 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.

<b>PO2</b>	<b>2</b>	<b>1.47</b>	In the following subjects, attainment is low. 1. Calculus & Linear Algebra (18MAT21) C101 2. Basic Electrical Engineering (18ELE23) C103 3. Engineering Graphics, (18EGDL25) C105 4. Advanced Calculus & Numerical Method (18MAT21) C109 5. Elements of Mechanical Engineering (18EME25) C112
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<b>Actions:</b> 1. Students are advised to solve more problems given as assignment. 2. Video Lectures prepared by faculty of mathematics are shared with students			
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<b>P03: Design/Development of Solutions</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
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<b>P03</b>	<b>2</b>	<b>1.77</b>	In the following subjects, attainment is low 1. Basic Electrical Engineering (18ELE23) C103 2. Engineering Graphics, (18EGDL25) C105
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<b>Actions:</b> 1. Extra assignment questions were given to solve more problems in Basic Electrical Engineering 2. PPTs and NPTEL videos will be used to explain the basic concepts in engineering graphics subject.			
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<b>P04: Conduct Investigations of Complex Problems</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
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<b>P04</b>	..	..	At the first year level this PO is not mapped
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<b>Actions:</b> At program level, it is planned to achieve			
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<b>P05: Modern Tool Usage</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations			
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<b>P05</b>	<b>2</b>	<b>1.08</b>	Attainment is low in the following subject. 1. Engineering Graphics (18EGDL25) C105
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<b>Actions:</b> 1. PPTs and NPTEL videos will be used to explain the basic concepts in engineering graphics subject.			
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<b>P06: The Engineer and Society</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
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<b>P06</b>	..	..	At the first year level this PO is not mapped
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Actions: At program level, it is planned to achieve

**P07: Environment & Sustainability**  
Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

<b>P07</b>	..	..	At the first year level this PO is not mapped
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Actions: At program level, it is planned to achieve

**P08: Ethics**  
Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice.

<b>P08</b>	..	..	At the first year level this PO is not mapped
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At program level it is planned to achieve

**P09: Individual team work**  
Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

<b>P09</b>	<b>1</b>	<b>1</b>	Target Achieved
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**P010: Communication**  
Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

<b>P010</b>	<b>1</b>	<b>1</b>	Target Achieved
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Repetitive

**P011: Project Management and Finance**  
Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

<b>P011</b>	..		At the first year level this PO is not mapped
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Actions: At program level, it is planned to achieve

<b>P012: Life-Long Learning</b>			
Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
<b>P012</b>	<b>1</b>	<b>1.31</b>	Target Achieved
Actions: <ol style="list-style-type: none"> <li>1. Creating awareness and motivating students to explore the importance and applications of basic science subjects in technical field by conducting additional classes.</li> <li>2. Students are advised to apply the knowledge of welding and Machine tools for the mini projects and real-life problems.</li> <li>3. Planned to expose the students for e-sources and corresponding videos to visualize concepts.</li> </ol>			

**Table 8.5.2.3 PO Attainment level and Actions for Improvement-CAYm2 (2019-20)**

Course	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012
Direct Attainment	1.41	1.50	1.17	0.00	2.25	0.00	0.00	0.00	0.69	1.00	0.00	0.89
CO Attainment	1.41	1.50	1.17	0.00	2.25	0.00	0.00	0.00	0.69	1.00	0.00	0.85

Pos	Target Level	Attainment Level	Observations
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<b>P01: Engineering Knowledge</b>			
Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
<b>P01</b>	<b>2</b>	<b>1.41</b>	In the following subjects, attainment is low <ol style="list-style-type: none"> <li>1. Calculus &amp; Linear Algebra (18MAT21) C101</li> <li>2. Engineering Physics (18PHY22) C102</li> <li>3. Basic Electrical Engineering (18ELE23) C103</li> <li>4. Elements of Civil Engineering (18CIV24) C104</li> <li>5. Engineering Graphics, (18EGDL25) C105</li> <li>6. Engineering Physics Lab (18PHYL26)</li> <li>7. Engineering Chemistry Lab (18CHEL26) C115</li> </ol>

<b>Actions:</b> <ol style="list-style-type: none"> <li>1. Students are advised to solve more problems given as assignment</li> <li>2. Video Lectures prepared by faculty of respective subject are shared with students</li> </ol>			
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**P02: 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.

<b>P02</b>	<b>2</b>	<b>1.51</b>	In the following subjects, attainment is low. <ol style="list-style-type: none"> <li>1. Calculus &amp; Linear Algebra (18MAT21) C101</li> <li>2. Engineering Physics (18PHY22) C102</li> <li>3. Basic Electrical Engineering (18ELE23) C103</li> <li>4. Elements of Civil Engineering (18CIV24) C104</li> <li>5. Engineering Graphics, (18EGDL25) C105</li> <li>6. Engineering Physics Lab (18PHYL26)</li> </ol>
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<b>Actions:</b> <ol style="list-style-type: none"> <li>1. Students are advised to solve more problems given as assignment</li> <li>2. Video Lectures prepared by faculty of respective subject are shared with students</li> </ol>			
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**P03: Design/Development of Solutions**  
Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

<b>P03</b>	<b>1</b>	<b>1.17</b>	In the following subjects, attainment is low <ol style="list-style-type: none"> <li>1. Basic Electrical Engineering (18ELE23) C103</li> <li>2. Engineering Chemistry (18CHE22) C109</li> <li>3. Basic Electronics (18ELN24) C111</li> </ol>
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<b>Actions:</b> 1. Tutorial Classes engaged and Assignment questions were given			
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**P04: 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.

<b>P04</b>	<b>..</b>	<b>..</b>	At the first year level this PO is not mapped
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Actions: At program level, it is planned to achieve

**P05: Modern Tool Usage**  
Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

<b>P05</b>	<b>2</b>	<b>2.25</b>	Target Achieved
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Actions: At program level, it is planned to achieve and Modern tools are studied by students only through Engineering graphics subject

**P06: The Engineer and Society**  
Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

<b>P06</b>	..	..	At the first year level this PO is not mapped
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Actions: At program level, it is planned to achieve

**P07: Environment & Sustainability**  
Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

<b>P07</b>	..	..	At the first year level this PO is not mapped
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Actions:

**P08: Ethics**  
Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice.

<b>P08</b>	..	..	At the first year level this PO is not mapped
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At program level it is planned to achieve



<b>P09: Individual team work</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
<b>P09</b>	<b>1</b>	<b>0.69</b>	Attainment is low in Basic Electrical Lab (18EEL17)

<b>P010: Communication</b> Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
<b>P010</b>	<b>1</b>	<b>1</b>	Target Achieved

<b>P011: Project Management and Finance</b> Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
<b>P011</b>	<b>1</b>		At the first year level this PO is not mapped
Actions: At program level, it is planned to achieve			

<b>P012: Life-Long Learning</b> Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
<b>P012</b>	<b>1</b>	<b>0.89</b>	Attainment is low in following subjects 1. Calculus and Linear Algebra (18MAT21) C101 2. Basic Electrical Engineering (18ELE23) C103 3. Basic Electrical Engineering Lab (18EEL27) C107 4. Basic Electronics (18ELN24) C111
Actions: Creating awareness and motivating students to explore the importance and applications of basic science subjects in technical field by conducting additional classes. 2 Students are advised to apply the knowledge of welding and Machine tools for the mini projects and real-life problems. 3) Planned to expose the students for e-sources and corresponding videos to visualize concepts.			

## **CRITERIA – 9 STUDENT SUPPORT SYSTEM**

### **9.1 Mentoring system to help at individual level (5)**

To help students throughout their journey at JCE, we have effective mentoring system.

**Type of mentoring practicing:** Professional (Academic) guidance, career advancement, all-round development.

Number of Faculty mentors: 17

Number of students per mentors. 20 (approximately)

Frequency of meeting: Minimum 3 meeting per semester.

#### **Objectives of Mentoring system.**

1. To ensure the quality performance of the students in academics
2. To deal with the related issues for the holistic development of the students
3. To provide mutual support and congenial learning environment
4. To provide support for these learners who might be isolated & boost their self-confidence.
5. Help to establish a positive personal relationship.
6. To inspire and motivate for higher studies and competitive examinations
7. To prepare for career advances & to develop skills as required.
8. To regulate the academic involvement and assess the outcome.
9. Help to increase the student's abilities to interact with other social & cultural groups.

#### **In the Initial Meeting:**

1. Explain the purpose of mentoring
2. The format of the meetings and how these will work
3. What you will commit to and your role
4. What is expected from mentees and their role

**Duties/Responsibilities of Mentor:**

1. Introduce and discuss the concept of mentor- mentee system with the assigned mentees.
2. Call a meeting of all mentees and record their necessary details in the designated form, note any specific requirement of a students and discuss with them the complete schedule of future meetings
3. Keep a track of the attendance, academic performance and behavioral aspects of the students by interacting with exam department and the hostel authorities etc.
4. Support students academically and emotionally
5. Contact parents to inform the progress of their ward, whenever required and visit the houses of mentees at least twice in the year.
6. Maintain a record of the progress made by the identified underperforming students and take remedial actions wherever required.
7. To guide students and also to arrange for remedial teaching if required.

**Duties/Responsibilities of Mentee**

1. Attend meeting regularly.
2. Fill personal information in the form at the time of joining the mentor- mentee system.
3. Provide details of attendance, continuous assessment, term end examination, co-curricular, extra- curricular activities to the mentor whenever asked for.
4. Repose confidence in the mentor and seek his/her advice whenever required.

**Role of Parents:**

1. Monitoring academics requirements such as attendance of theory and labs of your ward.
2. Respond to Mentor as and when required.
3. Follow up the things which mentee or suggests.
4. Being contact with Mentor regularly.
5. Get the feedback from your ward.
6. Regarding academics

7. Any other matter
8. Communicate any matter of interest to the mentee or for appropriate action.

### **Efficacy of mentoring system;**

Mentoring in the institution helps students to achieve their retargets and work towards their goals. mentoring/counseling creates an eco-system in the institution that helps students to understand their strengths and weakness.

This system helps to:

- Improve students' attendance,
- Involvement of students in co-curricular and extra-curricular activities,
- Improvement in academics by close monitoring and mentoring,
- Improve students confidence level

all these lead to holistic development of students who can contribute to the society

## **9.2 Feedback analysis and reward/corrective measures taken (10)**

Feedback is one of the most effective teaching and learning strategies and has an immediate impact on learning progress. Feedback is a key element of the incremental process of ongoing learning and assessment. Providing frequent and ongoing feedback is a significant means of improving achievement in learning.

Effective feedback assists the learner to reflect on their learning and their learning strategies so they can adjust make better progress in their learning.

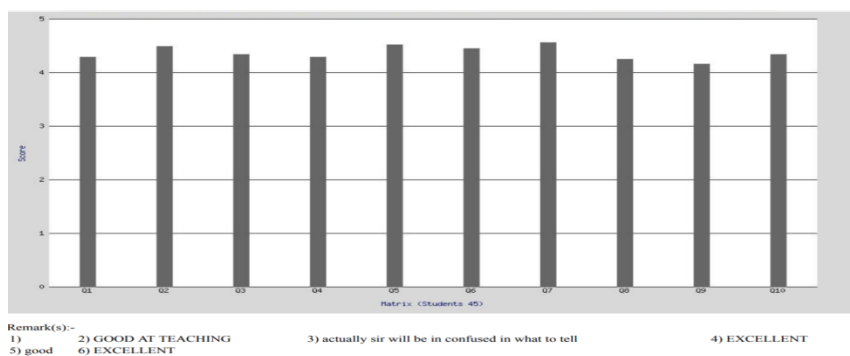
### **Objectives of Feedback system.**

- To motivates faculty members to develop further and update their knowledge and skills based on comments received.
- To provide means to further improvement of performance.
- To appreciate or console faculties based on the feedback.

**Average % students participated in Feedback** = more than 60%

### Questionnaires used for feedback.

Q. No	Question	Points
1	Planning and organizing the course	
2	Punctuality and adherence to the Time schedule of lecture	
3	Stress on basics and important points	
4	Effective delivery of the subject	
5	Effective utilization of time in the classroom	
6	Encourages questions and motivates for learning	
7	Availability and access of the teacher in the department	
8	Extent of knowledge gained by you through the teaching learning process	
9	Relating the subject knowledge to practical/industrial applications	
10	Overall, I was satisfied with the subject taught in the class	



### Analysis procedure

- Feedback is collected twice in a semester for all the courses from students. Students are asked to give their opinion on questionnaires given in above table on a scale of 5, 1 being poor and 5 being excellent.
- Feedback is collected in the form of Bar Chart for analysis.
- After bar-chart results all faculties are categorized in to three group.
  - Cat – 1: Faculties with average feedback more than 4 points = Excellent
  - Cat – 2: Faculties with average feedback between 3 and 4 points = Very Good
  - Cat – 3: Faculties with average feedback below 3 = Need improvement.

### Action taken on feedback

- The feedback is analyzed by HOD and is shared with the faculty and are counselled or appreciated based on the feedback.

- Appreciation for faculty performance - based on the results of the feedback, the principal appreciate the faculty in the common meetings and motivates others to follow in implementing effective teaching in the classroom.
- If the student's feedback falls below average the faculty will be counselled individually by the HOD and Principal and such faculties are asked to give justification for the feedback.
- Faculties who got less than 3 points average feedback are advised to take FDPs, NPTEL video lectures etc related to that course.

### 9.3 Feedback on facility (5)

Feedback on facilities provided by college is one of the most effective strategies study the effective utilization and needly improvement/update of the facility.

#### Objectives of Feedback system.

- To understand the effective utilization of the facilities provided by the college.
- To understand the need or improvement/upgradation of the facilities.

**Average % students participated in Feedback** = more than 60%

#### Questionnaires used for feedback on facilities

Sl. No	Questionnaire	Points
1	How do you rate the Canteen facilities provided by the institution?	
2	Are you satisfied with the extracurricular infrastructure at College?	
3	How do you rate the Lab facilities at the institution?	
4	How do you rate the Library Facilities provided by the institution?	
5	Are you satisfied with the placement support provided?	
6	How is the responsiveness of college Accounts and admin office?	
7	How is the responsiveness of Exam office?	
8	How do you rate the Sports facilities provided by the Institution?	
9	Are you satisfied with the toilet facilities and Maintenance?	
10	How do you rate the transport facility provided by the college?	

#### Analysis procedure

- Feedback is collected once in a semester for the facilities provided by college from students. Students are asked to give their opinion on questionnaires given in above table on a scale of 5, 1 being poor and 5 being excellent.
- Feedback is collected in the form of Bar Chart for analysis.
- After bar-chart results all faculties are categorized in to three group.

- Cat – 1: Facilities with average feedback more than 4 points = Excellent
- Cat – 2: Facilities with average feedback between 3 and 4 points = Very Good
- Cat – 3: Facilities with average feedback below 3 = Need improvement or upgradation.
- The feedback is analyzed by a committee constituted by Principal, administrator and Dean of the college further action will be taken whether to repair, replace, update, or upgrade the facilities.

## **9.4 Self-learning (5)**

### **A. Library**

The library of the college has a total area of 618.48 sq. m. and has special designated areas for reading. A total no. of 25,365 volumes, 7431 titles, 30 print journals, 6155+ e-journals, 5000+ e-books through VTU consortium and 2000+ rare and Kannada literary books are available. A dedicated staff helps the students to find the required title. The ever-growing need of the academia is met with latest volumes in all the fields of Engineering & Technology and Management plus general areas to cater to the need of Students appearing for Competitive exams like GATE, GRE, UPSCE, TOEFL, etc.

### **B. National Digital Library of India**

One of the most important information about our JCE college library is that, our college is a member of National Digital Library of India.

We have approved NDLI club. National Digital library of India is a virtual repository of learning resources which is not only just a repository with a search browse facilities but also provides a host of services containing textbooks, articles, videos, audio books, lectures, simulations, fiction and all other kinds of learning media for the learners/users community.

### **C. Online support through JCE e-library (In-house App)**

JCE e-library is mobile application and web application which supports the JCE students to access e-books, articles, lab manuals, and VTU semester exam question papers, IA question papers remotely through their mobiles or laptops or PC's. This application also provides links to the external resources like NPTEL, Shodhganga, Swayam, and latest national journals articles procured. Admin can upload required materials through this application and students can access through their account.

### **D. Department Library**

Every department has their own library. Students are advised to study through their library.

### **E. Local NPTEL Chapter**

JCE has NPTEL Local Chapter, students are advised and motivated to register the courses and study through NPTEL videos.

### **F. Linked-In Online courses**

LinkedIn is a professional networking platform which is providing LinkedIn learning to upgrade knowledge. Jain group of Institutions have signed up with LinkedIn Learning. The students and faculty associated with JGI group are taking the video courses and getting certifications provided by renowned universities worldwide and taught by industry experts through LinkedIn learning platform. These certifications are also added into their LinkedIn portfolio where various companies can sight it. This helps to gain knowledge and expertise in software, creativity and business skills. Link: <https://www.linkedin.com/learning>

### **G. JCE - e - Connect YouTube Channel.**

The College has its own Youtube channels where lectures are recorded and uploaded into JCE - e connect YouTube channel for students access. Students can go through



all the lectures uploaded in the channel before coming to the class or missed classes can be self learnt by the students

## **9.5 Career Guidance, Training and Placement (10)**

The Training and Placement cell plays a crucial role in providing job opportunities for UG & PG students passing out from the college. It has scaled great heights and touched about 2500+ cumulative offers since its inception. We have a very active linkages and collaborations with industry. More than 50 reputed MNC's visit our institution for campus recruitment annually.

### **Objective**

Our objective is to ensure that any investment done into an intellectual asset that is proposed by any recruiting organization must be justified to the core and at the end of it all, the hiring should make viable, sustainable, and profitable sense, benefiting all the stakeholders involved.

### **Policy & Procedures:**

1. Placements are intended to provide authentic experiential learning, support, and assist a student's learning and preparation for their chosen profession or discipline.
2. The college will actively promote good relationships with current and prospective placement organizations, which are usually external to the University.
3. The parties involved in placements must be adequately prepared to meet their responsibilities as set out in this policy.
4. Placements must be managed in accordance with the procedures in this document, and any procedures or guidelines that reference this document.
5. Placements must also be managed in accordance with any external policies and frameworks that reference external accreditation requirements or accreditation bodies for a particular industry.

## Team:

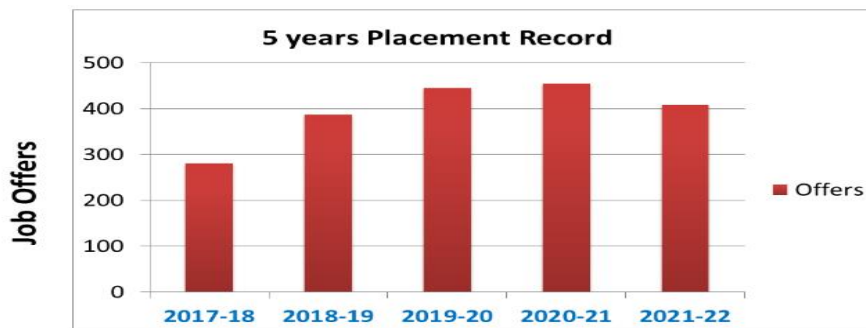
The Placement cell is engaged with a team of 7 faculty coordinators from UG & PG sections headed by the TPO. We also have 2 students from each department as student representative, who help us during the placement activities.

## Facilities:

The Training and Placement Cell is also committed to enhance the employability skills of the students by organizing following training programs.

- Organizing Aptitude training programs to enhance quantitative, verbal, logical & reasoning skills
- Organizing soft-skills training to improve the student's personality, Confidence level, Public Speaking skills, Conducting Mock Interviews, Group discussions.
- Organizing subject/domain specific Technical Skills Training by Experts. Career counseling for pursuing higher studies.
- Organizing entrepreneurship development programs to motivate the students to become Entrepreneurs.

## Placement Overview of last 5 years:



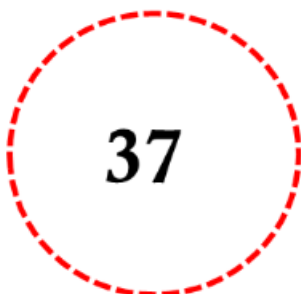
## Our Prestigious Recruiters



# Placement Record 2022



**Job Offers**



**Companies**



**Highest Salary**

**Average Salary: 4 Lac Per Annum**

## **Internships.**

An internship is an on-the-job training for students studying at the university to gain an insight into the way an organization works. the internship may be in their area of expertise but not necessarily so. All the students at JCE are eligible to apply for internships. The TPO besides generating opportunities for internships, coordinates with faculty for the students wishing to apply for the same, coordinates with the partnering organizations for Job description etc. and awarding certificates at the end of internships.

## **On field Industry visit**

TPO organizes field visits, or an industry visit for its student on a regular basis. These visits are at sites of professional relevance to the students and can also be sites that will contribute to the overall personal and professional development of the students.

## 9.6 Entrepreneurship Cell (5)

ED Cell was inaugurated at Jain College of Engineering on 28<sup>th</sup> August 2018. This cell aims to bring together all the entrepreneurship related activities under one Umbrella. The institute provides a platform for budding **entrepreneurs** to hone their skills and build sustainable relationships with their mentors to facilitate successful transitions towards launching their own ventures through this cell.

The cell envisions to unearth the true potential of students to be business cultivators of tomorrow and try to strengthen their competence and make aware of new business opportunities while being associated with entrepreneurs, government organizations.

### OBJECTIVES

- To imbibe importance of innovation, collaboration, and leadership.
- To bridge the gap between the established entrepreneurs and budding entrepreneurs.
- To promote entrepreneurship culture within the institute.
- To identify and provide support and guidance to budding entrepreneurs within the institution.

### How does the Cell Promote Entrepreneurship?

- Through interaction with the alumni of JCE who entrepreneurs are already.
- Through various guest lectures by successful entrepreneurs.
- Through various B Plan and Projects competitions.
- Through promoting Innovation.
- Through interactive sessions, seminars series, workshops with various eminent personalities.
- Through signing of MOU with EDII.
- Through creating awareness of various schemes of Government for promoting entrepreneurship.

## Road Map of EDC in the year 2022

<i>Sl. No</i>	<b>Name</b>	<b>Designation</b>	<b>Profession</b>
<i>1</i>	Dr. J. Shivakumar	Chairman	Principal
<i>2</i>	Prof. Rashmi Y. Harti	Convener	Asst. Professor
<i>3</i>	Prof. Ravi Angadi	Member	Asst. Professor
<i>4</i>	Prof. S. B Hugar	Member	Asst. Professor
<i>5</i>	Dr. Pavana Kumar	Member	Asst. Professor
<i>6</i>	Prof. Vinod Patil	Member	Asst. Professor
<i>7</i>	Dr. Ratan Patil	Member	Asst. Professor
<i>8</i>	Dr. S. Rohitraj	Member	Assoc. Professor
<i>9</i>	Prof. Vaibhav Veergoudar	Member	Asst. Professor
<i>10</i>	Dr. Shrikant Sugur	Member	Assoc. Professor

- Calendar of events for the year.
- Collection of databases of all alumni who are entrepreneurs.
- Collection of databases of all entrepreneurs in and around Belgaum.
- Database of students who aspire to become entrepreneurs or are already an entrepreneur.
- Knowledge of all govt schemes
- Organize lectures, workshops, competitions to identify budding entrepreneurs.
- Identify the competencies of selected candidates and provide them with support and guidance.
- Create success entrepreneurs and generate employment opportunities.

### ED Cell members as on May-2022

#### Activities Conducted under ED Cell

<u>Sn</u>	<u>DATE</u>	<u>DETAIL OF EVENT</u>	<u>OBJECTIVE OF EVENT</u>	<u>NO OF STUDENTS ATTENDED</u>	<u>NO OF FACULTY ATTENDED</u>	<u>VENUE OF EVENT</u>
1	6th Sept 2019	Inauguration E D Cell done by : Mr. Niranjana Karagi ( Founder Nirnal Foundation ) .	Inaugurate the cell by young successful entrepreneur who has got international recognition Mr. Niranjana who will be a source of encouragement to students to mark the beginning of Entrepreneurship culture at JCE	250	15	JCE Auditorium
2	27 <sup>th</sup> Sept 2019	Business Plan Event	To make students aware and explore various aspects of start up business	32	0	MBA classroom A 303
3	18 <sup>th</sup> & 19 <sup>th</sup> Nov 2019	Two Days Advanced Digital Marketing Workshop	To make students aware of Digital Marketing concepts and how can they start up their business using this platform.	200	5	JCE Auditorium
4	27 <sup>th</sup> Dec 2019	Session by Mr. K.N. Kulkarni ( 43 Years of Experience )--- Indian Fertilizer Industry ... Graduated from IIM Ahmedabad, address on Opportunities for start ups in Fertilizer Industry.	To shed light on the opportunities for start up in Fertilizer Industry in India	40	2	MBA Classroom A 304
5	8 <sup>th</sup> Jan 2020	CAPITAL MARKET AWARENESS PROGRAM in Association with Bombay Stock Exchange	To make students aware of opportunities available to open up a stock broking firm and challenges faced for the same	100	5	JCE Auditorium

<b><u>Sn</u></b>	<b><u>DATE</u></b>	<b><u>DETAIL OF EVENT</u></b>	<b><u>OBJECTIVE OF EVENT</u></b>	<b><u>NO OF STUDENTS ATTENDED</u></b>	<b><u>NO OF FACULTY ATTENDED</u></b>	<b><u>VENUE OF EVENT</u></b>
6	18 <sup>th</sup> Feb 2020	Awareness of Digital Business Development - Mr. Shomik Dhole - Business Development Manager- TCS , Mumbai	Students made aware of how to develop the business using digital platform .	52	3	MBA Classroom A 303
7	31 <sup>st</sup> Mar 2021	Session on " Start Ups and Digital Marketing " by our Proud Alumni ..Mr. Sujit Sudhakaran , CEO of MATS institute of Hotel Management and Studies Pvt Ltd.	To appreciate and recognize our Alumni for their success as entrepreneur and motivate the present batch students by Alumni.	60	5	MBA Classroom A 303
8	12 <sup>th</sup> Jul 2021	Session on Mutual Funds organized SEBI and L &T Mutual Fund	To make students aware about Mutual funds and opportunities available .	200	15	Online
		Srikanta Lahari Sagi.				
		SEBI , L &T Mutual Fund				
9	25 <sup>th</sup> Nov 2021	JCE – Smabhav – National Level Entrepreneurship Program on Entrepreneurship – Schemes of MSME	To make student aware about schemes of MSME	156	10	Online
10	31 <sup>st</sup> Dec 2021	A Day with Young Entrepreneur s.... To know their Journey... MBA students understood Journey of an Entrepreneur...A Talk with : Ms. Aishwarya Arvind Raikar ( Founder - Musing Quills) & Mr. Anoop Betageri ( MD - Musing Quills)	To make students aware about challenges in starting up a business and Opportunities available	46	5	MBA Classroom A 303
11	13 <sup>th</sup> Jan 2022	A Session on "Universal Human Values"	To make students aware about the Emotional Intelligence and Ethics in Business and Life	122	6	JCE Auditorium

<b><u>Sn</u></b>	<b><u>DATE</u></b>	<b><u>DETAIL OF EVENT</u></b>	<b><u>OBJECTIVE OF EVENT</u></b>	<b><u>NO OF STUDENTS ATTENDED</u></b>	<b><u>NO OF FACULTY ATTENDED</u></b>	<b><u>VENUE OF EVENT</u></b>
12	13 <sup>th</sup> Jan 2022	Journey of an Entrepreneur and Business Growth “ by OUR PROUD ALUMNI Mr.ANKIT PORWAL	Felicitate the JCE Alumni turned successful entrepreneur by Principal and Motivate the present batch students	104	6	JCE Auditorium
13	1 <sup>st</sup> Feb 2022	Mr.Santhosh Khilare , Owner of AS Stock Taurus Trading and Investment Chikodi and a Proud Alumni of JCE talk with students regarding his journey as Entrepreneur	Felicitate the JCE Alumni turned successful entrepreneur by Principal and Motivate the present batch students	52	4	MBA Classroom A 303
14	17 <sup>th</sup> Feb 2022	Mr. Niranjan Karagi ( Inventor of World's Cheapest Water purifier and CEO of Nirnal ) addressing on the topic : "Entrepreneurship skill , Attitude and Behavioral Development"	To make students aware about the Attitude skill and Behavioural Competence required for an Entrepreneurs	45	6	MBA Classroom A 303
15	18 <sup>th</sup> Feb 2022	Session on Entrepreneurship and Innovation as Career Opportunity – Mr.Rajendra Hitech Group	To introduce students to successful entrepreneurs across belgaum	115	5	JCE Auditorium
16	21 <sup>st</sup> Feb 2022	Dr. Anil Shirahatti handled session on " National Innovation and Start Up Policy	To introduce students to National Innovation and Start Up Policy introduce students to	110	5	MBA Classroom A 304
17	6 <sup>th</sup> Apr 2022	WORKSHOP ON BUSINESS MODEL CANVAS – Mr.Rajat Proprieter Gururaj Health Foods	To introduce students to Business model making	38	4	MBA Classroom A 302



<b><u>Sn</u></b>	<b><u>DATE</u></b>	<b><u>DETAIL OF EVENT</u></b>	<b><u>OBJECTIVE OF EVENT</u></b>	<b><u>NO OF STUDENTS ATTENDED</u></b>	<b><u>NO OF FACULTY ATTENDED</u></b>	<b><u>VENUE OF EVENT</u></b>
18	9 <sup>th</sup> Apr 2022	Session on Be an Entrepreneur , become an employer organized by Govt of Karnataka , Karnataka Udyog Mitra	Introduce students to various schemes available by govt for start ups under various sectors	125	3	VTU Auditorium
19	19 <sup>th</sup> Apr 2022	B Plan poster presentation competition	To make students aware about various aspects in Business Start up	42	0	MBA Classroom A 303
20	28 <sup>th</sup> Apr 2022 – 5 <sup>th</sup> May 2022	One week Workshop on " Design Thinking "	To make students aware about the Design Thinking process	25	2	MBA Classroom A303
21	5 <sup>th</sup> May 2022	SRJANA 2022 - A Start up Event - Students set stall for one day by bidding the place in college campus and make business by using their unique ideas	To make students implement their entrepreneurship skills in setting up their stall for one day and make business out of it	50	0	JCE Campus

## **JCE ALUMNI TURNED ENTREPRENEUR ACHIEVEMENTS**

JCE MBA alumni Mr. Ankit Porwal CEO of Trishala Industries In Bijapur is representing his company at worlds largest food and beverages festival at Dubai..24 FEB 2021



We are Proud of you Dr. Santhosh Khilare ( Entrepreneur ) ---- He is Alumni of JCE MBA ( 2017 Batch)....26 Oct 2021



Reg. No. 2021/63

# Nelson Mandela

## Nobel Peace Award Academy

Date:- 26/10/2021

To,  
**Mr. Santosh Mahadev Khilare**  
**C.M.D.**  
[The Fund Park ]  
Chikkodi [Karnataka]



**Subject: Invitation to you for 'Nelson Mandela Noble Peace Award 2021' to be held at Hotel Sahara Star, Mumbai.**

Respected Sir,

Greetings to You & Regards of the Day. We 'Nelson Mandela Noble Peace Award Academy' are planning to have "Nelson Mandela Noble Peace Award 2021" On 30th, October. At Hotel Sahara Star, Mumbai. We as a board of trustees, Jury and Governors are happy to tell you that your Name is Selected for your Nobel work in Society For Nelson Mandela Nobel peace award 2021 and for Honorary Doctorate from St. Mother Theresa University For Digital Educational Excellence and Sustainability Development. [ Accredited by world Sign JBR Harvard USA] [Affiliates to Cambridge school of Distance Education, UK].

On this occasion, many Central Government & State Ministers and Prominent Personalities from Business, Bollywood and Sports field will also be present and it will be our privilege to welcome you as our **Guest of Honor and Awardee** for this Charitable event. We again request you to kindly accept this invitation for this program.  
With best regards.



**Dr. Rajkumar Tak**  
Founder President,  
Nelson Mandela Nobel Peace Award Academy

Reg. Off: 32/4 Mhada colony, Kannmwar Nagar No2, Vikhroli east, Mumbai. 400083  
Head. Off: 15128, Near RITS Cinema, Kashmere Gate, Delhi. 110006  
International Office: P.O.Box 122 Derby Connecticut 06418 USA  
Email Id: nelsonmandelanobelpeaceaward@gmail.com  
+91 7278 920 920

Mr. Ankit Porwal - CEO, Trishala Industries received MSME Export Excellence Award 2022 on 7th Jan 2022. He Received this Prestigious award from Trade Promotion Council of India. JCE MBAFamily wish you all the very best. He is from 2013 - 2015 JCE MBA Batch



## 9.7 Co-curricular and Extra-curricular activities (10)

Co-curricular and extra-curricular activities are well organized by our Students Engagement cell. Student Engagement Cell brings students together based on their interests and build relations. Its purpose is to create connections, expand skills, and explore different elements of college life while making lifelong friends.

### Benefits

1. Development of soft skills
2. Leadership qualities
3. Work in a team
4. Engage with diverse group of people
5. Students will be able to give back to the community
6. Have fun

S.No	Name	Designation	Profession	Contact
1	Dr. J. Shivakumar	Chairman	Principal	8085789651
2	Mrs. Minal Patil	Convener	Asst. Professor	8884727334
3	Dr. Debaraj Sarkar	Member	Assoc. Professor	9836959885

S.No	Name	Designation	Profession	Contact
4	Prof. M. V. Mahendrakar	Member	Assistant Professor	9886271783
5	Prof. Pavan Padara	Member	Assistant Professor	9986723566
6	Prof. Prakash Sonwalkar	Member	Assistant Professor	9731195555
7	Prof. Praveen Bansode	Member	Assistant Professor	9620761569
8	Prof. Shahak Patil	Member	Assistant Professor	9742424252
9	Dr. Shivakumar M A	Member	Assoc. Professor	9964515505
10	Prof. Varun Jevargi	Member	Asst.. Professor	6364687262

### Benefits of Students Clubs

- Students' clubs enrich your experience, create a diverse community, encourage involvement, and provide opportunities for students to build valuable skills.
- This helps you to build formal and informal networks while exploring career opportunities.
- Open to all students, these clubs organize programs, events, and meetings throughout the academic year.

S.No	Club Name	Faculty Advisor	Contact
1	Cultural Club	Dr Raghvendra Bakale	9008044448
2	Sports Club	Mr Vipul Chougule Prof Jagadeesh Pattenshetti Prof Shashank Vanakundri	9845554041 7829087636 8197476858
3	Fine Arts Club	Prof Ashwini Araballi Prof Deepali Patil Prof Priyanka Shinde	9916745379 9035548506 9743154770
4	Media Club	Prof Varsha Gokak	9900420881
5	Ek Bharat Shresht Bharat Club	Prof Minal Patil Prof Pratik Sayanak	8884727334 9964832005
6	Orators Club	Prof Varsha Gokak	9900420881
7	Robotics Club/Project Club	Prof Vinaykumar Bagali Prof Amey Muchandi Prof Shahak Patil	9964658965 8880045151 9742424252
8	Chess Club	Dr Raghvendra Bakale	9008044448

## National Service Scheme

JCE – NSS club is well organized and very active club. Under this banner various social welfare activities occur each year. JCE – NSS committees is chaired by Principal and Director JCE Belagavi with Convener and NSS coordinator Prof. Vinayak Nanoji. This committee consists of one co-coordinator from each department with student volunteers.

### Duties of NSS volunteers:

- To establish rapport with the people in the project area.
- Identify needs, problems, and resources of the community.
- Plan programs and carry out the plans.
- Relate his learning and experience towards finding solutions to the problems identifies.
- Record the activities in his work diary systematically and assess the progress periodically and effect changes as and when needed.

### Glimpses NSS activities





#### **D. Availability of Sports and Cultural facilities**

JCE provides of lot of resources and adequate facilities for effective implementation of physical education programs to involve students for all round development by taking part extensively in sports, games, physical competence, and health related fitness. To create interest among the students towards these activities we have formed one exclusive club for sports. The institution appointed an experienced physical director to motivate and train the students under various sports of their choice. Students are trained and encouraged to participate in various levels of competition including intra-college events, inter-university events. Intra-college events are also organized by the college to encourage students to participate.

Students of our institute bagged several prizes in individual/team events at inter collegiate, zonal and university sports meet. Annual inter/intra sports meet will be held to both students and staff to show case their talent. College team is provided with sports kits which include uniforms and other requisite materials.

Indore facilities:

1. Table tennise tables
2. Chess boards
3. Carrom boards

Outdoor facilities

<b>S.NO</b>	<b>SPORTS GROUND</b>	<b>DIMENSION IN FEET</b>
1	CRICKET NET	35 X 15
2	FOOTBALL	100X60
3	BASKET BALL COURT	50 X 30
4	VOLLEY BALL	70X40
5	HAND BALL	130X66
6	THROW BALL	70X42
7	HOCKEY	300X180
8	KABADDI GROUND	43X33
9	KHO KHO GROUND	89X52

## Sports Facilities @ JCE Belagavi



Kabaddi



Cricket



Volley Ball



Track & Field



Indoor Sports

## Achievements

### Sports Achievements

Winners of VTU Belagavi Zone, Hand Ball Tournament for the Year 2020

Represented VTU in the year 2020 University Blue- Ninooji More & Rupesh Chavan (Best Physique), Shubham Patil (Shooting), Pranam Patil (Boxing)

**Aditya Bagai** has won silver medal in 200 butterfly

VTU Single Zone Swimming competition held at Jyothy Institute of Technology Bangalore from 15th & 16th December 2021.

**Subhodh S Sulebhavi** - 2 Bronzemedals in 400 mts free style and 400 mts IM

## E. Annual Events

JCE organizes

1. Shubh arambh - an induction and orientation program for first year students
2. Freshers Day - to welcome 3rd semester students in the respective department
3. Farewell function - to bid farewell to outgoing students.
4. Celebration of national festivals - Independence Day, Republic day etc



# **CRITERIA – 10 GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES**

## **10.1 Organization, Governance and Transparency (40)**

### **10.1.1. The Vision and Mission of the Institute (5)**

#### **Institute Vision:**

To be a university as a resource of solution to diverse challenges of society by nurturing innovation, research & entrepreneurship through value-based education

#### **Institute Mission:**

- To provide work culture that facilitates effective teaching-learning process and lifelong learning skills
- To promote innovation, collaboration and leadership through best practices
- To foster industry-institute interaction resulting in entrepreneurship skills and employment opportunities

#### **Core Values:**

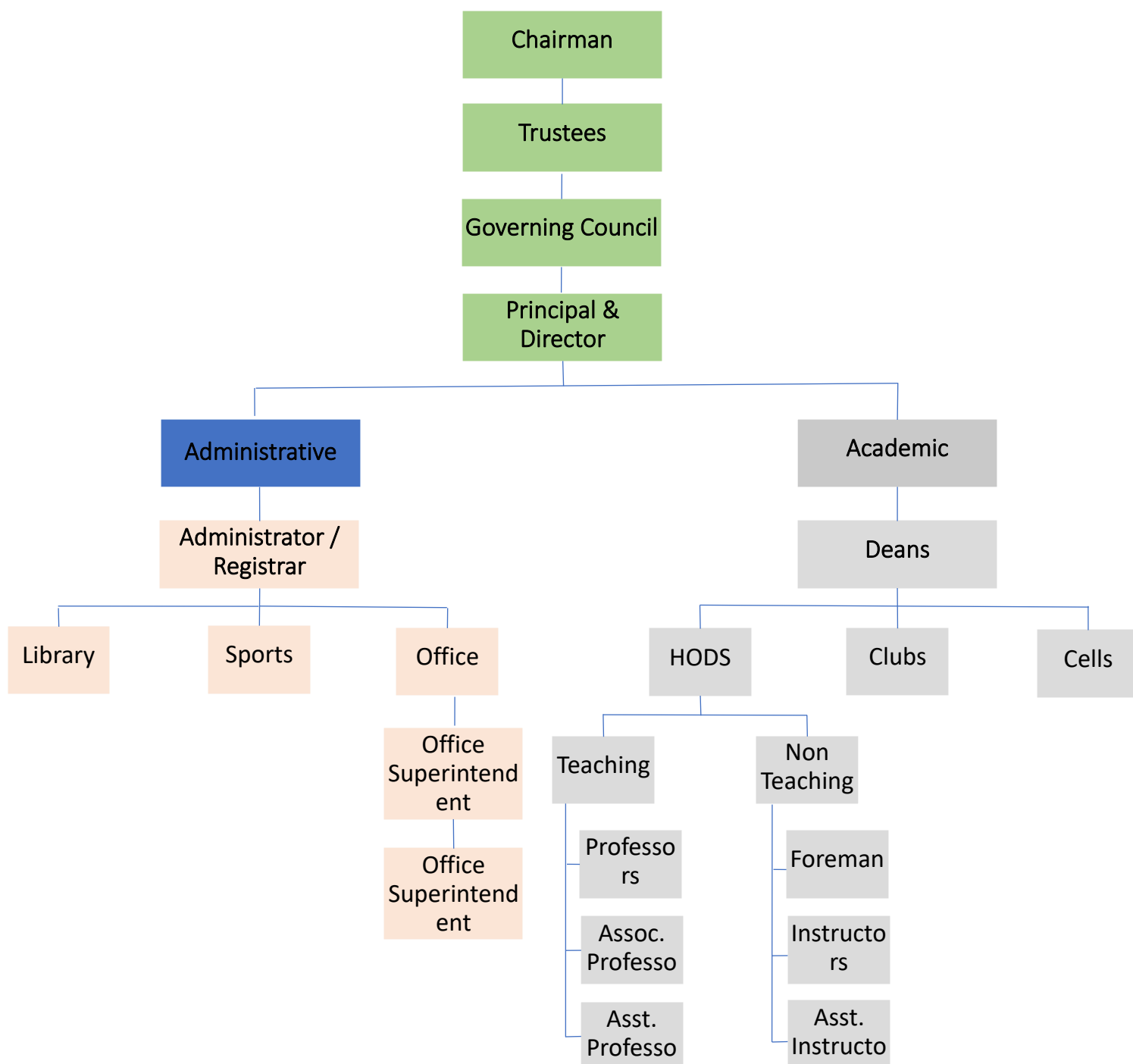
- Accountability
- Continuous learning
- Competency
- Teamwork
- Holistic Development
- Societal Responsibility

### **10.1.2. Governing council, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10)**

#### **Organization chart**

For smooth functioning of the organization various levels and positions are created which are illustrated as below

## Chart



The institute formed specific bodies and various committee for the effective functioning in order to achieve the set goals. Various bodies like governing body, academic committee, IQAC exist

in the institution to formulate guidelines and monitoring of the functioning of the institution from time to time. The governing body consists of chairman, management members, University nominee, AICTE nominee, Principal as member secretary, senior professors as members of the government body.

The governing body in general meets once in a semester to review and take decisions on the policy matters of the institute. This body takes decisions related to the financial, administrative, and quality measures to be taken up and takes measures to ensure the effective functioning of the Institution. The principal and other academic heads take the responsibility of implementing the policy decisions taken by the governing body. The principal is assisted by Deans, HODs and coordinators to administer the academic development and other functions based on the institutional guidelines.

Administrative setup of the institution is as per the organization chart shown above. Governing body will decide the policy matters of the college. The principal being the head of the institution acts as liaison between the management, staff and students. He takes all the measures to implement the policies and decisions taken by the government body. Deans and coordinators of various activities like academics, examination, R&D etc with the support of the principal and chairman take the necessary initiatives to implement the vision and mission of the institute.

HOD is responsible for the functioning of the department as per the laid down policies of the college. To provide policy framework and direction for the functioning of the institution, various committees play a vital role. These committees help the administration to evaluate, monitor and recommend in respect of various matters leading to progress of the institution as per its quality policy.

Service rules, procedures, recruitment, promotional policies have been formulated as for the guidelines of the competent authorities like affiliating University (VTU), AICTE and are approved by the governing body. These rules are disseminated to all the faculty members of the JCE at the time of joining and they can refer to the same from administrative officer.

**Governing Committee, Jain College of Engineering Belagavi.**

<b>Sl. No</b>	<b>Name</b>	<b>Position</b>	<b>Address</b>
1	Shri Radheshyam Heda	Chairman	GC, JCE, Belgaum
2	Prof. R.G. Dharwadkar	Member	GC, JCE, Belgaum
3	Prof. Uday Chandra	Member	GC, JCE, Belgaum
4	Ms. Shraddha K	Member	GC, JCE, Belgaum
5	Prof. K.G. Malali	Member	GC, JCE, Belgaum
6	Shri Raj Thakur	Member	GC, JCE, Belgaum
7	Dr. J. Shivakumar	Member Secretary	Principal, JCE Belagavi
8	Dr. Krupa Rasane	Member	HOD, ECE, JCE Belagavi
9	Dr. Manuprasad B. K.	Member	HOD, Chem., JCE Belagavi
10	AICTE Nominee	Member	
11	VTU Nominee	Member	

**Major Responsibilities of the Governing Council**

The Governing Council of the institution is the supreme administrative body. It is formed as per the standards formulated by AICTE, New Delhi; Affiliating University and Govt. of Karnataka. The Governing Council aims to transform the objectives into outcomes with academic governance in accordance to meet the interests of Stake holders.

- To uphold the legal stature of the college in view of AICTE, UGC, State Government and affiliating University (VTU) or any other body or agency.
- To take decisions regarding the intake and addition or discontinuation of any program accordingly recommending the Principal to take formal steps with the affiliating body to put this into action.
- The council ensures the establishment and monitoring systems of control and accountability including financial & operational controls and risk assessment, clear procedure for handling internal grievances.

- Governing Council monitors the institutions performance against the plans approved and takes necessary measures to correct the lacunae in performance parameters.
- The Governing Council need to ensure the achievement of the mission and vision of the organization; academic plans for long term and research activities need to be promoted by providing direction of implementation and overall monitoring of the activities.
- Governing Council must allocate the budget towards development of infrastructure, staffing, and R & D activities.
- The Chairperson is responsible for leading the governing council, is also responsible for its effectiveness and should ensure association of institution with the stake holders.
- The Chairperson should support the head of the institution in execution of the programs.
- Frequency of meeting of the Governing Council is minimum two times a year or whenever needed.
- To endorse the legal stature of the institution in view of AICTE, State Government and affiliating University (VTU) or any other body or agency
- To make decisions about increase/decrease in intake, addition or discontinuation of programs in line with policies of affiliating body.
- Fix the fee structure and any charges applicable in accordance with the recommendation of the Central Planning and Budgeting Committee and prescribed fee structure of affiliating university.
- Extension, Renovation or Procurement plans recommended by Central Planning and Budgeting Committee.
- To decide the promotions or penalties as recommended by Academic advisory Committee at institution level.

### **Functions of Various Bodies (College Committees)**

Several committees are present in the college that is formed taking into the considerations of the students and faculty. There is diversification that ensures that the committees address any issues faced by the stake holders and aims for the improvements under the purview of the respective committees.

<b>Sl. No</b>	<b>Name of the Committee</b>	<b>Convener</b>
1	Accreditation Committee	Dr. Rajani H. P & Mr. Rajashekhar Malagihal
1	Internal Quality Assurance Cell	Dr. Raghavendra Bakale
2	Anti-Ragging Squad	Col. Melville A. Dsouza
3	Anti-Ragging Committee	Mr. Praveen Chitti
4	SC/ST Committee	Dr. Anand Hosamani
5	Student Counseling Cell	Dr. H. P. Rajani

Sl. No	Name of the Committee	Convener
6	Industry Institute Cell	Dr. Anil Shirahatti
7	Internal Complaint Committee	Dr. Krupa Rasane
8	Grievance Redressal Cell	Dr. G.H. Kulkarni
9	JCE Consultancy Cell	Mr. Rajashekhar Malagihal
10	Innovation, Incubation and IPR Cell	Dr. Sanjeev Sangami
11	Student Engagement Cell	Mrs. Minal Patil
12	Entrepreneur Development Cell	Mrs. Rashmi Harti
13	UHV Cell	Mr. Rajashekhar Malagihal
14	Alumni Association	Mr. Rajashekhar Malagihal
15	Training and Placement cell	Mr. Raghunandan Oza
16	NSS	Mr. Vinayak Nanoji
17	Newsletter and Advertisement committee	Dr. S. Rohitraj

## Recruitment Procedure

- Advertisement:** In leading News Papers requesting the eligible candidates as per AICTE norms to apply within a given time to the principal.
- Applications:** The applications along with the Resume and supporting documents will be collected at the office of JCE, Belagavi.
- Listing:** After the applications are received, a list will be prepared highlighting the eligibility, Qualification, and experience.
- Merit List:** Will be prepared as per the requirements of the individual department.
- Expert Body:** An expert panel consisting of Principal, HOD, subject expert and a university nominee will be formed.
- Call Letters:** Eligible Candidates will be called for interview.
- Interview:** Discussions with the candidates to know their potentials, strengths, teaching skills etc., will be conducted.
- Selection:** Based on the performance and requirement, selection list in the order of merit will be prepared.
- Orders:** Appointment orders are issued to selected candidates.
- Duty report:** Selected Candidates should report to the duty on or before the given time.

The promotions are performance based. All HODs initiate performance reports once in an academic year under Performance Management System which are processed through the Principal to the Management for reward of increments, incentives and promotions based on their merit and demonstrated performance.

### **10.1.3. Decentralization in working and grievance redressal mechanism (10)**

#### **Decentralization in working**

The institution believes in the culture of decentralized governance and transparent mechanism in management, administration, financial and academic affairs by involving the principal, Deans and senior faculty members. The institution believes in delegating appropriate responsibilities to all the administrative committee members and allows the top management to focus on policy making and major decisions.

The governing body of the institute constitutes the management members, one representative each from the university (VTU), AICTE nominee, Industry representative nominated by the management, College principal as member secretary and two senior faculty members. Besides, decentralization is ensured through the approvals provided by the governing body to the perspective plan and the budget. Once the approvals are given, heads of the department are free to take all decisions related to governance, academics, evaluations etc. Various committees are set up with the faculty as members and student representatives, who take decisions on a variety of issues through the committees.

The HODs have the authority in deciding the academic activities and delegating the responsibilities to the staff members of the departments. HODs are empowered to plan and execute the activities as per the academic plan and ensure its timely implementation for achieving the institutional growth. The IQAC of the college plays a pivotal role in quality assurance, sustenance and enhancement through visioning and deployment besides review for achieving quality assurance. The activities pertaining to the college in respect of teaching & learning, research & development, industry interface and student activities are reviewed by the governing council which is the apex body of the college. The academic activities are initiated by the faculty in consultation with the students and other stakeholders. A suitable academic calendar and its plan of implementation is prepared to obtain approval of academic council and governing council. Any grievance in academic activities could be represented to the appeals and grievance committee. Grievances in any of the domains can be submitted to the governing council. The principal discusses the directions of the governing council with HODs and Deans to evolve a consensus on the focus areas of teaching-learning process, research and development, administration, and financial sanctions.

Sl. No	Name	Department	Power Delegated to	Responsibilities
1	Col. Melville A. Dsouza	Administrator	Administrator	Administrative works at college level
2	Dr. G. H. Kulkarni	EEE	Head of the Department	Administrative works of the respective department
3	Dr. Krupa Rasane	ECE		
4	Dr. Shreedhar Babu	ME		
5	Dr. Uttam Patil	CSE		
6	Dr. Sanjeev Sangami	CVE		
7	Dr. S. Rohitraj	MBA		
8	Dr. Raju Kotambari	MCA		
9	Dr. Shivkumar Math	PHY		
10	Dr. Prashant Patil	Math		
11	Dr. Manuprasad B K	CHE	HOD and First year Coordinator	Administrative works of the respective Section
12	Dr. Sachin M. Kulkarni	CVE	Dean Academics	
13	Dr. Rajani H. P.	ECE	Accreditation	
14	Prof. Praveen Chitti	ECE	Dean, Examination	
15	Dr. Anil Shirhatti	ME	Dean, Research	
16	Mr. Shanwaj Peerjade	Librarian	Head	

### Grievance Redressal Mechanism

The college promotes the culture of participating Management which enable system and students to voice their opinions and suggestions which are considered for improvement. All academic and administrative activities are decentralized and decisions are taken based on discussion and deliberation at various levels of staff meetings between principal hods and stakeholders for achieving consensus.

The gravieras redressal committee of JCE is attached as pdf in 10.1.2, with sample minutes of meeting and task generated. This cell is established to solve the grievance raised by the faculty or students from time to time. All the grievance of the stakeholders, students, staff which could not be settled in the routine process are referred to the committee. Committee tries to settle the issues in a time Bond manner.

Establishment of Grievance Redressal Committee in the Institute and Appointment of OMBUDSMAN by the University. (As per All India Council for Technical Education



(Establishment of Mechanism for Grievance Redressal) Regulations, 2012, F. No.37-3/Legal/2012, dated 25.05.2012)

AIM: To ensure transparency by technical institutions imparting technical education, in admissions and with Paramount Objective of preventing unfair practices and to provide a mechanism to innocent students for redressal of their grievances.

The following staff have been nominated for the Grievance Redressal Cell. They have been instructed to act in their respective roles and responsibilities.

Sl. No	Name	Designation
1	Dr. J. Shivakumar	Chairman
2	Dr. G.H. Kulkarni	Convener
3	Dr. Krupa Rasane	Member
4	Dr. Anil Shirhatti	Member
5	Dr. Uttam Patil	Member
6	Mr. Rajshekhar Malagihal	Member
7	Dr. Shreedhar Babu	Member
8	Dr. S. Rohitraj	Member
9	Dr. Raju Kotambari	Member
10	Dr. Prashant Patil	Member
11	Dr. Sanjeev Sangami	Member

#### **Anti-Ragging Committee:**

Establishment of Anti Ragging Committee is done as per the direction from All India Council for Technical Education notified regulation for prevention and prohibition of ragging in AICTE approved technical Institutions vide No. 37-3/Legal/AICTE/2009 dated 01.07.2009)

AIM: Prevention and prohibition of Ragging in technical Institutions, Universities including Deemed to be Universities imparting technical education.

Every Institution University including Deemed to be University imparting technical education shall constitute a Committee to be known as the Antiaging Committee to be nominated and headed by the Head of the Institution, and consisting of representatives of civil and police administration, local media, Non-Government Organizations involved in youth activities, representatives of faculty

members, representatives of parents, representatives of students belonging to the fresher's category as well as senior students, non-teaching staff; and shall have a diverse mix of membership in terms of level as well as gender.

The following staffs have been nominated for the Anti Ragging Committee. They have been instructed to act in their respective roles and responsibilities.

<b>Sl. No</b>	<b>Name</b>	<b>Designation</b>
1	Dr. J. Shivakumar	Chairman
2	Mr. Praveen Chitti	Convener
3	Dr. G.H. Kulkarni	Member
4	Dr. Krupa Rasane	Member
5	Dr. Shreedhar Babu	Member
6	Dr. Uttam Patil	Member
7	Dr. S. Rohitraj	Member
8	Dr. Raju Kotambari	Member
9	Dr. Sanjeev Sangami	Member
10	Mr. Bichagatti	Member (Parent)
11	Mr. Nilesh Chougule	Member (Student)
12	CPI Rural Police Station	Member

#### **Internal Complaint Committee (Sexual Harassment Committee)**

Constitution of College Internal Complaint Committee w.r.t prevention, prohibition and redressal of Sexual harassment reg Ref: University Grants Commission (prevention, prohibition and redressal of Sexual harassment of women employee and students in higher education institutions) Regulation, 2015.

AIM: Prevention, prohibition and redressal of sexual harassment of women employees and students in higher educational institutions.

To comply with the University Grants Commission (prevention, prohibition, and redressal of Sexual harassment of women employee and students in higher education institutions) Regulation, 2015 the Internal Complaint Committee is reconstituted by the Jain College of Engineering with the following members.

<b>Sl. No</b>	<b>Name and Designation</b>	<b>Position in CICC</b>
1	Dr. Krupa Rasane, HOD ECE, JCE	Chairman
2	Prof. Praveen Chitti, Dean Examination.	Member
3	Prof. Priyanka Shinde, Asst. Prof. CVE, JCE	Member
4	Mr. Mainuddin Shilledar, Accounts Officer JCE	Member
5	Pranjali Navali Receptionist JCE	Member
6	Sanjita Kolkar Student	Member
7	Shreya Ajit Kudachi Student	Member
8	Pallavi A Mishra Student	Member
9	Mrs. Sandhya Sherigar NGO Representative	Member

#### **10.1.4. Delegation of financial powers (10)**

To ensure smooth functioning of the academic and administrative operations of the institution, the governing council resolved to delegate financial powers to the leadership team at JCE. Principal of the institution is given financial power up to Rs.50,000/-and to get consolidated ratification of the decisions post the events. The same is extended to the HODS upto a limit of Rs.10,000/- each. There are several persons in charge for various initiatives at JCE. All the respective persons in charge of initiatives are given a specified impress amount based on their scope of work. This is subject to revision every year.

Budgets proposed and approved are made available, subject to the fulfillment of all the required quality standards against the proposal documents. Apart from the budgeted expenditure, there will be a certain need of funds to be released on ad-hoc basis. Details of the financial utilization have been shown in the respective format given.

Policies, rules and processes of the institution in terms of day to day operations, academic affairs and behavioral norms are formulated by consolidating the opinions of all the stakeholders, which are reviewed and refined. Final copies of all such documents are disseminated to all the stakeholders. The same is made available in the institution website.

#### **10.1.5. Transparency and availability of correct/unambiguous information in public domain (5)**

All the students of the institution are given an orientation on the most important rules and guidelines to be followed during their stay in the college in the induction program. Parents are also invited for the same event. The copies of the rules and regulations are made available in the notice boards of respective departments. There will be sign boards throughout the campus indicating the Dos and Donts by the students. Every faculty/staff member is given an induction session during their joining on service rules, leave policy, work norms policy and other important processes & practices that one should abide by in JCE as a faculty or staff member.

Institution maintains data transparency by providing all the required data by the statutory authorities in the public portal. Details of the faculty, vision, mission and values of the institution are made available in the public domain.

## 10.2 Budget Allocation, Utilization, and Public Accounting at Institute level (30)

Summary of current financial year's budget and actual expenditure incurred (for the institution exclusively) in the three previous financial years.

Table 1 - CFY 2021-22							
Total income: 96335062				Actual Expenditure: 93428474		Total No. of students: 2115	
Fee	Govt.	Grants	Other	Recurring including salaries	Nonrecurring	Special projects	Expenditure per student
96114812	0	0	220250	87127345	6301129	0	44174.22
Table 1 - CFY 2020-21							
Total income: 116783060				Actual Expenditure: 104964528		Total No. of students: 2373	
Fee	Govt.	Grants	Other	Recurring including salaries	No recurring	Special projects	Expenditure per student
116654176	0	0	128884	87190893	17773635	0	44232.84
Table 1 - CFY 2019-20							
Total income: 152740003				Actual Expenditure: 145304193		Total No. of students: 2496	
Fee	Govt.	Grants	Other	Recurring including salaries	No recurring	Special projects	Expenditure per student
152112579	0	0	627424	127871964	17432229	0	58214.82

Table 1 - CFY 2018-19							
Total income: 186868000				Actual Expenditure: 164161938		Total No. of students: 2677	
Fee	Govt.	Grants	Other	Recurring including salaries	No recurring	Special projects	Expenditure per student
186279777	0	0	588223	151914421	12247517	0	61323.10

Items	Budgeted in 2021-22	Actual Expenses in 2021-22	Budgeted in 2020-21	Actual Expenses in 2020-21	Budgeted in 2019-20	Actual Expenses in 2019-20	Budgeted in 2018-19	Actual Expenses in 2018-19
Infrastructure Built-Up	6000000	5803929	20000000	17368986	15000000	15692545	10000000	8293920
Library	2500000	2055490	2500000	2263568	2500000	2311021	2000000	1834843
Laboratory equipment	1000000	497200	1000000	404649	2000000	1739684	4000000	3953597
Laboratory consumables	500000	437065	400000	109091	500000	468080	1500000	1671597
Teaching and non-teaching staff salary	100000000	58460943	100000000	57550358	100000000	89387820	100000000	85873624
Maintenance and spares	10000000	9060515	15000000	13546063	10000000	8833467	25000000	28117177
R&D	500000	345879	500000	536850	1000000	897550	1000000	855850
Training and Travel	600000	564058	600000	267193	2000000	1650704	1500000	1543192
Misc.	800000	690052	3000000	2544120	5000000	4033922	5000000	4765934
Others, specify	20000000	15513343	15000000	10373650	10000000	20289400	25000000	27252204
<b>Total</b>	<b>141900000</b>	<b>93428474</b>	<b>158000000</b>	<b>104964528</b>	<b>148000000</b>	<b>145304193</b>	<b>175000000</b>	<b>164161938</b>

### 10.2.1 Adequacy of budget allocation (10)

The management as well as the governing council of the institute had an excellent vision to foresee the trends in education and necessary changes to tune and cope up with change. However, institute had a best practice of preparing budget regularly for Recurring and Nonrecurring expenses well in advance as per the requirements.

Recurring expenses include teaching, technical and ministerial staff salaries, printing & stationery. laboratory maintenance, spares, consumables, accessories, FDPs, workshops, conferences, student technical meets, publications, travels, soft skills, sports, games, cultural activities etc.

Nonrecurring expenses include infrastructure development, building construction cum civil development works and capital work in progress, furniture & fixtures, electrical equipment fittings, laboratory equipment.

Coming to the adequacy levels of the budget for said period of SAR, it is observed that the budget estimations and estimated incomes were quite appropriate in the respective periods. Similarly, it is observed that cash inflows by way of tuition fees, scholarships, government assistance schemes, registration fee for programmers, management contribution for recurring expenditure has increased against the students admitted into the college and various development activities taken up by various departments. The management is very generous to finance and sanction various academic activities even though not estimate well in advance and instantly planned with formal request through the academic committee.

### **10.2.2 Utilization of allocated funds (15)**

The budget requirement is prepared by collecting the requirements from the individual departments. The department will conduct a brainstorming session with all the faculty in charges, collect the inputs from them regarding requirements given by the faculty with respect to FDPs, Conferences, Modernization of the equipment etc. Based on the inputs collected the budgetary requirement (recurring and non-recurring) will be submitted to the principal and leadership team discusses the proposals and prepare the institutional budget. The proposed budget is put forward to the management for approval by the governing body.

Once the budget is sanctioned a copy of the same is given to the department for utilization.

The requirement for the budget can be put forward by the concerned faculty to the HOD, which will be discussed in the department meeting and the outcome of the meeting is communicated to the principal for final approval. Once the principal approves, the budget can be utilized for the purchase of equipment. spent for conducting/attending FDPs, Conducting workshops, guest lectures, seminars, industrial visits etc..

As there is proper planning in preparing the budget, majority of the time the allocation and utilization of the budget is within the limits.

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

JCE carries out a regular internal audit of all financial operations to double check the correctness of the transactions. A team is formulated from the accounts department internally for internal audit. An external audit of all financial transactions is done by a registered chartered accountant. The same is made available in the institution's website.

## 10.3 Program Specific Budget Allocation, Utilization (30)

### 10.3.1 Adequacy of Budget allocation (10)

The budget allocated over the assessment year is adequate for the program

Sl. No	Year	Budget Allocation	Actual Expenditure	Adequate/Not Adequate
1	2021-22	9700000	8260579	Adequate
2	2020-21	10800000	9156198	Adequate
3	2019-20	13700000	12516186	Adequate
4	2018-19	16400000	14226959	Adequate

### 10.3.2 Utilization of allocated funds (20)

Sl. No	Year	Budget Allocation	Actual Expenditure	Utilization %
1	2021-22	9700000	8260579	85.2
2	2020-21	10800000	9156198	84.8
3	2019-20	13700000	12516186	91.4
4	2018-19	16400000	14226959	86.7

Table 1 - CFY 2021-22					
Total Budget:	15000000	Actual Expenditure:	8260579	Total No. of students:	187
Nonrecurring	Recurring	Nonrecurring	Recurring	Expenditure per student	
2000000	8000000	1652116	6608463	44174.22	
Table 1 - CFY 2020-21					
Total Budget:	15350000	Actual Expenditure:	9156198	Total No. of students:	207
Nonrecurring	Recurring	Nonrecurring	Recurring	Expenditure per student	
2000000	8000000	183120000	7324958	44232.84	
Table 1 - CFY 2019-20					

Total Budget:	15000000	Actual Expenditure:	12516186	Total No. of students:	215
Nonrecurring	Recurring	Nonrecurring	Recurring	Expenditure per student	
3000000	12000000	2503237	10012949	58214.82	
Table 1 - CFY 2018-19					
Total Budget:	15000000	Actual Expenditure:	14226959	Total No. of students:	232
Nonrecurring	Recurring	Nonrecurring	Recurring	Expenditure per student	
3000000	12000000	2845392	11381567	61323.10	

Items	Budgeted in 2021-22	Actual Expenses in 2021-22 till	Budgeted in 2020-21	Actual Expenses in 2020-21 till	Budgeted in 2019-20	Actual Expenses in 2019-20 till	Budgeted in 2018-19	Actual Expenses in 2018-19 till
Laboratory equipment	200000	120250	200000	140250	300000	232450	1000000	956584
Software	100000	55600	100000	58450	100000	89560	200000	120452
Laboratory consumable	100000	85684	200000	184520	100000	85680	500000	432500
Maintenance and spares	1000000	645850	2000000	2045283	1500000	1256988	4000000	3256450
R & D	200000	105220	200000	143450	200000	152650	200000	120458
Training and Travel	100000	60258	100000	28550	500000	435650	500000	345850
	8000000	7187717	8000000	6555695	11000000	10263208	10000000	8994665
<b>Total</b>	<b>9700000</b>	<b>8260579</b>	<b>10800000</b>	<b>9156198</b>	<b>13700000</b>	<b>12516186</b>	<b>16400000</b>	<b>14226959</b>

## 10.4 Library and Internet (20)

### 10.4.1 Quality of learning resources (hard/soft) (10)

The library of JCE is equipped with the required reference and subscribed textbooks as per the approval and affiliating authorities. Apart from the books as per the curriculum requirement, other relevant books are provided for additional reference and carryout project work in the respective programs. Magazines and journals of technical relevance are available in the library. The learning resources which are made available program wise in the library meet the curriculum requirement. JCE subscribed – Consortium for e-resources which has National and International Peer Reviewed e-journals access through Elsevier – Science Direct, IEEE (POP), Springer Nature, Taylor and Francis, Emerald (Management), ProQuest, Net Analytics Technologies (LANQUILL Grammar writing tool) and Turnitin originality checking online tool and mint e-books and MAP Systems:



Cloud hosted Remote Access services for VTU consortium e-Resources. There is IP based and unlimited access to all e-Resources.

The library of the college has a total area of 618.48 sq. m. and has special designated areas for reading. A total no. of 25,365 volumes, 7431 titles, 30 print journals, 6155+ e-journals, 5000+ e-books through VTU consortium and 2000+ rare and Kannada literary books are available. A dedicated staff helps the students to find the required title. The ever growing need of the academia is met out with latest volumes in all the fields of Engineering & Technology and Management plus general areas to cater to the need of Students appearing for Competitive exams like GATE, GRE, UPSCE, TOEFL, etc.

Nature of automated circulation system:

- **KOHA Integrated Library Management Software:**

The books are indexed, categorized according to programs and subjects and arranged alphabetically. The software contains details about the author's name, title and publisher. Upon enquiry, the librarian searches in the software and helps the students locate the book. All books are bar-coded and reference Id. is written. The issues and returns are digitized. The Library offers many services to our patron like Open Access, fully automated Circulation System, Online public Access Catalogue, Govt. Book Bank Facility, News Paper Clippings and Selective Dissemination of Information etc. The library is also equipped with the In/Out Management system to manage the library activities.

- **Accessibility to students**

Every student is issued a college identity card on enrolment into any program of JCE. Students are permitted to enter library by showing the identity card and access any book including reference. Students can borrow the books for a period of two weeks to take outside the library. The default limit of number of books that can be issued outside is three and can be increased on the request from the student and recommendations by the respective faculty.

- **Support to students for self-learning activities through JCE e-connect :**

JCE e-connect provides short videos ranging from 5 minutes to 1 hour by faculty are shared with students for their online and offline access. As the current engineering demands all-round development, students have difficulty in managing both regular academics and other technical

activities. Learning resources in terms of lecture notes, presentations, videos and other information is shared with students in advance to ensure maximum self learning at their own place.

- **National Digital Library of India :**

One of the most important information about our JCE college library is that, our college is a member of National Digital Library of India. We have approved NDLI club.

National Digital library of India is a virtual repository of learning resources which is not only just a repository with a search/browse facilities but also provides a host of services containing textbooks, articles, videos, audio books, lectures, simulations, fiction and all other kinds of learning media for the learners/users community.

**Events Conducted under JCE-NDLI :**

1. NDLI User Awareness Program on 29-Nov-2021
2. Basic of Geometric & Dimensioning & Tolerancing on 22-Dec-2021
3. NDLI User Awareness 2022. On 14-Jan-2022
4. One day workshop on 3D printing technology on 02-Feb-2022
5. World Intellectual Property Day on 26 April 2022.
6. Career Guidance for Better prospects 30 April 2022

- **Online support through JCE e-library (In-house App) :**

JCE e-library is mobile application and web application which supports the JCE students to access e-books, articles, lab manuals, and VTU semester exam question papers, IA question papers remotely through their mobiles or laptops or PC's. This application also provides links to the external resources like NPTEL, Shodhganga, Swayam, and latest national journals articles procured. Admin can upload required materials through this application and students can access through their account.

### **10.4.2 Internet (10)**

Name of the Internet provider	Multicraft Digital Technologies Pvt. Ltd.,BSNL,
Available band width	410 Mbps
WiFi availability	No
Internet access in labs, classrooms, library and offices of all Departments	Yes
Security arrangements	Yes

## **Annexure I**

### **(A) PROGRAM OUTCOME (POs)**

Engineering Graduates will be able to:

#### **1. Engineering Knowledge:**

Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

#### **2. Problem Analysis:**

Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

#### **3. Design/development of solutions:**

Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

#### **4. Conduct investigations of complex problems:**

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

#### **5. Modern tool usage:**

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

#### **6. The engineer and society:**

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

#### **7. Environment and sustainability:**

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

**8. Ethics:**

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

**9. Individual and teamwork:**

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**10. Communication:**

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

**11. Project management and finance:**

Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**12. Life-long learning:**

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

**(B) PROGRAM SPECIFIC OUTCOME (PSOs)**

PSO1	Apply principles of Electrical Sciences for developing, testing, operation and maintenance of electrical systems.
PSO2	Study, design, and analyse electrical engineering systems.
PSO3	Work professionally in power systems engineering, control systems engineering and software industries.

## Declaration

The head of the institution needs to make a declaration as per the format given -

- I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institution shall fully abide by them.
- It is submitted that information provided in this Self Assessment Report is factually correct.
- I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA. In case, any false statement/information is observed during pre-visit, visit, post-visit and subsequent to grant of accreditation.

### Head of the Institute

Name : Dr. J. Shivakumar

Designation : Principal

Signature :



Seal of The Institution :



Place : BELAGAVI

Date : 20-06-2022 14:00:38

