AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

SELF ASSESSMENT REPORT (SAR)

For Bachelor of Electrical Engineering (Tier II)

NATIONAL BOARD of ACCREDITATION

National Board of Accreditation

New Delhi

Department of Electrical Engineering

AISSMS College of Engineering Pune -411001

ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY S COLLEGE OF ENGG
KENNEDY ROADNEAR R.T.O.PUNE

Part A : Institutional Information

1 **Name and Address of the Institution**

ALL INDIA SHRI SHIVAJI

MEMORIAL SOCIETY S
COLLEGE OF ENGG
KENNEDY ROAD NEAR
R.T.O.PUNE,KENNEDY
ROAD, PUNE-411001

2 **Name and Address of Affiliating University**

UNIVERSITY OF PUNE GANESHKHIND ROAD PUNE-411007

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

1992

4 **Type of the Institution:**

☐ University	☐ Autonomous
☐ Deemed University	☑ Affiliated
☐ Government Aided	

5 **Ownership Status:**

☐ Central Government	☑ Trust
☐ State Government	☐ Society
☐ Government Aided	☐ Section 25 Company
☐ Self financing	☐ Any Other(Please Specify)

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

Name of Institutions	Year of	Programs of Study	Location

	Establishment		
All India Shri Shivaji Memorial Society's Institute of Information Technology, Pune – 1	1999	Engineering and Technology : (Under Graduate Courses) 1) Computer Engineering, 2) Electrical Engineering, 3) Instrumentation Engineering, 4) Electronics and Telecommunication Engineering, 5) Information Technology, 6) Artificial Intelligence and Data Science (Post Graduate Courses) 1) Electronics and Telecommunication Engineering (VLSI & Embedded Systems), 2) Electrical Engineering (Power Electronics and Drives)	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's College of Polytechnic, Pune – 1	1994	Diploma Courses 1) Civil Engineering, 2) Computer Engineering, 3) Electronics and Telecommunication Engineering, 4) Information Technology, 5) Instrumentation Engineering, 6) Mechanical Engineering, 7) Automobile Engineering	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's College of Pharmacy, Pune – 1	1996	B Pharm and M Pharm	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's Institute of Management, Pune – 1	2002	MBA	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's College of Hotel Management & Catering Technology, Pune – 5	1997	CHMCT Course : BHMCT, B Sc HS	55-56, Shivajinagar, Pune – 411 005

All India Shri Shivaji Memorial Society's Private Industrial Training Institute, Pune – 02	1991	ITI Courses : Welder (Gas & Electric), Mechanic Diesel, Fitter, Turner, Machinist, Machinist (Grinder), Mechanic (Refrigeration and Air-Conditioner), Electrician, Mechanic (Motor Vehicle), Electronic Mechanic, Painter (General), Tool and Die Maker (Press, Tool, Jig and Fixture)	At – Daund, Urulikanchan, Dist – Pune – 412 202
All India Shri Shivaji Memorial Society's SSPM Day School & Junior College, Pune – 5	1972	School & Jr College : Std. 5th to 10th (School), Std. 11th to 12th (College – Science & Commerce)	55-56, Shivajinagar, Pune – 411 005
All India Shri Shivaji Memorial Society's Shri Shivaji Preparatory Military School, Pune – 5	1932	School & Jr College : Std. 1st to 10th (School) & 11th to 12th (College – Science & Commerce)	55-56, Shivajinagar, Pune – 411 005

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
Electrical Engg.	UG	1992	1992	60	No	60	Not accredited (specify visit dates, year)	18/01/2013	20/01/2013	Yes	4
Electrical Engg.	PG	2011	2011	18	No	18	Eligible but not applied	--	--	No	2
Chemical Engineering	UG	1996	1996	40	Yes	60	Granted provisional accreditation for two years for the period(specify period)	2013	2015	No	4
ME - Chemical Engineering	PG	2011	2011	18	No	18	Eligible but not applied	--	--	0	2
Civil Engineering	UG	2002	2002	60	Yes	120	Not accredited (specify visit dates, year)	18/01/2013	20/01/2013	0	4

ME - Civil Engineering (Structural Engineering)	PG	2010	2010	18	No	18	Eligible but not applied	--	--	0	2
Computer Engineering	UG	1998	1998	40	Yes	120	Granted provisional accreditation for two years for the period(specify period)	2013	2015	0	4
ME - Computer Engineering (Artificial Intelligence and Data Science)	PG	2013	2013	18	No	18	Not eligible for accreditation	--	--	0	2
Electronics and Telecommunication Engineering	UG	1992	1992	60	No	60	Not accredited (specify visit dates, year)	18/01/2013	20/01/2013	0	4
ME - Electronics &Telecommunication Engineering (IOT and Sensor Systems)	PG	2009	2009	18	No	18	Not eligible for accreditation	--	--	0	2
Mechanical Engineering	UG	1992	1992	60	Yes	120	Granted provisional accreditatio	2013	2015	0	4

							n for two years for the period(specify period)				
ME - Mechanical Engineering (Design)	PG	2013	2013	18	No	18	Eligible but not applied	--	--	0	2

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
Mechanical Engineering (Sandwich)	UG	1994	1994	30	Yes	60	Granted provisional accreditation for two years for the period(specify period)	2013	2015	0	4
Production Engineering (Sandwich)	UG	1994	1994	30	Yes	60	Granted provisional accreditation for two years for the period(specify period)	2013	2015	0	4
ME - Mechanical Engineering (Automotive Engineering)	PG	2009	2009	18	No	18	Eligible but not applied	--	--	No	2
Robotics and Automation	UG	2022	2022	30	No	30	Not eligible for accreditation	--	--	No	4

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

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

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)	85	86	90	90	89	93
Faculty in Engineering (Female)	64	64	55	57	60	60
Faculty in Maths, Science & Humanities (Male)	9	10	7	7	8	9
Faculty in Maths, Science & Humanities (FeMale)	4	5	7	7	7	7
Non-teaching staff (Male)	105	105	105	107	107	109
Non-teaching staff (FeMale)	9	10	9	10	9	9

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

Items	2021-22		2020-21		2019-20	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	4	4	0	0	1	1
Faculty in Engineering (Female)	1	1	2	2	3	3
Faculty in Maths, Science & Humanities (Male)	0	0	0	0	0	0
Faculty in Maths, Science & Humanities (FeMale)	0	0	0	0	0	0
Non-teaching staff (Male)	0	0	0	0	0	0
Non-teaching staff (FeMale)	0	0	0	0	0	0

10 **Total number of Engineering Students:**

Engineering and Technology-UG	☑ Shift1	☐ Shift2
Engineering and Technology-PG	☑ Shift1	☐ Shift2

Engineering and Technology-Polytechnic	☐ Shift1	☐ Shift2
MBA	☐ Shift1	☐ Shift2
MCA	☐ Shift1	☐ Shift2

Engineering and Technology- UG Shift-1

Items	**2021-22**	**2020-21**	**2019-20**
Total no. of Boys	2312	2342	2075
Total no. of Girls	718	770	740
Total	**3030**	**3112**	**2815**

Engineering and Technology- PG Shift-1

Items	**2021-22**	**2020-21**	**2019-20**
Total no. of Boys	45	50	48
Total no. of Girls	28	27	21
Total	**73**	**77**	**69**

11 **Vision of the Institution:**

Service to Society through quality education

12 **Mission of the Institution:**

1) Generation of national wealth through education and research.

2) Imparting quality technical education at the cost affordable to all strata of the Society.

3) Enhancing the quality of life through sustainable development.

4) Carrying out high quality intellectual work.

5) Achieving the distinction of highest preferred Engineering College in the eyes of the stake holders.

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

Head of the Institution	
Name	Dr Dattatraya Shankar Bormane
Designation	Principal
Mobile No.	9850282286
Email ID	principal@aissmscoe.com

NBA Coordinator, If Designated

Name	Dr Mangesh Ravindra Phate
Designation	Professor in Mechanical Engineering
Mobile No.	7058816968
Email ID	mrphate@aissmscoe.com

Part B

Criterion Summary

Critera No.	Criteria	Marks
1	VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES	60
2	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	120
3	COURSE OUTCOMES AND PROGRAM OUTCOMES	120
4	STUDENTS' PERFORMANCE	150
5	FACULTY INFORMATION AND CONTRIBUTIONS	200
6	FACILITIES AND TECHNICAL SUPPORT	80
7	CONTINUOUS IMPROVEMENT	50
8	FIRST YEAR ACADEMICS	50
9	STUDENT SUPPORT SYSTEMS	50
10	GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES	120
	Total	**1000**

CRITERION 1	Vision, Mission and Program Educational Objectives	60

VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (60)

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

Vision of the Institute:

Service to Society through Quality Education

Mission of the Institute:

1. Generation of national wealth through academics and research.
2. Imparting quality technical education at the cost affordable to all strata of society.
3. Enhancing the quality of life through sustainable development.
4. Carrying out high quality intellectual work.
5. Achieving distinction of the highest preferred engineering colleges in the eyes of stakeholders.

Vision of the department:

To be an excellent learning center in Electrical Engineering providing long term benefits to the society
The department of Electrical Engineering will continuously work hard to ensure that the program offered by the department remains competitive amongst such programs offered by the other institutions and the graduates passing out will be competent to solve the challenges in the real world by following ethical values. The department remains committed to nurture an all-round personality of the students by exposing them to various Professional body organizational activities, NSS events, student clubs and inter institute events. Our students will possess attributes and skills that will enable them to work in multidisciplinary environment and in challenging job roles.

Mission of the department:

M1. To impart knowledge in the field of Electrical Engineering using contemporary learning tools.
M2. To promote research culture among students and faculty
M3. To serve society with deep awareness of social responsibility and ethics
M4. To collaborate with industry for value addition in academics

The faculty of Electrical Engineering Department will strive hard to impart knowledge to the students using the contemporary tools so that the learning is maximized. The classroom teaching will be well

Supported by industry personnel's involvement in course delivery. Students will be motivated to take active part in various co-curricular activities like project competitions, paper presentation, NPTEL-Coursera certifications etc. The department will make sure that the students become technically strong and are ready to solve the real world problems while practicing ethics.

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

PEOs:

1. Our graduates will be technically competent to solve engineering problems and demonstrate leadership skills at their chosen workplace
2. Our graduates will exhibit professional and managerial skills while working in professional organizations and simultaneously acquire higher education as per the job needs
3. Our graduates will be sensitive to the contemporary techno-social issues and committed to serve the society locally and globally with strong ethics

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

The Vision, mission and PEOs are published and disseminated for internal stakeholders (Management, Governing council members, Faculty members and students) and External stakeholders (Parents, Employers, Industry persons, Professional bodies and Alumni) at various locations through various modes and on several occasions. These are highlighted in the following tables 1.3(a) and 1.3(b)

1.3 a Publishing mode of Vision, Mission and PEOs

Vision Mission PEOs	Level	Sl	Medium of Publishing	Stake holders	
				Internal	External
	Institute	1	The Institute website www.aissmscoe.com	Y	Y
		2	Academic Calendar	Y	Y
		3	Admission Brochure	Y	Y
		4	Administrative office	Y	Y
		5	Administrative Notice board	Y	Y
		6	Conference room, seminar hall, CITP	Y	Y
		7	Annual Magazine	Y	Y
		8	Library	Y	Y
	Department	1	HOD Office, Seminar Hall	Y	Y
		2	Institute website -Departments	Y	Y
		3	Department notice Board	Y	Y
		4	Laboratory Manuals	Y	Y
		5	Course file	Y	Y
		6	News letter	Y	Y
		7	FDP/STTP Brochures	Y	Y

1.3 b Dissemination of Vision Mission and PEOs

Vision Mission PEOs	Level	Sl	Medium of Publishing	Stake holders	
				Internal	External
	Institute and Department	1	Brochure and Flyers of programmes	Y	Y
		2	Invitation cards	Y	Y
		3	Conferences organized	Y	Y
		4	College programmes	Y	Y
		5	Parent Teacher Meetings	Y	Y
		6	Placement drives	Y	Y
		7	Alumni Meetings	Y	Y
		8	Student Chapter activities	Y	Y
		9	Association activities	Y	Y
		10	Industry visits by faculty members	Y	Y
		11	E mail correspondence	Y	Y

Dissemination Method

Dissemination Process to the stakeholders

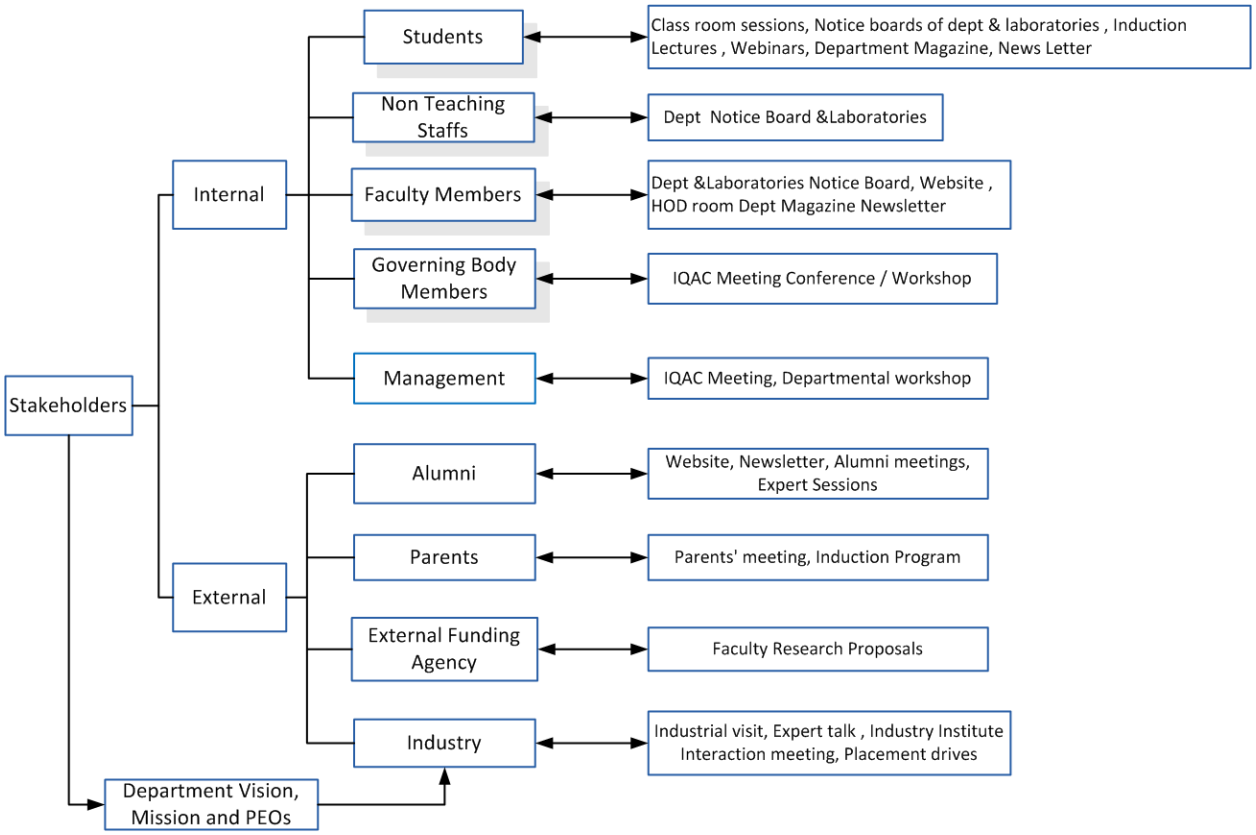
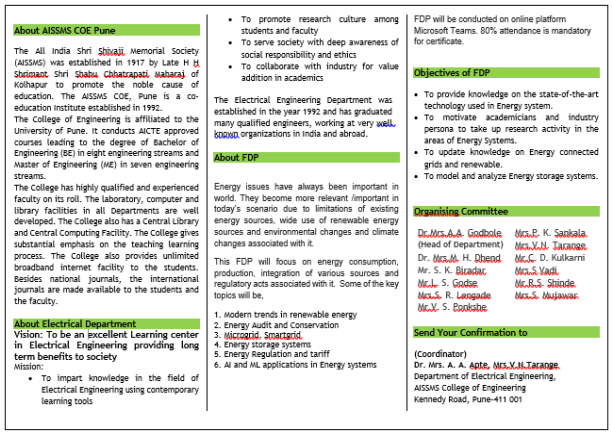


Figure 1.3a Dissemination Process to the stakeholders

Dissemination in FDP Brochures, DAB Meeting



About AISSMS COE Pune

The All India Shri Shivaji Memorial Society (AISSMS) was established in 1917 by Late H H Shrimant Shri Shabu Chhatrapati Maharaj of Kolhapur to promote the noble cause of education. The AISSMS COE, Pune is a co-education institute established in 1992.
The College of Engineering is affiliated to the University of Pune. It conducts AICTE approved courses leading to the degree of Bachelor of Engineering (BE) in eight engineering streams and Master of Engineering (ME) in seven engineering streams.
The College has highly qualified and experienced faculty on its roll. The laboratory, computer and library facilities in all Departments are well developed. The College also has a Central Library and Central Computing Facility. The College gives substantial emphasis on the teaching learning process. The College also provides unlimited broadband internet facility to the students. Besides national journals, the international journals are made available to the students and the faculty.

About Electrical Department

Vision: To be an excellent Learning center in Electrical Engineering providing long term benefits to society

Mission:

- To impart knowledge in the field of Electrical Engineering using contemporary learning tools
- To promote research culture among students and faculty
- To serve society with deep awareness of social responsibility and ethics
- To collaborate with industry for value addition in academics

The Electrical Engineering Department was established in the year 1992 and has graduated many qualified engineers, working at very well, known organizations in India and abroad.

About FDP

Energy issues have always been important in world. They become more relevant /important in today's scenario due to limitations of existing energy sources. wide use of renewable energy sources and environmental changes and climate changes associated with it.

This FDP will focus on energy consumption, production, integration of various sources and regulatory acts associated with it. Some of the key topics will be,

1. Modern trends in renewable energy
2. Energy Audit and Conservation
3. Microgrid, Smartgrid,
4. Energy storage systems
5. Energy Regulation and tariff
6. AI and ML applications in Energy systems

FDP will be conducted on online platform Microsoft Teams. 80% attendance is mandatory for certificate.

Objectives of FDP

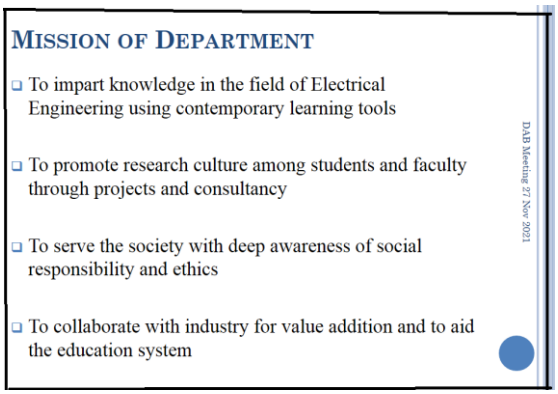
- To provide knowledge on the state-of-the-art technology used in Energy system.
- To motivate academicians and industry persona to take up research activity in the areas of Energy Systems.
- To update knowledge on Energy connected grids and renewable.
- To model and analyze Energy storage systems.

Organising Committee

Dr.Mrs.A.A. Godbole (Head of Department)
Dr. Mrs.M. H. Dhend
Mr. S. K. Biradar
Mr.L. S. Godse
Mrs.S. R. Lengade
Mr.V. S. Ponkshe
Mrs.P. K. Sankala
Mrs.V.N. Tarange
Mr.G. D. Kulkarni
Mrs.S Vadi
Mr.R.S. Shinde
Mrs.S. Mujawar

Send Your Confirmation to

(Coordinator)
Dr. Mrs. A. A. Apte, Mrs.V.N.Tarange
Department of Electrical Engineering,
AISSMS College of Engineering
Kennedy Road, Pune-411 001



MISSION OF DEPARTMENT

- To impart knowledge in the field of Electrical Engineering using contemporary learning tools
- To promote research culture among students and faculty through projects and consultancy
- To serve the society with deep awareness of social responsibility and ethics
- To collaborate with industry for value addition and to aid the education system

DAB Meeting 27 Nov 2021

Modern Trends in Energy Systems Brochure DAB Meeting 27 November 2021

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

Process for Defining the Vision and Mission of the Department:

1. There were several factors taken into account while framing the vision and mission of the department. The following points were considered in the process. a. The salient features of the vision and mission of the Institute b. The graduate attributes that are essentially required in a graduating engineer c. Study of vision and mission statements of reputed engineering institutions. The draft copy of the vision and mission statements of the department was prepared in the departmental brainstorming meetings.
2. Suggestions and inputs were collected after discussions with various stakeholders such as DAB members, students, industry experts, employers, parents, alumni etc.
3. The inputs received from the stakeholders were reviewed and analyzed in the Program assessment and quality improvement committee meetings and revised version was prepared.
4. The revised draft of vision and mission statements was sent to Internal Quality Assurance Cell (IQAC) for suggestions.
5. After incorporating the suggestions from IQAC, the Vision and Mission of Department were published and disseminated

   The figure 1.4 (a) depicts the process of establishing Department vision and mission

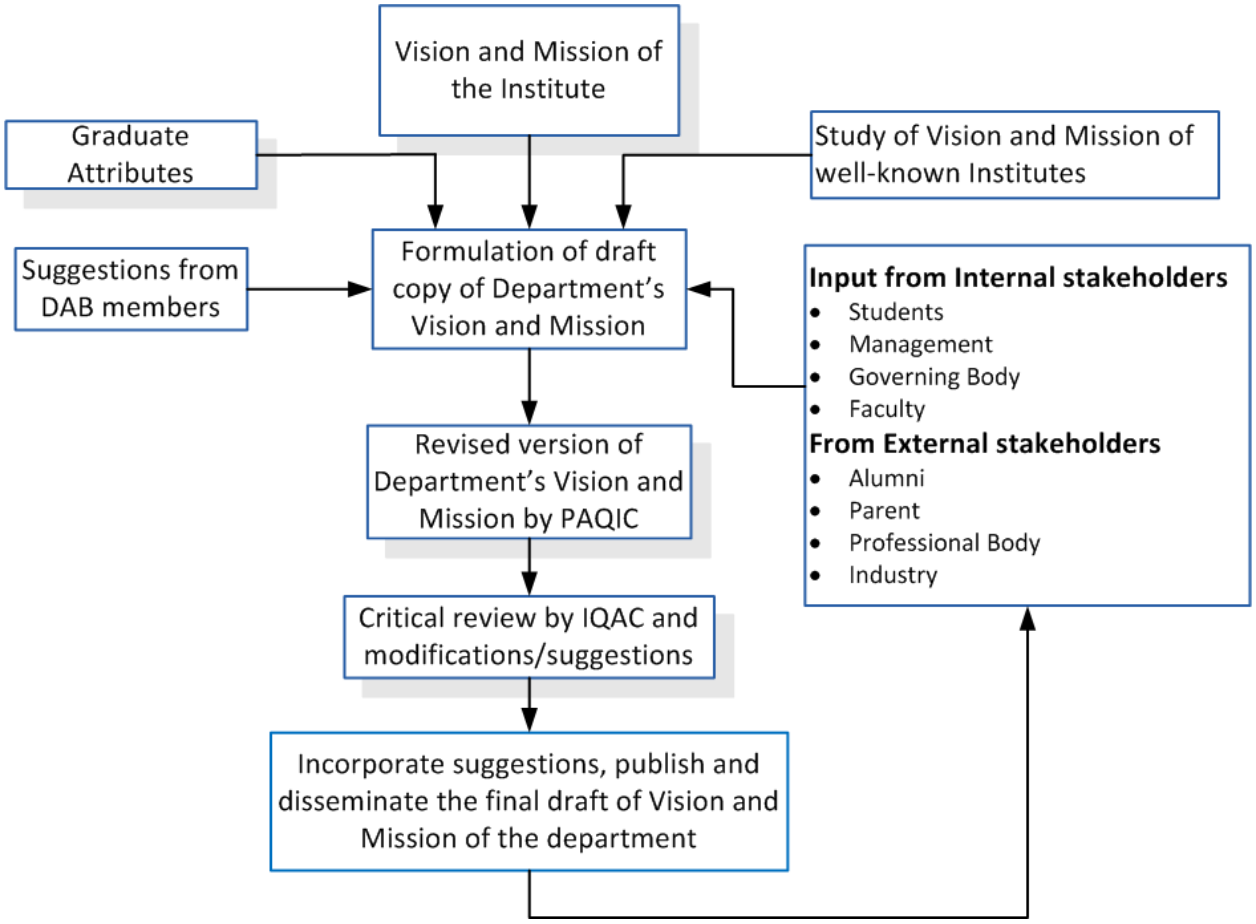


Figure 1.4a Process for establishing Vision and Mission of department

Process for Defining the PEOs of the Department:

1. The faculty members carefully studied the Vision and Mission of the Institute, Department, the Graduate Attributes, PEOs of reputed institutions and the current trends in the technology domain while framing the PEOs.
2. Suggestions and inputs on PEOs were received after discussions with various stakeholders such as students, industry experts, employers, parents, alumni, DAB members etc.
3. The inputs received from the stakeholders were assimilated and analyzed in the Program assessment and quality improvement committee meetings and accordingly the draft was modified.
4. The revised draft of PEO statements was sent to Internal Quality Assurance Cell (IQAC) for corrections.
5. After incorporating the suggestions from IQAC, the PEOs of Department were published and disseminated

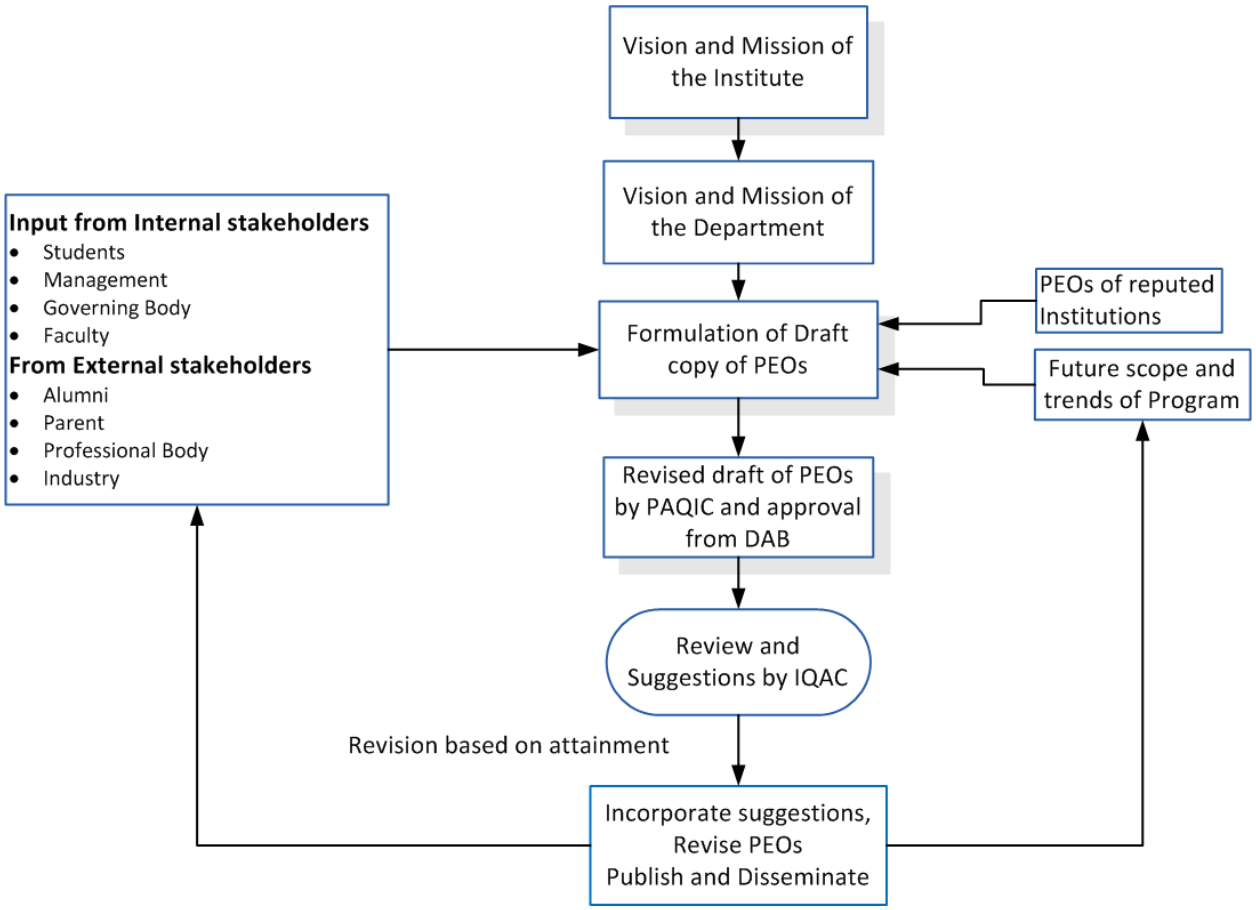


Figure 1.4 b Process for establishing department PEOs

1.5 Establish consistency of PEOs with Mission of the Department (15)

Mission Statements → / **PEO Statements** ↓	M1. To impart knowledge in the field of Electrical Engineering using contemporary learning tools	M2.To promote research culture among students and faculty	M3. To serve society with deep awareness of social responsibility and ethics	M4. To collaborate with industry for value addition in academics
PEO1: Our graduates will be **technically competent** to solve engineering problems and demonstrate leadership skills at their chosen workplace	3	2	2	2
PEO2: Our graduates will exhibit **professional and managerial skills** while working in professional organizations and simultaneously acquire higher education as per job needs	2	1	2	2
PEO3: Our graduates will be sensitive to the contemporary techno-social issues and committed to **serve the society** locally and globally with strong **ethics**	1	2	3	1

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

Justification

M1. To impart knowledge in the field of Electrical Engineering using contemporary learning tools

PEO1: Substantial

- Effective mechanism is established for the conduction of teaching learning processes
- Teachers use various teaching aids like virtual labs, NPTEL videos, simulations to explain the concepts
- The latest trends in the industry are introduced to the students through industry expert's lectures
- The industrial visits expose the students to the practical experiences

PEO2: Moderate

- The industry internship helps the students to understand the skills needed in the industrial environment
- Students are encouraged for skill upgradation by registering for NPTEL, Coursera and other such certifying courses
- The Institute of Engineers, college technical/extracurricular activities develop the managerial abilities of students

PEO3: Slight

- Opportunity for the student to work on research based project under the guidance of the faculty
- Conduction of extracurricular activities through sports/cultural and NSS unit of the institute. Students participate in tree plantation, energy audit, Baja, Supra, Efficycle activities of college

M2.To promote research culture among students and faculty

PEO1: Moderate

- Students participate in project competitions, write papers and win prizes
- Faculty members publish papers in reputed Journals and conferences
- Faculty members act as reviewers for prestigious Journals/conferences
- Students are introduced to intellectual property concepts and some students file patentsand while some are working on start up

PEO2: Slight

- Students participate in Baja, Supra, Efficycle activities which teach them to think out of box
- The industry internship teaches the students to try new design concepts in their projects
- Students participate in project competitions, poster making competitions at inter-institute level

PEO3: Moderate

- Students visit villages as a part of NSS camp and come to know the problems of the community and try to provide solutions
- Ethics are taught to the students through various activities like seminar, group activities and project
- Students take up projects relevant to contemporary issues

M3. To serve society with deep awareness of social responsibility and ethics

PEO1: Moderate

- Students' visits are arranged to orphanages, old age homes to get an idea about their problems and think of possible solutions
- Almost every year students undertake energy audit project and suggest methods to reduce the energy bill

PEO2: Moderate

- Industry internship
- Curricular activities such as Paper presentation, Technical quiz, design competitions, etc.

PEO3: Substantial

- Conduction of Extension Lectures for the holistic and professional development of students (e.g. Talks on Stress management, Universal values and ethics, Project Management, Motivational Talks etc.)
- Students interact with alumni and get guidance regarding making a career in diverse domains

M4. To collaborate with industry for value addition in academics

PEO1: Moderate

- The industry experts conduct lectures for the students based on the curriculum and make them aware of the industrial practices
- They suggest probable areas where design or analysis based projects may be taken by students
- Organizing various events at the department level hones their managerial skills and builds team spirit

PEO2: Moderate

- Students undertake industrial training and learn the industrial practices
- Students undertake skill enhancement courses to become industry ready
- Steps are taken to improve the verbal and written communication of students

PEO3: Slight

- Students are advised to follow the IS codes while carrying out design of machines and other electrical equipment
- Students take up activities to create awareness amongst community regarding efficient energy usage
- In seminar and project work students try to address the contemporary techno-social issues

CRITERION 2	Program Curriculum and Teaching – Learning Proces	120

2.1 Program Curriculum (20)

State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I. Also mention the identified curricular gaps, if any (10)

The University Curriculum:

The AISSMS College of Engineering is affiliated with Savitribai Phule Prune University (SPPU), Pune Maharashtra. The program follows the curriculum prescribed by the SPPU. There is a mechanism of University for revision of syllabus every five years. The structure of BE Electrical Engineering is attached. SE, TE are running course updated in 2019 and BE is running course of 2015 for academic year 2021-22. BE 2019 course will be in action from 2022-23.

The program follows the curriculum prescribed by the SPPU. The curriculum is categorised in a basic structure as Basic Science, Engineering Science, Humanity& Social Sciences, Program Core, Professional courses, Project and Internship.

Comparison of the Program Curriculum with AICTE Model Curriculum

Sr.No.	Type of Courses	No. of SPPU Courses	No.of AICTE Courses
1	Basic Science Courses	05	06
2	Engineering Science Courses	08	05
3	Humanities And Social Sciences Including Management	05	01
4	Program Core Courses	20	23
5	Professional Elective Courses	23	19
6	Project/Internship	05	03

University Syllabus structure

Savitribai Phule Pune University, Pune

Faculty of Science and Technology

Board of Studies

Electrical Engineering

Syllabus

Second Year Electrical Engineering

(2019 Course)

(w.e.f. AY: 2020-21)

Savitribai Phule Pune University														
Syllabus: Second Year(SE) Electrical Engineering (2019Course) **w.e.f.AY:2020-2021**														
SEMESTER-I														
Course Code	**Courses Name**	**Teaching Scheme**			**Examination Scheme and Marks**						**Credits**			
		TH	**PR**	**TUT**	**ISE**	**ESE**	**TW**	**PR**	**OR**	**Total**	**TH**	**PR**	**TUT**	**Total**
207006	Engineering Mathematics-III	03	--	--	30	70	--	--	--	**100**	03	--	--	**03**
203141	Power	03	--	--	30	70	--	--	--	**100**	03	--	--	**03**

	Generation Technologies													
203142	Material Science	03	04#	--	30	70	25	--	25	**150**	03	02	--	**05**
203143	Analog and Digital Electronics	03	02	--	30	70	--	50	--	**150**	03	01	--	**04**
203144	Electrical Measurement &Instrumentation	03	04#	--	30	70	25	25	--	**150**	03	02	--	**05**
203150	Applications of Mathematics in Electrical Engineering	--	02*	--	--	--	25	--	--	**25**	--	01	--	**01**
203151	Soft Skill	--	02	--	--	--	25	--	--	**25**	--	01	--	**01**
203152	Audit Course-III	--	--	--	--	--	--	--	--	--	**Grade: PP/NP**			
Total		**15**	**14**	**--**	**150**	**350**	**100**	**75**	**25**	**700**	**15**	**07**	**--**	**22**

SEMESTER-II

Course Code	**Courses Name**	**Teaching Scheme**			**Examination Scheme and Marks**						**Credits**			
		TH	**PR**	**TUT**	**ISE**	**ESE**	**TW**	**PR**	**OR**	**Total**	**TH**	**PR**	**TUT**	**Total**
203145	Power System-I	03	--	--	30	70	--	--	--	**100**	03	--	--	**03**
203146	Electrical Machines -I	03	02	--	30	70	--	50	--	**150**	03	01	--	**04**
203147	Network Analysis	03	02	--	30	70	25	--	--	**125**	03	01	--	**04**
203148	Numerical Methods & Computer Programming	03	02	--	30	70	--	25	--	**125**	03	01	--	**04**
203149	Fundamental of Microcontroller and Applications	03	04$	--	30	70	25	--	25	**150**	03	02	--	**05**
203152	Project Based Learning	--	04	--	--	--	50	--	--	--	--	02	--	--
203153	Audit Course-IV	--	--	--	--	--	--	--	--	--	**Grade: PP/NP**			
Total		**15**	**14**	**--**	**150**	**350**	**100**	**75**	**25**	**700**	**15**	**07**	**--**	**22**

*-LabsessionsonapplicationofMathematicsinElectricalEngineeringusingprofessionalsoftware.

- Practical section will comprises of two Part : a)

PART A : 2 hours per week : Regular curriculum listed practical total 12 numbers out of which conduction of 8 numbers will be mandatory

PART B : 2 Hours a week :Practical/case studies/assignments to enable active learning based on advances related to subject to bridge gap between curriculum and enhance practical knowledge required infield.

$ - Practical section will comprises of two Part : a) PART A : 2 hours per week : Regular curriculum listed practical total 12 numbers out of which conduction of 8 numbers will be mandatory

PART B : 2 Hours a week : IOT application in Electrical Engineering using microcontroller and GSM module to bridge gap between curriculum and enhance application knowledge.

Abbreviation: TH: Theory, PR: Practical, TUT: Tutorial, ISE: Insem Exam, ESE: End Sem Exam, TW: Term Work, OR:Oral

SavitribaiPhulePuneUniversity,Pune

Syllabus: Third Year (TE) Electrical Engineering (2019 course)(w.e.f2021-22)

SEMESTER-I

Course code	Course Name	Teaching Scheme				Examination Scheme						Credit				
		Th	Pr	Tu	SEM /PW /IN	ISE	ESE	TW	PR	OR	Total	Th	Pr	Tu	SEM /PW /IN	Total
303141	Industrial and Technology Management	3	0	0	0	30	70	0	0	0	100	3	0	0	0	3
303142	Power Electronics	3	4#	0	0	30	70	0	50	0	150	3	2	0	0	5
303143	Electrical Machines-II	3	2	0	0	30	70	25	25	0	150	3	1	0	0	4
	Electrical Installation Design and Condition															

303144	Based Maintenance	3	4#	0	0	30	70	25	0	25	150	3	2	0	0	5
303145	Elective-I	3	0	0	0	30	70	0	0	0	100	3	0	0	0	3
303146	Seminar	0	0	0	1	0	0	50	0	0	50	0	0	0	1	1
303147	Audit course-V	2*	0	0	0	0	0	0	0	0	0	GRADE:PP/NP				0
Total		**15**	**10**	**0**	**1**	**150**	**350**	**100**	**75**	**25**	**700**	**15**	**5**	**0**	**1**	**21**

303145:Electivel	**303147: AuditCourse-V**
303145A:AdvancedMicrocontrollerandEmbedded System	303147A: Energy storage systems
303145B:DigitalSignal Processing	303147B:Start-up&Disruptive innovation
303145C:Open Elective	

SEMESTER-II

Course code	**Course Name**	**Teaching Scheme**				**Examination Scheme**						**Credit**				
		Th	**Pr**	**Tu**	**SEM /PW /IN**	**ISE**	**ESE**	**TW**	**PR**	**OR**	**Total**	**Th**	**Pr**	**Tu**	**SEM /PW /IN**	**Total**
303148	Power System-II	3	2	1	0	30	70	25	50	0	175	3	1	1	0	5
303149	Computer Aided Design of ElectricalMa chines	3	4#	0	0	30	70	50	0	25	175	3	2	0	0	5
303150	Control System Engineering	3	2$	1$	0	30	70	25	0	25	150	3	1	0	0	4
303151	Elective-II	3	0	0	0	30	70	0	0	0	100	3	0	0	0	3
303152	Internship	0	0	0	4	0	0	100	0	0	100	0	0	0	4	4
303153	Audit Course VI	2*	0	0	0	0	0	0	0	0	0	GRADE:PP/NP				0

SEMESTER-I															
Total	12	8	2	4	120	280	200	50	50	700	12	4	1	4	21

303151:Elective-II	303153:Audit Course-VI
303151A: IoT and its Applicationsin Electrical Engineering	303153A:EthicalPracticesforEngineers
303151B: Electrical Mobility	303153B:ProjectManagement
303151C:CyberneticEngineering	
303151D:EnergyManagement	

Savitribai PhulePune University
FACULTY OF ENGINEERING

B.E. Electrical Engineering (2015 Course) (w.e.f.2018-2019)

Sr No	Subject Code	Subject Title	Teaching Scheme (Hrs/Week)			Examination Scheme(Marks					Total Marks	Credit	
			Th	Pr	Tu	PP In Sem	PP End Sem	TW	PR	OR		TH /Tut	PR+ OR
1	403141	Power System Operation and Control	03	02	--	30	70	25	--	25	150	03	01
2	403142	PLCandS CADA Applications	04	02	--	30	70	25	50	--	175	04	01
3	403143	Elective-I	03	02	--	30	70	25	--	--	125	03	01
4	403144	Elective-II	03	--	--	30	70	--	--	--	100	03	--
5	403145	Control System II	03	02	--	30	70	25	--	25	150	03	01
6	403146	Project I	--	--	02	--	--	--	--	50	50	--	02
	403152	Audit Course V											
Total			16	08	02	150	350	100	50	100	750	16	06

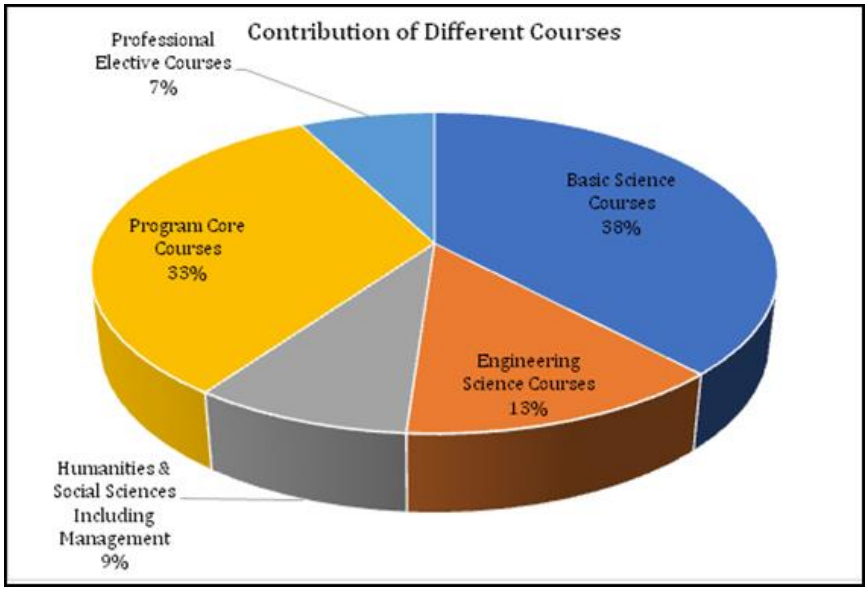
SEMESTER-II

Sr No	Subject Code	Subject Title	Teaching Scheme (Hrs/Week)			Examination Scheme(Marks					Total Marks	Credit	
			Th	Pr	Tu	PP In Sem	PP End Sem	TW	PR	OR		TH /TUT	PR+OR
1	403147	Switchgearand Protection	03	02	--	30	70	50	--	25	175	03	01
2	403148	Power Electronic Controlled Drives	04	02	--	30	70	25	50	--	175	04	01
3	403149	Elective-III	03	02	--	30	70	25	--	25	150	03	01
4	403150	Elective-IV	03	--	--	30	70	--	--	--	100	03	--
5	403151	Project-II	--	--	06	--	--	50	--	100	150	06	--
	403153	Audit CourseVI											--
Total			13	06	06	120	280	150	50	150	750	19	03

Comparison of the Program Curriculum with AICTE Model Curriculum

Sr.No.	Type of Courses	No. of SPPU Courses	No.of AICTE Courses
1	Basic Science Courses	05	06
2	Engineering Science Courses	08	05
3	Humanities & Social Sciences Including Management	05	01
4	Program Core Courses	20	23
5	Professional Elective Courses	23	19
6	Project/Internship	05	03

The courses in the Program are broadly classified into different modules based on broad subject areas for easy monitoring. the following tables gives Modules and subjects in each module:



The above Modules are classified among the respective courses of the courses in the Program are broadly classified into different modules based on broad subject areas for easy monitoring.

Sr. No.	Module
1	Electrical Machines and Drives
2	Power and Energy
3	Instrumentation & Control
4	Applied Electronics
5	Project Management
6	Interdisciplinary (General)

The following tables give Modules and subjects in each module:

Sr No	Name of the Module	Coordinator	Subject related to module
1	Electrical Machines & Drives	Prof S.K. Biradar	1. Electrical Machines - I (SE)
			2. Electrical Machines - II (TE)
			3. Electric Mobility (TE)
			4. Special Purpose Machines
			5.Computer Aided Design of Electrical Machines (TE)
			6. Advance Electrical Drives & Control (BE)
			7. e-Vehicle System Design (TE)
			8. Electric & Hybrid Vehicles (BE - Elective - II)
2	Power & Energy	Prof S.R. Lengade Dr. Dhend M.H	1. Power Generation Technique (SE)
			2. Electrical Installation Design & Condition Based Maintenance (TE)
			3.Installation & Maintenance of Electrical Appliances (SE) (Audit course)
			4. Power System - I (SE)
			5. Power Systems - II (TE)
			6. Power System Operation and Control (BE)
			7. Switchgear and Protection (BE)
			8. Power Quality (BE - Elective - I)
			9. Alternate Energy System(BE)
			10. EHV &UHV AC Transmission (BE)
			11. High Voltage Engineering (BE - Elective - III)
			12. HVDC & FACTS (BE - Elective - III)
			13. Restructuring and deregulation (BE - Elective - II)
			14. Smart Grid (BE - Elective - IV)
			13. Illumination Engineering (BE - Elective - IV)
3	Instrumentation & Control	Dr A.A. Apte	1. Electrical Measurement & Instrumentation (SE)
			2 Robotics And Automation (BE)
			3. Network Analysis (SE)
			4. Sensor Technology (BE)
			5. Control System Engg. (TE)
			6. PLC and SCADA applications (BE)
			7. Advance Control System (BE)
			8, . Control System - II (BE)
			9. Digital Signal processing - (TE)
			10. Digital Control System - (BE - Elective - III)

4	Applied Electronics	Prof P.Sankala	1. Analog and Digital Electronics (SE)
			2. Fundamental of Microcontroller and Applications (SE)
			3. Advanced Microcontroller and Embedded System (TE)
			4. Power Electronics (TE)
			3. Numerical methods in Computer Programming
			5. Electromagnetic Fields (BE)
			6. A1 and Machine Learning (BE)
			7. Intelligent systems and Applications in Electrical Engineering (BE - Elective - III)
5	Project Managemen t	Prof V.S. Ponkshe	1. Soft Skill (SE)
			2. Project based learning (SE)
			3. Industrial and Technology Management (TE)
			4. Energy Management (TE)
			5. Seminar (TE)
			6. Project stage I (BE)
			7. Internship (TE)
			8. Project stage II (BE)
			9. Project Management (TE)
6	General	Dr A A Godbole	1. Engineering Mathematics - III
			2. Material Science
			3. Electrical Workshop
			4. Application of Mathematics in Electrical Engg. (SE)

Framing of University Curriculum

The framing of University curriculum involves formation of Board of studies for the said program by SPPU. Each course is allotted with a course coordinator at the university level called as Subject Chairman. The Subject Chairman of individual course forms a panel of domain experts having number of faculty with adequate experience and the Industry experts within the same area. Also the stakeholder's feedback here is considered to bridge the curriculum gap if any.

Syllabus framing or revision workshop is hosted by SPPU, addressing the new objectives by the BOS Chairman. After the peer review of syllabus framed, a faculty orientation program is scheduled to disseminate the scope, references and instructional delivery of the course.

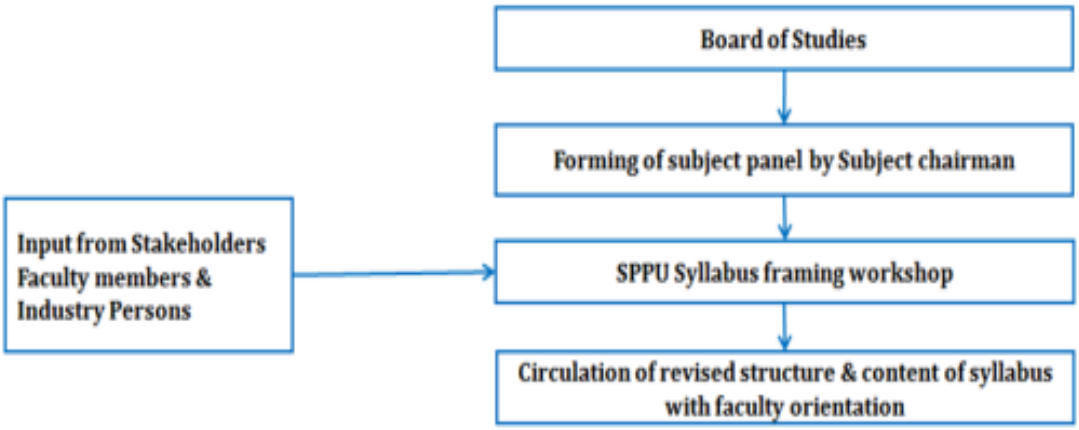


Fig 2.1.1 c Process of Curriculum Framing

Implementation of Process for Compliance of University Curriculum at Program Level:

The Institute follows the hierarchy given below to execute the teaching learning processes beginning with the planning of Academics up to the end semester exams. The necessary guidelines and formats are framed and followed through the hierarchy mentioned below.

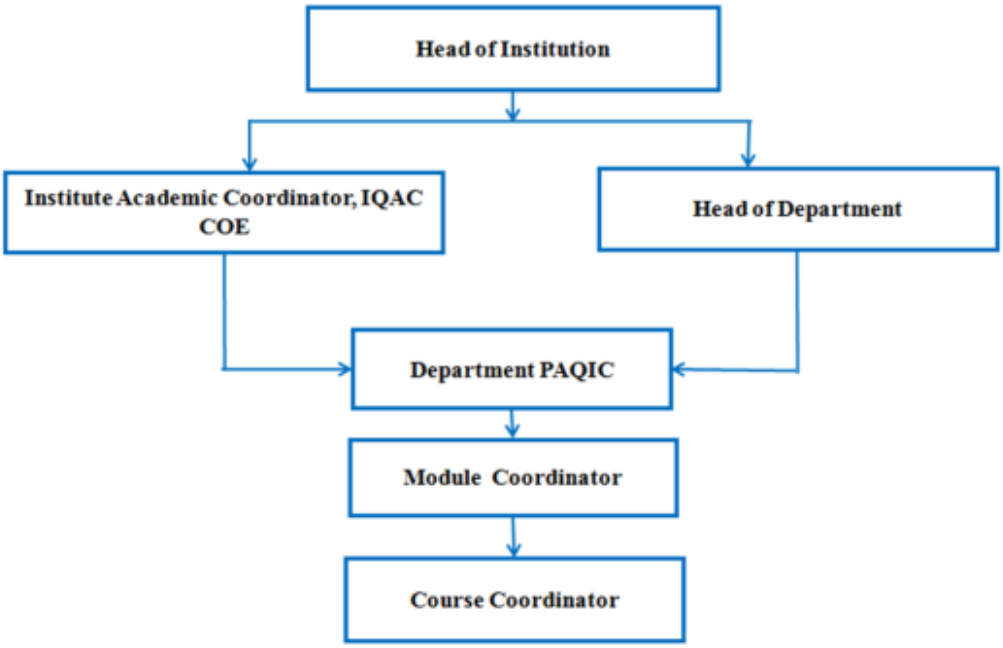


Fig 2.1.1 d Organization Chart for Institute Academics

Compliance of University Curriculum:

The Teaching-Learning in the Institute begins with the formation of Institute Academic calendar referring to the University Academic Calendar. The Department Academic coordinator then prepares the Department academic calendar considering the additional activities to be conducted.

The teaching load is distributed after the choice of courses is invited from the faculty members of the department. Each course coordinator then prepares a theory and practical teaching plan followed by course file and content preparation. All Program outcomes and Program Specific Outcomes are taken into consideration while creating the teaching plan and academic calendar.The teaching plan and course content are uploaded on the LMS for the student's perusal and academic monitoring purpose.

The course delivery conducted through various pedagogical initiatives is supported by expert lectures, Industrial visits, Students training, workshops, projects, surveys, co-curricular, extracurricular and extension activities.

The Continuous Assessment of student is done through the CAS sheets during the laboratory sessions

and the test /assignments scheduled. Regular Review of theory, practical, tutorial, number of tests, assignments, number of defaulters is carried out by the Academic Monitoring In charge through Head of Department. Weekly Academic Monitoring is also conducted through google forms to ensure adherence to Academic Calendar and adequacy of curriculum compliance.

Academic Audits are performed in phases, by the panel of experts constituted by the Institute through the Academic Coordinator. Student feedback on teaching is taken twice per term on the ERP system of Institute. The feedback is analyzed by the Head of Department and actions of improvement are taken accordingly if any. The Institute also has Counselling and Mentoring cell, where department-wise mentors are allotted to 18 to 20 students approximately. The mentoring is aimed to provide a fearless and comfortable platform to the students to share their concerns related to academics, administration, career, personal issues etc. The feedback obtained for academics during the mentoring is shared to the Head of Department and the Academic coordinator for necessary improvement (if any).

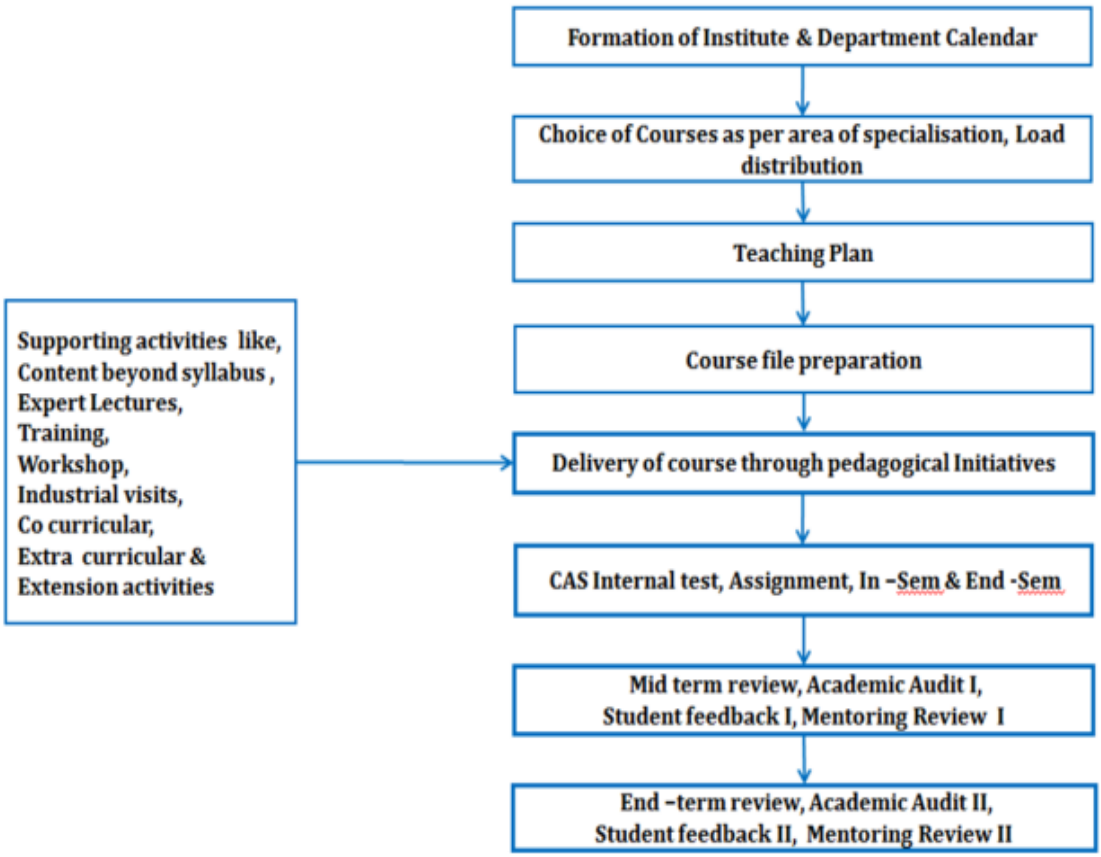


Fig 2.1.1 e Process of Compliance of University Curriculum

Identification of Curriculum Gaps

After receiving the revised course by SPPU, the course coordinator frames the course outcomes of the respective courses. The course outcomes (COs) are then mapped with the program outcomes (POs) and program-specific outcomes (PSOs). The mapping of COs with POs and PSOs is done by the course coordinators and approved by Module coordinators for the entire Program curriculum.

The timely feedback received from the different stakeholders like Industry, Alumni, DAB, Domain

experts etc., towards the course content are consolidated together. The weakly addressed POs & PSOs from the mapping matrix and the feedback from stakeholders together are considered for the identification of the curriculum gap.

For bridging the identified curriculum gaps, additional supporting activities are conducted like expert lectures, industrial visits, referring educational YouTube channels, NPTEL videos, students training etc. In addition, co-curricular, extra-curricular, and extension activities are planned to bridge the curriculum gap.

The feedback of stakeholders and the gaps identified are communicated to the subject chairman and Board of Studies (Electrical). The department ensures consideration and inclusion of these feedbacks during the syllabus framing of the Program.

The department has representation in the Board of Studies (Electrical) and also has subject Chairmanships for a number of courses in the program to ensure the inclusion of necessary course content.
The Department, Program Assessment and Quality Improvement Committee (PAQIC) observes the compliance of University curriculum,the CO - PO - PSO mapping matrix, and the activities are accordingly planned during the framing of Department Academic Calendar to address the gap identified with the relevant POs & PSOs

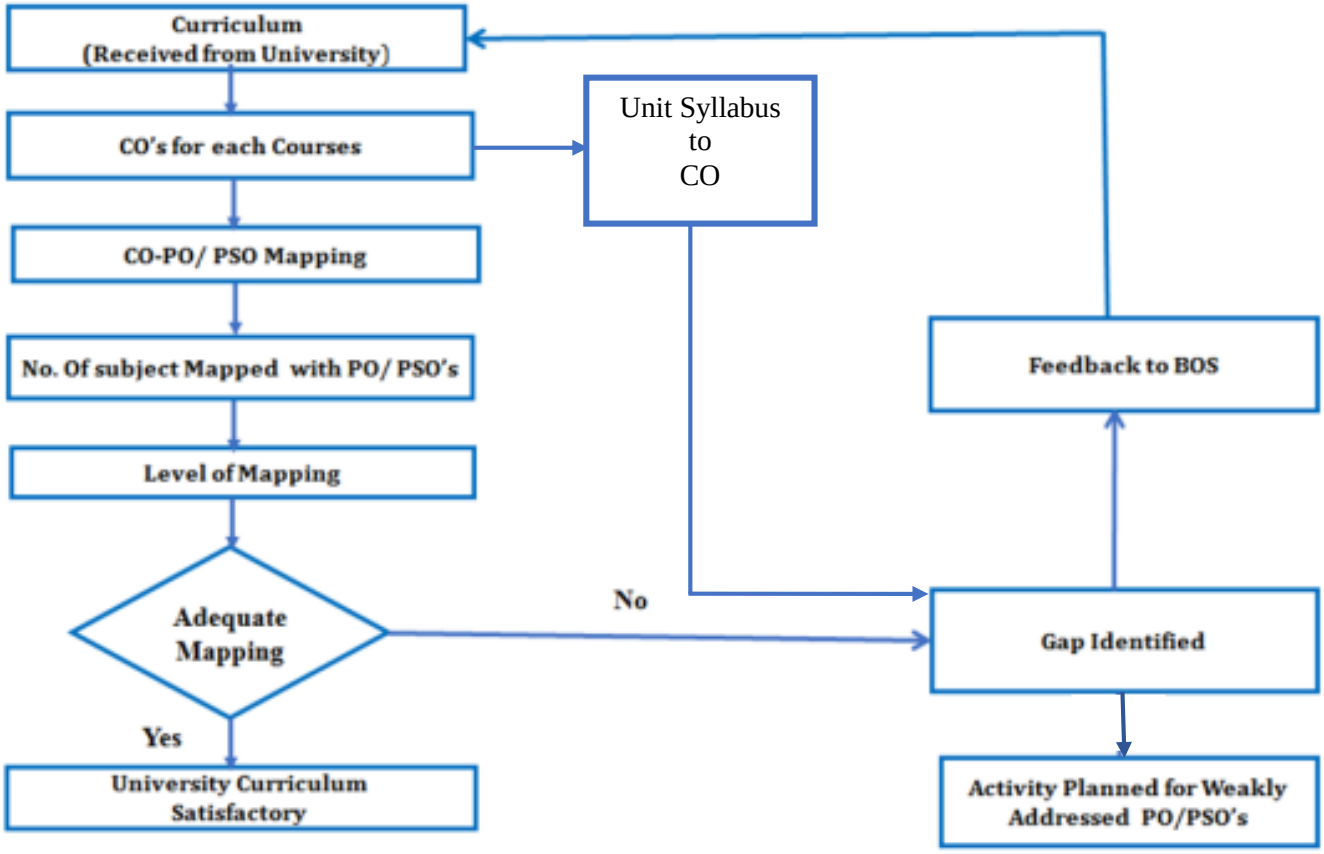


Fig 2.1.1 f Process of Gap Identification

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

Curriculum Gaps Identified are as follows:

Gap 1: Exposure to recent trends in Energy Sector, Electric Vehicles, Industrial Automation, Power Electronics & Drives.

Gap 2: Awareness of Project Management, Soft skills & communication, Environment& Sustainability.

There were brainstorming sessions held during the department PAQIC and the DAB meetings to discuss these curriculum gaps and plan the activities to overcome these gaps. A few of the activities identified to address these gaps were as follows:

• Expert Lecture

• Industrial Visits

• Referring of YouTube animated videos

• NPTEL Lectures

• Projects, Field surveys

• Poster Making

• Extension activities like Tree Plantation, Awareness programs

• Soft skill Training

• Workshops

• Virtual Lab

Also, the revised curriculum for SE,TE& BE classes is introduced with the following Audit Courses to assist in broadly addressing POs and PSOs.

Also the revised curriculum for SE,TE& BE class are introduced with the following Audit Courses which will assist broadly addressing of POs and PSOs.

Sr. No.	Class and Semester	Audit Courses
1	SE Semester- I	**203152: Audit Course III** (A) Solar Thermal Systems. (B) C Language Programming (C) Japanese Language -I

2	SE Semester- II	**203153:Audit Course IV** (A) Solar Photovoltaic Systems. (B) Installation & Maintenance of Electrical appliances. (C) Japanese Language -II
3	TE Semester- I	**303147A: Audit Course V** (A) Energy Storage Systems (B) Startup and Disruptive Innovation
4	TE Semester- II	**303153: Audit Course VI** (A) Ethical practices for Engineers (B) Project Management
5	BE Semester- I	**403152: Audit Course V** (A) Hydro Energy Systems (B) Foreign Language – German
6	BE Semester- II	**403153: Audit Course VI** Energy Storage Systems

Few samples of communication with BOS and subject chairman are as follows:

Gmail

Swetha Lengade <srlengade@aissmscoe.com>

Fwd: Recomondations for Syllabus
1 message

Aishwrya Apte <aaapte@aissmscoe.com>
To: Swetha Lengade <srlengade@aissmscoe.com>

Wed, Dec 9, 2020 at 2:48 PM

---------- Forwarded message ---------
From: **suhail ahmed shaikh** <suhailmshaikh05@gmail.com>
Date: Wed, 9 Dec 2020 at 11:50
Subject: Re: Recomondations for Syllabus
To: Aishwrya Apte <aaapte@aissmscoe.com>

Dear Apte Madam,

Good Morning!

I am humbled to provide feedback on the existing BE Electrical curriculum. To give a brief about myself, I graduated from AISSMS college in the year 2009 in Electrical Engineering and consider myself extremely fortunate to have studied under the professors of AISSMS. They were diligent in their teaching and supported the students in every aspect needed. After passing out I have worked in manufacturing companies for heavy electrical equipment (Power Transformers) and currently now I am working in an international utility as design engineer of transmission substation.

Although I am not an academic expert and I am certain that the faculty and the education board are at a higher level to decide whats best for the students. After going through the syllabus I do feel the current syllabus is highly relatable to the existing trends in the sector and that's really good.
Considering the experience I had after passing out and going through the current syllabus of TE and BE, below would be my feedback.

1. Firstly the college should have a career section/expert committee who can groom the technical graduates in developing their soft skills and presentation capabilities. This is because no matter how technically competent the student might be the soft skill part is equally important for overall development and stand out in any selection.
2. In TE, the course Technology and Industrial management looks like a course which develops managerial skills of the students. Ideally this should be in the 4th yr after the student is thorough with technical knowledge and ready to manage people, organisation.
3. In TE, the Advance Micro controller module, only one micro controller is considered and the syllabus for one term looks less. Suggestion is to consider atleast one major chip from 32 bit and 16 bit family. **And most**

Regards,
Dr A A Godbole

---------- Forwarded message ---------
From: **Dr. Arbind Kumar** <arbindmani@gmail.com>
Date: Fri, Dec 4, 2020 at 11:22 AM
Subject: Re: comments on existing syllabus
To: Ashwini Godbole <aagodbole@aissmscoe.com>

Dear Madam
I have found that syllabus is OK.
I suggest that Indian Standards shall be added in all the subjects whether it is design, measurements, Power Systems, Power Electronics or any other subjects. It becomes immediate requirement, once Engineer joins company may be software or hardware or any other.
Regards
Dr Arbind Kumar

On 21/10/2020, Ashwini Godbole <aagodbole@aissmscoe.com> wrote:
> Dear Sir,
>
> Greetings of the day.
>
> Hope this mail finds you in the best of your health.
>
> This is with respect to the enrichment of the curriculum and identifying
> the gap in the curriculum, if any so that our Graduate Engineer (students)
> are industry-ready.
>
> In context to the above, I request you to share your suggestions/key points
> to be included in the Electrical Engineering course.
>
> Attaching herewith brief structure and syllabus of the existing course for
> your reference.
>
> Since you are one of the Department advisory board members, we will
> appreciate your valuable suggestions.
> You may write to us within a fortnight as per your convenience.
> Thanking you in anticipation.
>
> Regards

Compose

Inbox 2,503
Starred
Snoozed
Important
Sent
Drafts 56
Categories
Social 19
Updates 809
Forums 28

15 of 46

Swetha Lengade <srlengade@aissmscoe.com> Sun, May 10, 2020, 9:46 PM
to Ashwini, Khule

Sir,
Received your email of the SE draft of syllabus for the subject Electrical Measurement and Instrumentation.

Emphasis and Elaboration of Practical/Laboratory hours is indeed appreciable for this course.

The theory draft of the course is fine.
The part B section for practicals may be added a few as follow,

1.Temperature measurements trainer kit (as it is completely missing in the course and proves very important for process control industries)

Study of Characteristics of RTD/Thermistor /Thermocouple for temperature measurement.

2. Virtual Lab experiments to study the characteristics of transducers like,

LVDT, Strain Guage, Temperature measurement

CAY (2021-22)

Sr.No.	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
		Guest Lecture				
1		Unraveling the tips for a successful startup Under IIC activity	24/6/2021	Mr Kartik Wahi, Gaurav KumarClaro Energy	95	PO7,PO8,PO10,PO12
		Engineering Trends and Industry expectation	16/09/2021	Mrs Kavita Kaushik,Cummins	98	PO3 PO5 PO11
3	Gap 1	Expert talk on Importance and Objective of Industry Internship	20/10/2021	Mr Sandeep Kalkar,Apt Samriddhi	96	PO9 PO11 PO12
		Scope of Nanotechnology in research	25/11/2021	Dr. P. B. karandikar	96	PO3 PO12 PO6
4		Embedded systems and Its Applications	09/09/2021	Mr.Abhigyan Giri, Training Head at IndEyes InfoTech Pvt.Ltd.	95	PO7,PO8,PO10,PO12
5	Gap 2	What competencies a core company look for a graduate engineer trainee	16/09/ 2021	Mrs Kavita Kaushik, Cummins	100	PO6 PO7 PO10

CAYm1 (2020-21)

Sr. No.	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
		Guest Lectures				
1	Gap 1	Applications of Control in Defiance	05/12/2020	Mr Jayawant Kolhe Sc' D' R and D Engineers, Dighi	98	PO7,PO8,PO10,PO12

2		Unfolding the journey of a successful startup	24/06/2021	Mr KArtik Wahi and Gaurav Kumar Claro Industry	99	PO3 PO12 PO6
3		Electrical Systems in Automobiles	18/08/2020	Mr.Ajay Pradhan TATA Motors	100	PO7,PO8,PO10,PO12
4		Power Quality issues in Power system network	03/10/2020	Shri H.D Dongargaonkar Executive Engineer, MSETCL	99	PO3 PO5 PO11
5		"Power Electronics: Applications and Research"	4/08/2020	Dr. Kalai Selvi Jayaraman, IIT Ropar	97	PO6 PO7 PO10
6		Applications of PLC in Automation Industry	18/09/2020	Mr Milind Pundalik VMS Control	98	PO3 PO12 PO6
7		Electrical Vehicle Drives-Induction Motor	16/11/2020	Mr Naresh Dhopare Regal Beloit	98	PO3 PO5 PO11
8		Selection of motors and Batteries used in EV's	04/12/2020	Mr Hrishikesh Mehta Aethertech Innovative solutions	99	PO6 PO7 PO10
9		Passenger Vehicle Development Life cycle	20/08/ 2020	Mr. Sandip Patil Project Manager,TATA Technologies ,Pune	97	PO3 PO5 PO11
10	Gap 2	Importance of healthy lifestyle	23/10/2020	Dr Lunkad	93	PO6 PO7 PO10

11		Panel Discussion: 'How to make a successful career in the corporate sector'	06/03/2021	Mrs Charuta Muley,GM Thyssenkrupp India Ltd Mrs Swati Mehendale Head Regulatory, Tata Power Mrs Mayanka Goyal, GE Renewables	87	PO7,PO8,PO10,PO12

CAYm2 (2019-20)

S.No.	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Gap 1	FOC applications of BLDC motor on Electric Vehicle	30/5/2020	Dr. Sushant Patil, Assistant Engineer R & D, Varroc Engineers Ltd.	45	PO7,PO8,PO10,PO12
2		An International Webinar on Variable frequency drive basics and application considerations	29/5/20	Mrs Charuta Muley, GM, Thyssenkrupp India LTD	75	PO6 PO7 PO10
3		Expert lecture in Energy aspects, Calorific value, Fuels, Biomass and IoT in Energy sector	5/5/2020	Mr. Ganesh Inamdar	82	PO7,PO8,PO10,PO12
4		Expert Lecture in 'Energy Conservation case studies'	25/02/2020	Mr Anand Dande	77	PO3 PO12 PO6
5		Expert Lecture in Energy Audit and Conservation	24/02/2020	Mr Vinay Gadikar	82	PO3 PO5 PO11
6		Expert lecture on 'Microcontroller Applications and Current Trends'	18/02/2020	Mr Rajendra Khope	50	PO3 PO12 PO6
7		Expert Talk on 'Structure of Power System'	7/2/2020	Mr V Kumar, TATA Power Plant, Khopoli	58	PO6 PO7 PO10
8		Industry visit to TATA Power Plant, Khopoli	7/2/2020	Mr. Dhirendra Singh,	76	PO6 PO9 PO12

9	Expert talk on 'Electrical Machines'	1/2/2020	Mr Ashay Deshmukh, Siemens Ltd	40	PO3 PO12 PO6
10	Industrial visit to Manisha Engineers Pvt Ltd, Pirangut, Pune	31/01/2020	Mr. Dhirendra Singh,	52	PO3 PO5 PO11
11	Industrial visit to HVDC Padaghe	28/01/2020	Mr Manoj Gaikwad,V S Ponkshe	86	PO3 PO12 PO6
12	Industrial Visit to Metro Rail, Pimpri Chinchwad, Pune(TE Students)	22/01/2020	Mr Jayawant Kolhe	91	PO6 PO7 PO10
13	Industrial Visit to Metro Rail, Pimpri Chinchwad, Pune(BE students)	21/01/2020	Mr. Dhirendra Singh,	88	PO7,PO8,PO10,PO12
14	Expert lecture on Applications of Control Systems	15/10/2019	Mr Jayawant Kolhe, Scientist D, R & D Engineers , Dighi	60	PO3 PO5 PO11
15	Industrial Visit to Madhav Capacitors, Bhosari, Pune	11/9/2019	Dr Tagare's Industry Representative	65	PO3 PO12 PO6
16	Field visit to Science Park, Pimpri	11/9/2019	Mr Jayawant Kolhe	61	PO6 PO7 PO10
17	Industrial visit at Hydro Power Plant Ghatghar	2/8/2019	Shri Pushkar Dhopte	57	
18	Expert Lecture in Energy Audit & Conservation , BEE and case studies	29/08/2019	Mr Pramod Daspute, PCRA	61	PO3 PO5 PO11
19	Industrial visit to 400 kV Lonikand Substation MSETCL	30/08/2019	Mr. Dhirendra Singh,	48	PO3 PO12 PO6
20	Expert Lecture in "Industrial Automation at PARI and Safety Measures"	31/08/2019	Mr Jayawant Kolhe	42	PO6 PO7 PO10
21	Industrial Visit to PARI Robotics, Shirwal	31/08/2019	Mr Swanand Khedekar	67	PO6 PO9 PO12
22	Expert talk on CT & PT manufacturing, Testing and specifications	25/07/2019	Mr Anurag Keskar, Star Electricals, Pune	74	PO3 PO12 PO6

23		Industrial Visit to Star Electricals, Bhosari, Pune	25/07/2019	Mr Jayawant Kolhe	45	PO3 PO5 PO11
24		Expert Lecture in Audit Course Session II	12/7/2019	Mr Aditya Akole	76	PO6 PO7 PO10
25	Gap 2	Webinar on Positive Career Opportunities and options after COVID-19	27/5/2020	Rasika Wadwekar Deshmukh	75	PO3 PO5 PO11
26		Expert Lecture on "Transition from Academics to Professional Life"	20/01/2020	Mr Bipin Datal	78	PO3 PO12 PO6
27		Expert Lecture in Consultancy Education " Global Education Fair 2020"	6/1/2020	Mr Anuj Mehta & Mrs Swapnaja	73	PO6 PO7 PO10
28		Awareness Drive on "Berojgar Abhiyanta Melawa"	28/06/2019	Dr Santosh Patni	78	PO6 PO7 PO10

CAYm3 (2018-2019)

S.No.	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Gap 1	Industrial visit to Khadki RailwayLOCO Yart	4/4/2019	Mrs Anupama Karandikar	27	PO3 PO12 PO6
2		Expert Lecture in Applications of Drives	2/4/2019	Mr Manoj Badave, Tata motor, Pune	60	PO7,PO8,PO10,PO12
3		Industrial Visit at Rebus Industries LLP, Chakan	10/4/2019	Mr. Dhirendra Singh,	51	PO6 PO7 PO10
4		Industrial Visit on Traction systems at Pune Station Locoshed	11/4/2019	Mr Mukul Dhopte	60	PO3 PO5 PO11
5		Expert Lecture in Modeling and Simulation of ElectroMechanical System	5/3/2019	Mr. Dhirendra Singh, Mathworks, India	56	PO3 PO12 PO6
6		Expert Lecture in Case studies on Energy conservation	27/03/2019	Mr Kumar Pawar,	64	PO7,PO8,PO10,PO12
7		One day Seminar on Electric Vehicles	28/03/2019	Mr Arpurbo Kirty, Mahindra	96	PO6 PO7 PO10

			& Mahindra , Chennai		
8	Field visit to ITI Boribhadak for Audit Course II	30/03/2019	Mr. Shinde, ITI Boribhadak	54	PO6 PO7 PO10
9	Industrial Visit for Industrial Drives at Sakal Press Urli Devachi	1/2/2019	Mr Santosh Patil	50	PO6 PO7 PO10
10	Guest Lecture on Electric Traction System	2/2/2019	Prof. S M Chaudhary	66	PO3 PO5 PO11
11	Industrial visit to Khadki 25 kV substation for the subject UEE	2/2/2019	Mr Praful Gaikwad	66	PO3 PO12 PO6
12	Industrial Visit at Anuraj Sugars Ltd, Yavat for Industrial Drives	22/02/2019	Mr Pramod Lavate	35	PO7,PO8,PO10,PO12
13	Expert Lecture on Power System I	25/2/2019	Mr. O S Pawaskar, Asst Prof, PVG COE, Pune	43	PO3 PO5 PO11
14	NPTEL Video Lecture on Electric Train System- manufacturing to operations for UEE subject	28/02/2019	Mr Anand Garude	66	PO3 PO12 PO6
15	Guest Lecture in Basics of C Language	28/02/2019	Prof S G Dhengre, AISSMS COE, Pune	62	PO6 PO7 PO10
16	Industrial visit to Mahati Industries Pvt Ltd, Yewat	30/01/2019	Mr. Dhirendra Singh,	58	PO3 PO12 PO6
17	Expert Lecture in Safety in High Voltge Installations.	22/01/2019	Dr Santosh Patani	65	PO3 PO12 PO6
18	Expert Lecture on SCADA-Industrial Automation	15/01/2019	Mr Sushant Kerimani, SCADA Technologies solutions Pvt Ltd, Pune	73	PO6 PO7 PO10
19	Industrial visit to 220kV Parvati Substation	5/10/2018	Mr Makarand Joshi	45	PO3 PO5 PO11
20	Industrial Visit to Cahors Industries, Ranjangaon MIDC	4/10/2018	Mr. Dhirendra Singh,	43	PO3 PO12 PO6

21		Arduino Workshop	5/7/2018	Mr Rigved Kelkar	60	PO6 PO7 PO10
22		Expert Lecture in Applications of Control Systems	25/07/2018	Dr AA Mujumdar, CME, Pune	56	PO3 PO12 PO6
23		Two days workshop on Arduino with hands on training	12 & 13 july 2018	Mr Rigved Kelkar	89	PO6 PO7 PO10
24	Gap 2	Social Program at Avishree Balsadan,Kurkumbh. Educational and Fun Games conducted	23/02/2019	Dr Nana Shejwal	30	PO3 PO12 PO6
25		Social Program in Career Counseling at Shri Firangai Maata Secondary and Higher Secondary School, Kurkumbh	23/02/2019	Mr. Dhirendra Singh,	75	PO6 PO7 PO10
26		Expert Lecture Industrial training and career opportunities	22/01/2019	Mr Sushant Kerimani, SKADA Technologies,	65	PO3 PO5 PO11
27		Play in safety awareness by BE Electrical students.	22/01/2019	BE Electrical students	60	PO3 PO12 PO6
28		Expert Lecture on presentation technique	3/10/2018	Prof S M Chaudhary, AISSMS IOIT	62	PO6 PO7 PO10
29		Expert Lecture in Career Guidance	26/07/2018	Miraj Thomas, Career Launcher,Pune	85	PO3 PO12 PO6
30		Expert Lecture on safety awareness	24/07/2018	Dr Santosh Rajkumar Patani, Deputy Executive Engineer	78	PO3 PO5 PO11

2.2 Teaching - Learning Processes (100)

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

I. Adherance to Academic Calender

The Institute practices planning of academics through the use of Academic Calendar. The Institute Academic Calendar is initially framed. The base for preparing Institute Academic calendar is University Calendar which gives information about commencement and conclusion of the term, examination schedule.

The institute level calendar is prepared by the Academic Coordinator in consultation with Principal and HODs of all departments. The Institute level activities planned by all departments are forwarded

to College Academic in charge.

The department Academic Calendar is prepared on the basis of Institute academic calendar. Department calendar has activities planned like Load Distribution, Choice of Elective, BE Project group formation, Commencement of term, Allotment of Project guide, Attendance Defaulter list, Makeup Classes, Class Test & Assignment schedule, Industrial Visits, DAB meeting, Expert Lectures, Student Workshop, Students counseling meetings, Academic audit schedule, Term work assessment marks uploading to University portal and Conclusion of Term. The Academic monitoring committee ensures adherence to academic calendar.

The Copy of Institute and Department Academic Calendar are pasted on next page:

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 284 of 2020

Important Notification

Dates of Commencement and Conclusion of Ist & IInd terms for the Academic Year 2020-2021 For affiliated Colleges/recognised Institutes Only.

It is hereby informed that, the dates of Commencement and conclusion of the Ist and IInd term of for the Academic Year 2020-2021 University Courses, under various faculties shall be as under :

Dates of Commencement and conclusion of First Year of academic session 2020-21 will be declared later.

Sr. No.	Name of the Courses and Faculties	2020-2021			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**				
	Science	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Engineering : SE,TE,BE	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Engineering :ME - II Year. MCA- II & III Year	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	B.Architecture II, III, IV & V Year.	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	M. Architecture II Year.	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	B. Pharmacy	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	M. Pharmacy	01/07/2020	24/12/2020	19/01/2021	31/05/2021
2	**Commerce & Management**				
	Commerce	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Management	01/07/2020	24/12/2020	19/01/2021	31/05/2021
3	**Humanities**				
	Arts & Fine Arts	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Mental Moral and Social Sciences				
	Law : UG & PG (II/III/IV/V Year.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021
4	**Inter-disciplinary Studies**				
	Education II Year. (B.Ed., M.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	Physical Education II Year. (B.P.Ed., M.P.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021

-- 2 --

NOTE

1. **In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra time to time.**

2. **In case, the Principal of the affiliated Colleges require to give additional holiday in exceptional circumstances, he may do by the compensating the same by keeping the College working on Sunday.**

3. **The Term & holidays for the Post-Graduate courses coundected in the Colleges/Institutes will be as per the University Department.**

16/10/2020.
Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1817
Date: 15/10/2020

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

All India Shri Shivaji Memorial Society's
College of Engineering Pune-01
ACADEMIC CALENDAR 2020-21 TERM I

ACADEMIC ACTIVITIES

SN	Activity	Year/Class	Dates
1	Notice	Time Table	08/06/2020
		Roll Call List	
		Elective Confirmation List	
		Seminar List	
		Project List	
2	Principal Address to Faculty Members	All Faculty Members	15/06/2020
3	Commencement of Teaching	SE,TE,BE	15/06/2020
		ME-II	01/07/2020
		FE	As per MHT Cell
4	Weekly Academic Report	FE,SE,TE,BE	After every 07 days (starting from commencement of teaching)
5	Mid term test/In-semester/Online/End term Test	SE TE and BE Mid Term exam	Each Faculty Member Conduct Class Test after Completion of Unit (Minium 6 Class Test)
		FE,SE,TE,BE	As per the University Schedule
6	Assignment	FE,SE,TE,BE	Each Faculty Member Shoild provide Assignment after Completion of two Units (Minium 3 Assignment)
7	BE and ME Project Evaluation	BE & ME Students	Department Should Conduct Minimum 3 Presentation during the term
8	Students Feedback	FE,SE,TE,BE	Department should conduct minimum 2 Feedback during the term
9	Completion of Term Work	SE,TE,BE	23/11/2020 to 27/11/2020
		ME II	07/12/2020 to 11/12/2020
		FE	First Week of April 2021
10	Conclusion of Term	SE,TE,BE	05/12/2020
		ME-II	24/12/2020
11	Oral/ Practical examination	SE,TE,BE	As per the University Schedule
		ME II	As per the University Schedule
12	Theory Exam	SE, TE, BE	As per the University Schedule
		ME II	As per the University Schedule
		FE	As per the University Schedule
13	Commencement of Second Term of Academic Year 2020-21	SE,TE,BE	01/01/2021
		FE, ME I, II	19/01/2021

Two Depertment Meetings with Principal will be conducted in the month of August and November

HOD Meeting with Principal	Every Thursday
NAAC/NBA Meeting	Every Tuesday
ADC	First and Third Monday of Every Month
CDC and GC	August, November, February and April/ May
Purchase Meeing	Last Week of April
Staff Selection Meeting	Last Week of May
Principal Meeting with all Non Teaching Staff and Supportir	Once in Term
Principal Meeting with CITP	Once in Term

PRINCIPAL

AISSMS COLLEGE OF ENGINEERING PUNE

All India Shri Shivaji Memorial Society's College of Engineering Pune-01
Department of Electrical Engineering
Department Academic Calendar 2021-22 (Term II)

mencement of Classes	10/01/2022 (BE) 31/01/2022 (SE, TE and ME)	7	Conclusion of Term	26/04/2022 (BE) 13/05/2022 (SE, TE and ME)
roject Evaluation	Twice till project submission Tentatively 2nd week of February and last week of March	8	Theory Exam	As per the University Scl
nts Feedback	Twice in a semester	9	Defaulter List (if any)	After every15 days
se File Checking	March end	10	**Principal Meeting**	Once per semester
BE In Sem	25-29 April 2022			

Internal Test Time

A. TE & BE Class Tests

TE	BE	T1	T2	T3	T4	T5
PS-II	PECD	**				
CS-I	SGP					
UEE	HVE					
DEM	SG					
EAM	ILLUMINATION					

s are conducted by each faculty after completion of each unit. The dates mentioned below are tentative.

chedule:

st 01	**Test 02**	**Test 03**	**Test 04**	**Test 05**	
2/2022	14/2/2022	28/3/2022	11/4/2022	25/4/2022	
it 01	**Unit 02**	**Unit 03**	**Unit 04**	**Unit 05**	

2. Schedule for Assignment:

Name of Subjects			Assignment I	Assignment II	Assignment III
SE (2019)	TE(2019)	BE (2015)	DOA	DOA	DOA
PS-I	PS-II	PECD	08 February 2022	22 March 2022	19 April 2022
EM-I	CSE	SGP	In this week, first assignment of all subjects be given	In this week, second assignment of all subjects be given	In this week, third assignment of all subjects be given
NA	Elective II	HVE			
NMCP	CADEM	SG			
FMA					

3. Schedule for Departmental Activities :

SN	Details	Date	SN	Details	Date
1	FDP on **Modern Trends in Energy Systems**	7-11 February 2022		Parents meet	
2	Visit To Metro station	First week of April			
3	Visit to HVDC, Padghe substation	Second week of April			

HOD
Head
Department of Electrical Engineering
AISSMS College of Engineering, Pune

Outcome based curriculum design frame work based teaching by course teachers

The institute is affiliated to Savitribai Phule Pune University (SPPU). We are following the Teaching-learning as per the university guideline. To strengthen our teaching-learning (TL) Process, we believe that outcome-based education (OBE) is important to identify the strength and weaknesses and to decide the plan for continuous improvement. The process indeed help us

to identify our strengths and weakness and attain proficiency in the teaching learning process

For assessment of teaching-learning process, direct and indirect tools are used. The direct assessment of each outcome is through internal and external tools. Some indirect tools are also used for the assessment. The indirect tools provide valuable insights and feedback on students' views on their learning outcome.

The four stages in an OBE implementation process are:

1. Formulation of the University curriculum syllabus along the lines of OBE
2. Execution of the curricular activities at par with outcome based.
3. Assessment of the performance in lieu of OBE criteria
4. Fine-tuning of the teaching-learning process based on feedback from the Stakeholders

Teaching methods comprise the principles and methods use by teachers by teachers to make students' learning effective by teachers to make students' learning effective. These are determined based on subject level difficulty, COs drafted, and curriculum gaps. The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner and the nature of the course

Instructional Methods and Pedagogies

Teaching methods comprise the principles and methods used by teachers to make students' learning effective. These are determined based on subject level difficulty, COs drafted and curriculum gaps.

The following methods are some of the appropriate and efficient methodologies according to the characteristic of the learner and the nature of course.

1. Talk & Chalk: Usage of black board, chalk and lecture
2. PPT: Power Point Presentation for the relevant topic
3. Visualization: Showing 3D objects to the students and explaining
4. Co-operative learning: A method of instruction characterized by group of students working together to reach a common goal
5. Enquiry based instruction: Prior intimation of the topic in the previous classes to the students for enquiry of the topic and asking the questions in the next class

6. Differentiation: Summarizing the types with similarities and differences
7. Technology: New & updated technology relevant to the course
8. Behavior management: Wide variety of skills and techniques that teachers use to keep students engaged, orderly, focused, attentive, on task, and academically productive during a class
9. Professional development: improving their professional knowledge, competence, skill, and effectiveness
10. Virtual lab: virtual labs platform
11. Seminars: Seminar should be given by the student
12. Brain storming: Giving a topic and allowing the students to think over it for new ideas
13. Buzz group: Formation of groups with 3-4 members in each and discussion on the Topic
14. Animated videos: Showing Animated videos to students
15. Pictorial sessions: 2D objects charts
16. Debate sessions: Assigning a topic to the students and allow them to debate
17. Quiz: Asking Questions on the covered topic by forming the batches.
18. Role play: Students are explored realistic situations by interacting with other people in a managed way in order to develop experience and trial different strategies in a supported environment.
19. Survey based assessment
20. NPTEL Videos
20. Collaborative learning
22. Project based learning: Mini projects by students at FE and SE level
23. Experiential learning
24. Innovative teaching technics by individual teachers

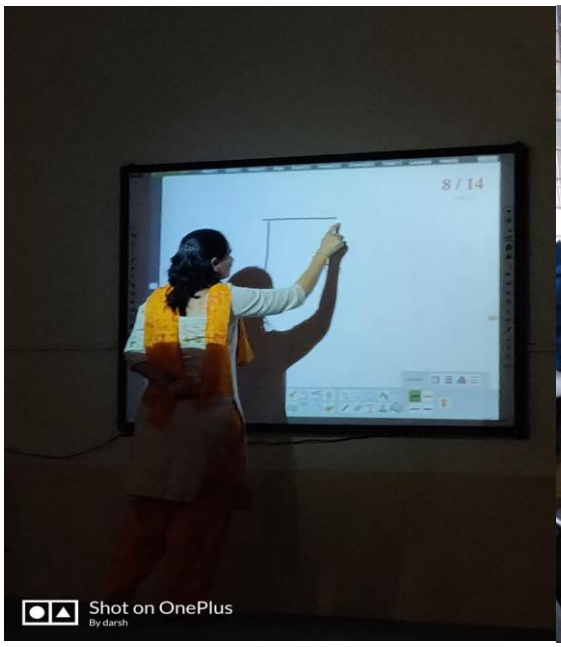


Fig.2.2.1 b Use of Smart Board

Fig.2.2.1 c Group Discussion

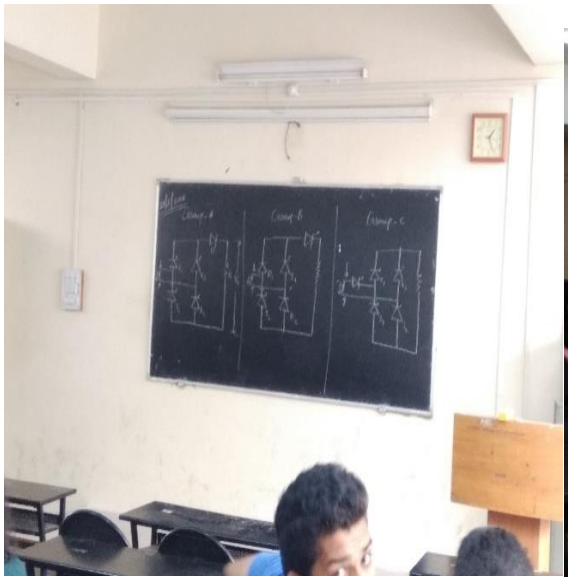
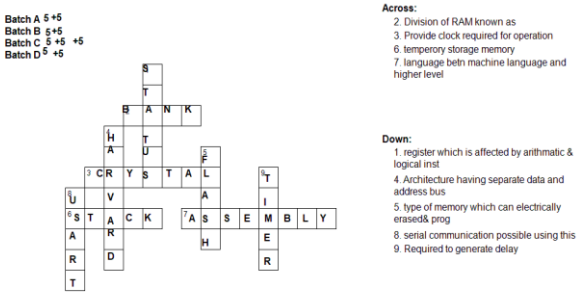


Fig.2.2.1 dProactive Teaching

Fig.2.2.1 eRole play

Fig.2.2.1 gPoster making



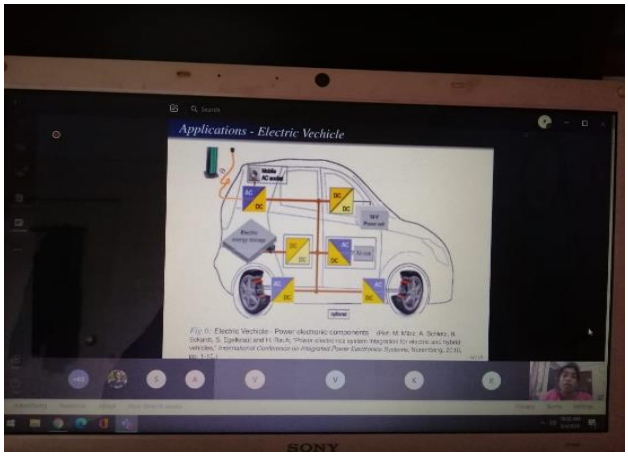


Fig.2.2.1 fPPT

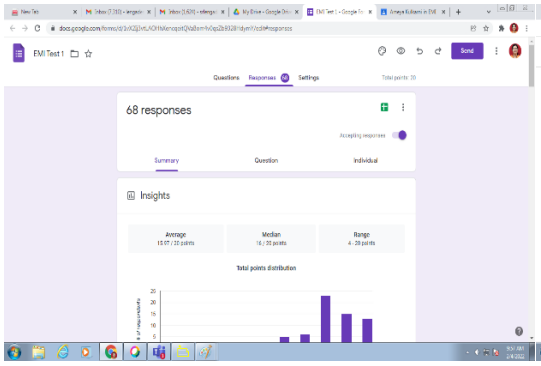


Fig.2.2.1 jUse of LMS Assignment Submission

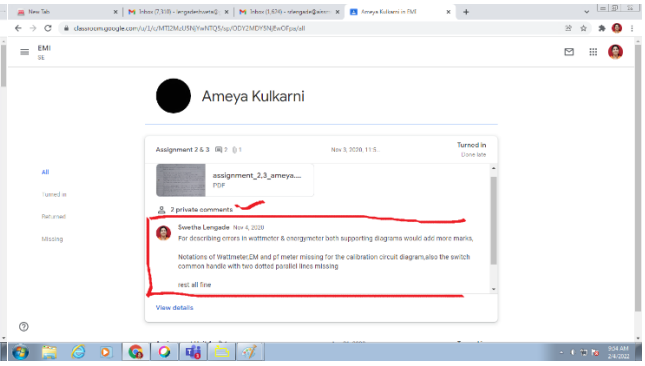


Fig.2.2.1 k Use of LMS Remarks on assignment

ONLINE TEACHING AT AISSMS COE PUNE (During Covid pandemic)

Lockdown due to COVID 19 had not stopped teaching learning process at AISSMS COE. Systematic efforts have been put in for initiating and implementing the teaching-learning through online platform**.**

The immediate transition from conventional to Online, made the faculties to rely on available ZOOM platform to conduct different webinars, FDP and the pending teaching learning activities. Other options like Google classroom, Whats App, telegram were also used. For academic year 2020-21 and 2021-22 Term I, institute has used Microsoft Teams platform for online teaching.

For effective implementation of teaching learning through MS teams following steps were observed:

1. Awareness sessions for the use of MS teams were conducted at institute level by delegates from Microsoft

2. Review through survey was taken to understand the availability of internet and other facilities for students.

3. For individual faculty and student, MS team login credentials were generated.

4. Class wise Teams were allocated and respective channels were assigned for theory and practical

5. Time-table for conducting theory and practical was prepared owing to the curriculum requirement and scheduled on MS team accordingly.

6. For every class, daily four theory classes of 60 minutes each and one practical session for 60 minutes each were allotted. Tutorials, Seminars & Project were also scheduled and executed through online mode.

7. Unit wise tests and assignments were conducted through MS team platform. Assessment of tests and assignments also were carried through MS teams.

8. Study material like subject notes, PPTs, e books, previous question papers, unit-wise MCQs were made available on MS team. Other LMS platforms were also used like Google Classroom, CANVAS etc

9. Recorded videos on MS teams were also shared with students to compensate the academic

loss of students because of power failure and network connectivity.

10 Demonstrations of experimental set, equipments, observation were recorded and made available for ready reference to students on the Microsoft teams. Suitable Virtual Lab sessions were identified for different

domains and subjects and demonstrated to students.

11.Mentoring meetings were conducted by every faculty on MS teams, as per schedule to address various concerns of students related to academics and to boost the confidence of student and his family undergoing the pandemic stress.

12.Training sessions on virtual labs also have been conducted by institute for institute faculty and university faculty as well. In fact, that initiative was very well appreciated by university

authorities and faculty from other institutes.

13. Academic Monitoring and the adequacy was ensured

through weekly review sheets being circulated through Google forms

14. Besides Academics, Expert Talks, Panel Discussion, Virtual Tour, Alumni Interaction, FDP, Traditional Day,

BE Farewell, Women's Day, Startups, Entrepreneurship development, NSS activity etc, were executed online

to provide students technical, co-curricular, extracurricular exposure.

15. Also the administrative meetings by the head of Institute, the department meetings by the respective

department heads were conducted both online and offline following all the covid appropriate behavioral

norms time to time.

The Institute and the respective departments in cooperation with the AISSM Society management, have put in

All possible efforts to ensure smooth conduction of academics, safeguarding the Students, Faculties,

Administrative and support staff during the worldwide pandemic and the National Lockdown

I. Methodologies to support weak students and encourage bright students

Slow Learners and Advanced Learners (Identification & Activities)

Inside the classroom, the teachers have to deal with different types of students; some are very intelligent who learn very fast and those who are weak are learning slowly. The learning input cannot be same for all students.

Therefore, it is necessary to identify them first and then accordingly, the teaching methodology has to be changed.

Based on the ability identified, some students need only guidance and some students need hard work and regular attention.

On the basis of their preceding exam performance, current subject performance and class observation, learning speed, students can be classified in two groups; advanced learners and slow learners. Each type of students has different learning attitudes and learning habits.

The course teacher has to adapt a teaching methodology such that he/she may not lose the attention of the slow learners and turn off the advanced learners.

The purpose of assessment of the learning levels of the students and conduction of activities for them is:

- Identification of the slow learners and advanced learners in the class
- To ensure that slow learners and advanced learners are taken care as per their needs
- To help them out for improvement in their academics.

The following description explains the constituent parts of the slow learner and advanced learner identification process and activates them and impact analysis of the process.

Process Input:

To start identification of slow and advanced learner process following inputs is needed

- Previous examination result
- Class test result (Prerequisite test at the beginning of the course, Class test 1)
- Class observation by subject teacher based on student's response while interacting
- Mentor Observation and opinion

Process of Slow learners and Advanced Learners (Identification and Activities):

The process of assessment of the learning levels of the students and conduction of activities for them should be carried out through a systematic procedure as shown in the flow chart and explained in detail as below:

1. Each teacher will identify slow learners and advanced learners separately for all the semesters.

2. Process to identification would be conducted in the beginning of teaching course.

3. Subject teacher conducts prerequisite test/ Class test 1 of his subject based on syllabus covered or on first

   Unit test to identify slow learners and advanced learners.

4. Slow and advanced learners are identified based on following parameters and their weightage.

Sr No	Parameter	Weightage in %
1	Marks obtained by student in objective type test /class test /unit test conducted for respective subject	**50**
2	Academic performance of students in preceding university examination	**25**
3	Subject teacher observation	**25**

1. For parameter no. 3, every subject teacher assesses each student on scale of 1 to 10.

2. Based on above parameter a report would be prepared for whole class for total 100%.

3. The student securing marks below 30% would be identified as Slow Learner and the student securing marks above 70 % would be identified as Advanced Learner.

4. A separate list are prepared for both type of learners for further monitoring and conduction of problem solving sessions /revision sessions for them.

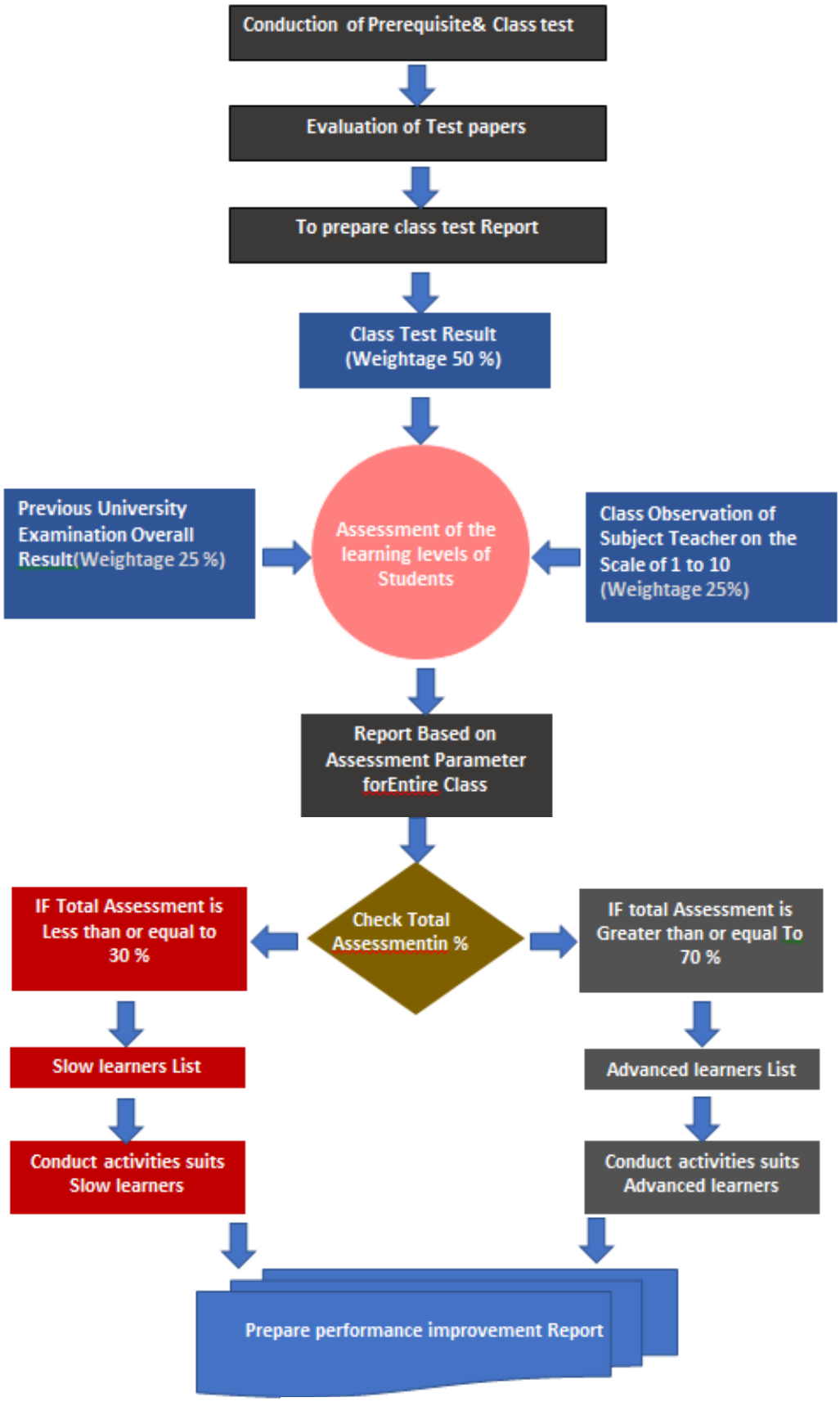


Fig.2.2.1 l process Flow

Conduction of activities for slow learners:

- Problem solving sessions /revision sessions/extra sessions are arranged between 3 to - 4.30 pm.
- Simple and more problems are solved for slow learners
- Make up classes and practical sessions are conducted for Direct Second Year (DSE) students to complete the syllabus within time.
- Personal Attention is given by respective subject teacher.
- Assignments and solving University question paper
- Giving Question bank
- Counselling – special hints and techniques at personal level by teacher/ mentor

.

Fig.2.2.1n Activities for slow learners

Conduction of activities for Advanced learners

- Encouragement to complete NPTEL/Advanced courses
- Industrial visits and industry sponsored internships
- Platform is provided through MoU's with various Industries
- Difficult problems/assignments or tasks are assigned to advanced learners
- Encouragement for participation in Seminars/Conferences/Technical Events
- Assignment based on Model making/building/Design

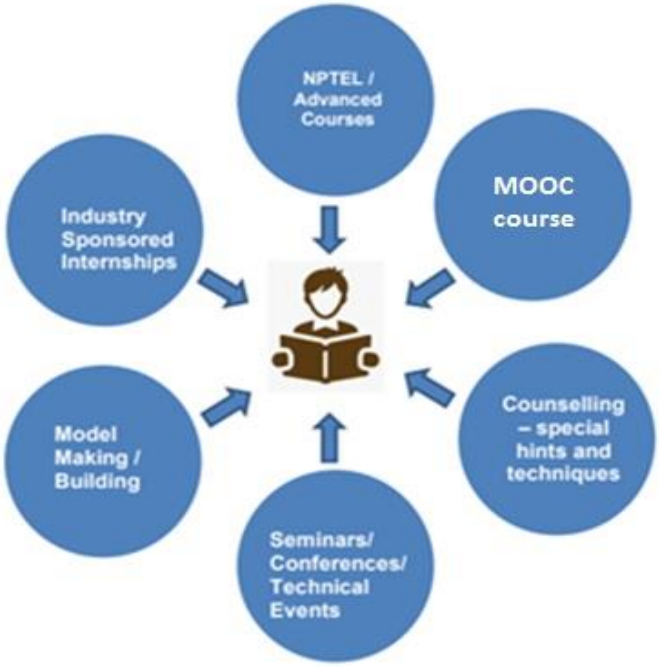


Fig.2.2.1m Activities for advanced learners

Fig.2.2.1n Activities for advanced learners

Fig.2.2.1o ***Experiential Learning***

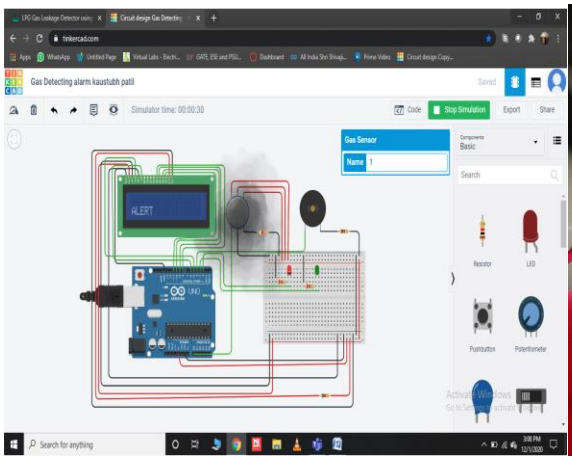


Fig.2.2.1p ***Tinker cad assignment and E-BAJA***

Fig.2.2.1q E-BAJA Term and cash prize won by the team


AISSMS
COLLEGE OF ENGINEERING

First Western Regional Conclave of Students' Chapters of the Institution of Engineers (INDIA) 2021-2022

Under The Aegis of All India Students' Committee in Association with Maharashtra State Center, IEI and Pune Local Center, IEI

Certificate

Awarded to Mr/Ms Shreyas Patil of _____ in appreciation of his/her contribution as Participated in Coding On Matlab at First Western Regional Conclave, on "Role of Budding Engineers in Smart, Sustainable And Renewable Technologies" held during 9th & 10th December 2021, organized at AISSMS College of Engineering Pune, by the student's chapters of the Institute of Engineers (India).

Place: Pune
Date: 09/12/2021

Mr. N. P. Mawale, Organizing Secretary
Dr. Enti Ranga Reddy, Chairman, All India Students' Committee
Dr. S. Bormane, Organizing Chairman


Indo Universal Collaboration for Engineering Education
IUCEE

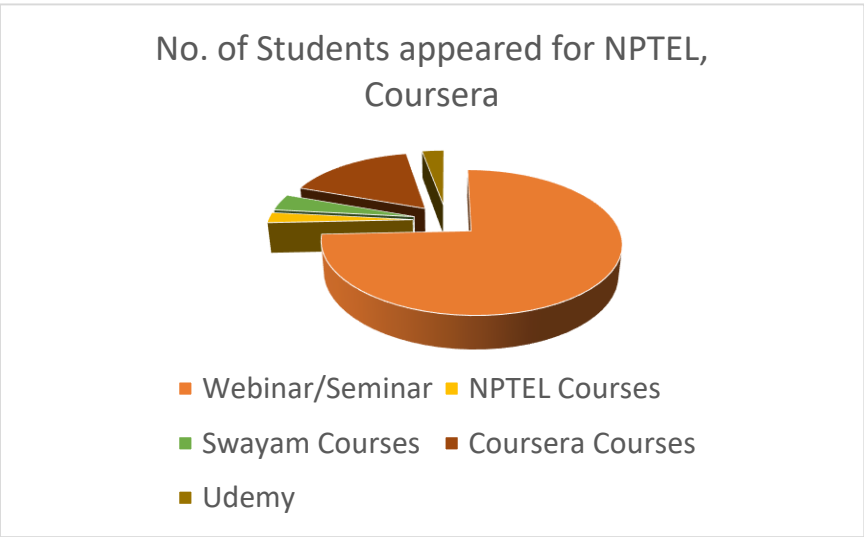
Certificate of Completion

Kaustubh Patil
AISSMS College of Engineering, MH
has completed
IUCEE Soft Skills Course
conducted by
Dr. Manu Vora, Business Excellence, Inc.
Chicago, USA
August 2020

Dr.Krishna Vedula
Executive Director
Indo-Universal Collaboration for Engineering Education

Manu K. Vora
Dr.Manu Vora
Chairman and President
Business Excellence, Inc.

Coursera Certificate and MATLAB Coding



C. Quality of classroom teaching:

- Classrooms in the institute are well designed to offer conducive environment
- The classrooms are well equipped with LCD, Screen, Black board audio and the internet connection.
- Faculty use ppts, videos and internet for teaching as per nature of topic and requirement for effective learning
- Faculty members also refer the other available resources namely NPTEL lectures, you tube videos, animations and are shown in class room with a question answer session at the end.
- There is also a dedicated classroom having Smart Board to enhance effective delivery of teaching learning process
- Online availability of various journals in the intranet which can be opened in class room and discuss with students
- Well-structured Teaching plans are prepared by faculty, which include, drafted course outcomes, curriculum gap identified, test problems, industry visit/ Expert lecture planned to full fill curriculum gap and target COs defined already

Class Room

D. Conduct of experiments in Laboratory

- It is ensured that laboratory is equipped with all instrument/ software/ PCs to fulfill the requirement for conduction of all experiments suggested in syllabus.
- The laboratories under the program are having display of course objectives, outcomes, list of experiment to be carried out course wise, safety measures to be taken and a laboratory timetable for full utilization lab time slots
- Lab instructional manuals are prepared by concerned faculty and are provided to the

students which help for deep understanding of experiment outcome.

- In addition to the hardware experiment, Virtual Lab experiments are also demonstrated to students.

- Each experiment is performed by a group having maximum of five students.

- Each Laboratory has dedicated instructional area for experiment teaching and checking lab
- reports prepared by students after practical conduction.

- CAS is done during practical slot on completion of each expt.

E. Continuous Assessment in the laboratory(CAS)

The Department gives more importance and believes in continuous improvement principle. .

- Continuous Assessment (CAS) is used by each faculty to evaluate students performance in experiment conduction and continuous improvement

- Standard CAS Sheet is used by practical teacher and the CAS sheet used, is approved one and provided by the Institute Academic coordinator

- The students' performance assessment in the CAS sheets is based on attendance, involvement, understanding and timely submission of term work.

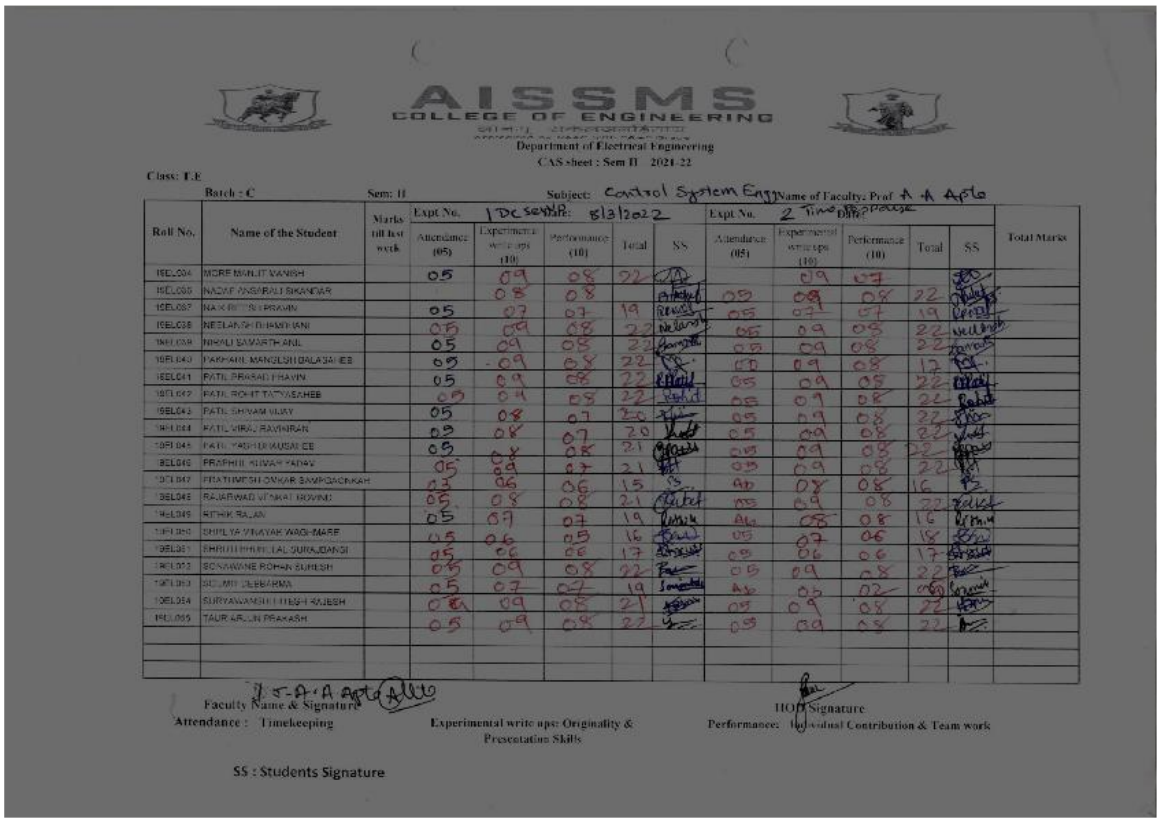
- Each student is monitored and assessed accordingly during the practical hours.

- Students are given marks for each experiment performed and final scores is converted to term work marks.

- Continous assessment sheets (CAS) are maintained by each course coordinator. Template of sheet is as given below. Students are assess for 25 marks for each experiment.

- Term work marks are assigned to students based on CAS sheets, and final oral.

Sr.No.	Name of Student	Experiment :			Total (25)
		Attendance (5)	Experimental write up (10)	Perfomance (10)	



AISSMS COLLEGE OF ENGINEERING

Department of Electrical Engineering

CAS sheet : Sem II 2021-22

Class: T.E Batch : C Sem: II Subject: Control System Engg. Name of Faculty: Prof A A Apte

Roll No.	Name of the Student	Marks till last week	Expt No. 1 Date: 8/3/2022 Attendance (05)	Experimental write ups (10)	Performance (10)	Total	SS	Expt No. 2 Date: Attendance (05)	Experimental write ups (10)	Performance (10)	Total	SS	Total Marks
19EL034	MORE MANJIT MANISH		05	09	08	22			09	07			
19EL035	NADAF NASARALI SIKANDAR			08	08			05	09	08	22		
19EL037	NAIK RITESH PRAVIN		05	07	07	19		05	07	07	19		
19EL038	NEELANGI DHANANJANI		05	09	08	22		05	09	08	22		
19EL039	NIKALJI SAMARTH ANIL		05	09	08	22		05	09	08	22		
19EL040	PARKHAR MANJUSH BALASAHEB		05	09	08	22		05	09	08	17		
19EL041	PATIL PRASAD PRAVIN		05	09	08	22		05	09	08	22		
19EL042	PATIL ROHIT TATYASAHEB		05	09	08	22		05	09	08	22		
19EL043	PATIL SHIVAM VIJAY		05	08	07	20		05	09	08	22		
19EL044	PATIL VIRAJ RAVINDRAN		05	08	07	20		05	09	08	22		
19EL045	PATIL YASHTIRAJ MUSALEB		05	08	08	21		05	09	08	22		
19EL046	PRAPHUL KUMAR YADAV		05	09	07	21		05	09	08	22		
19EL047	PRATHMESH ONKAR SAMPGAONKAR		05	06	06	15		05	08	08	16		
19EL048	RAJARWAD VENKAT GOVIND		05	08	08	21		05	09	08	22		
19EL049	RITHIK RAJAN		05	07	07	19		05	08	08	16		
19EL050	SHIRUYA VINAYAK WAGHMARE		05	06	05	16		05	07	06	18		
19EL051	SHRUTI PHUL LAL SURAJDANSI		05	06	06	17		05	06	06	17		
19EL052	SONAWANE ROHAN SURESH		05	09	08	22		05	09	08	22		
19EL053	SOLAPI ZEBA RAMA		05	07	07	19		05	05	02	09		
19EL054	SURYAWANSHI JITESH RAJESH		05	09	08	21		05	09	08	22		
19EL055	TAURANI JUN PRAKASH		05	09	08	22		05	09	08	22		

Faculty Name & Signature

HOD Signature

Attendance : Timekeeping

Experimental write ups: Originality & Presentation Skills

Performance: Individual Contribution & Team work

SS : Students Signature

Fig.2.2.1 w Sample CAS Sheet

Students' performance in Class tests and Mid-Sem Exam.

Class tests are completed soon after the completion of Unit syllabus. The results of the test give learning level of each student. Class tests results are used to classify students as weak and bright learners. Slow learners are called by mentors for counseling. They are given special attention and asked to solve more problems with the assistance of teachers.
Number of class tests is decided by teachers; normally it is one test on two units.

Mid-sem exam results are analyzed and under-performers are given counseling, and simple assignments to solve.

F. Student feedback of teaching learning process and actions taken :

System Evaluation involves assessing the effectiveness of teaching, methods and techniques used for teaching. It provides feedback to teachers about their teaching.

Procedure followed is as below:

- Student feedback of faculty on course delivery is taken twice during the semester through institute ERP system
- The Head of the department observes and share the feedback to individual faculty and encourages for the specific scope of improvement if any.

- Students feedback and Teachers' feedback is seen by PAQIC coordinator and ensures facilities to improve his learning feedback.

- Also there is a HOD meeting with student arranged every semester to address different concerns by students
- In addition to this the GFM and Mentor also maintain healthy communication with students to understand specific concern and action is taken accordingly as per the Institute Protocol.

- Feedback questionnaire used is as below

1. Has teacher cover entire syllabus as prescribed by university
2. Has teacher cover relevant topics beyond syllabus
3. Effectiveness of teacher in terms of course content, communication skill.

4. Pace on which contents were covered
5. Motivation and inspiration for students to learn
6. Support for development of student skill practical demonstration, hands on training.

7. Clarity of expectations of students.
8. Feedback provide on students' progress
9. Willing to offer help and advice to students

And ratings are:

1. Not satisfactory
2. Satisfactory
3. Good
4. Very good
5. Excellent

- Feedback available in percentage through ERP system

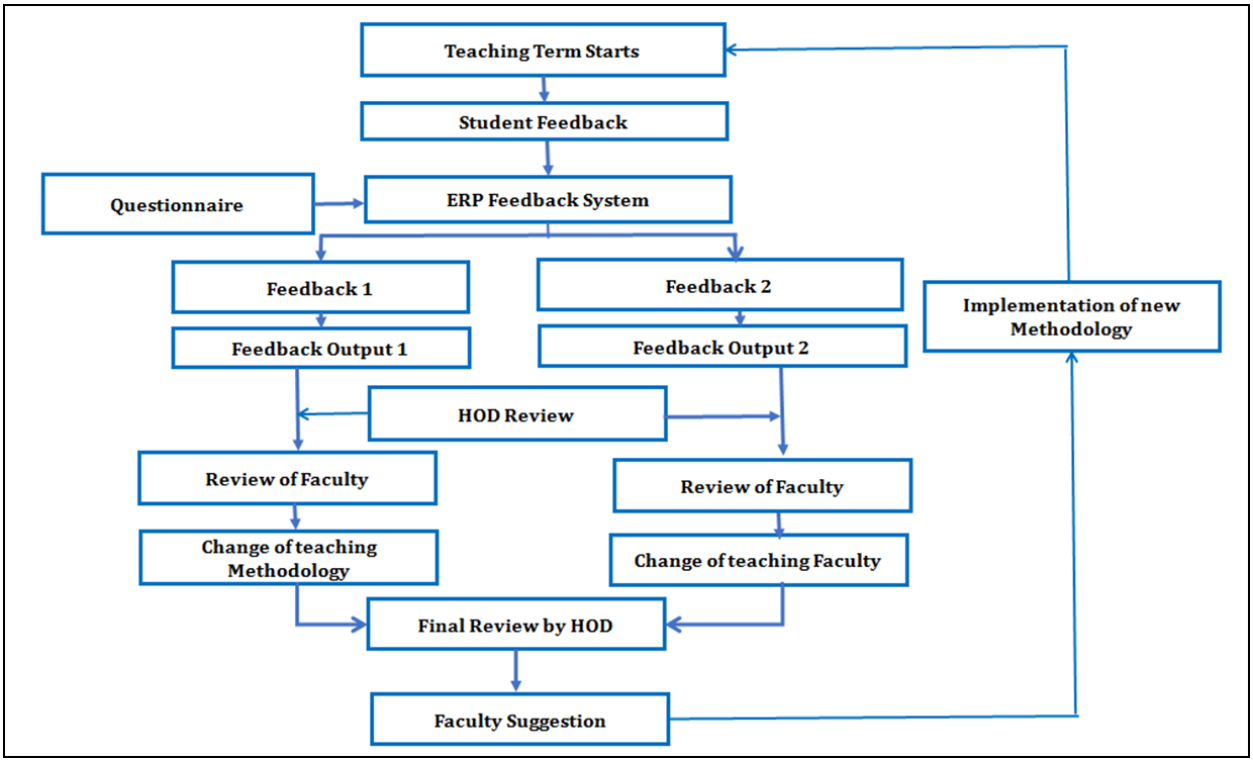


Fig 2.2.1 x Process of Faculty Feedback on Teaching

G. Outcome based curriculum design frame work based teaching by course teachers

The four stages in an OBE implementation process are:

(i) Formulation of the University curriculum syllabus in the lines of OBE

(ii) Execution of the curricular activities at par with OBE standards

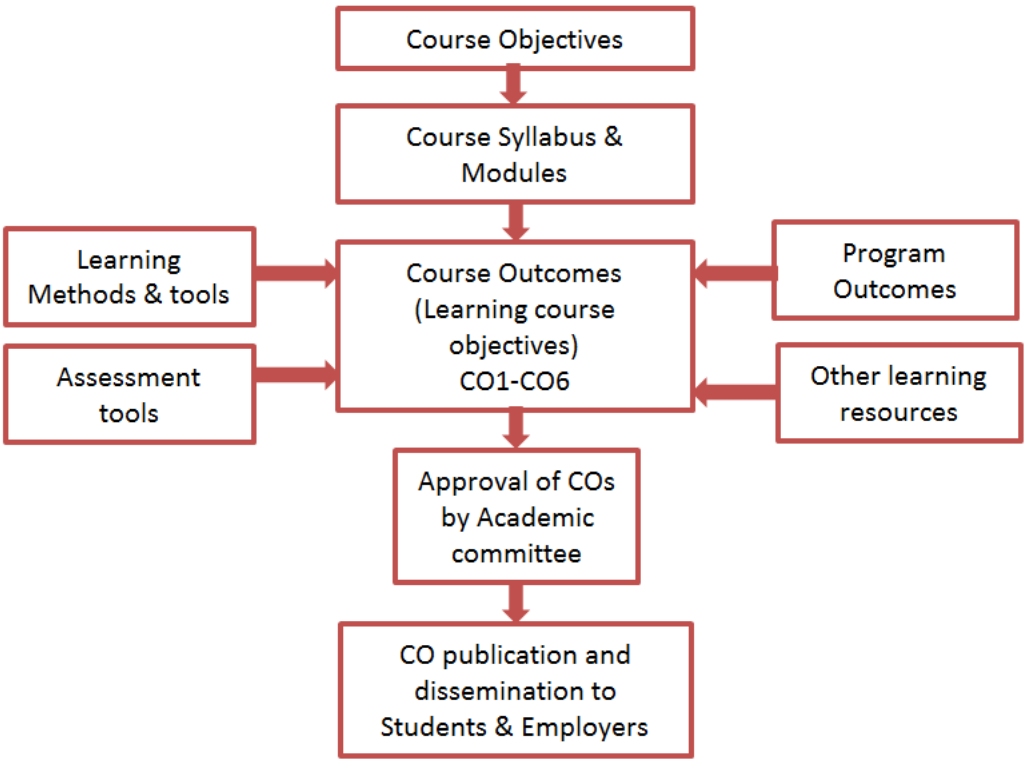
(iii) Assessment of the performance in lieu of OBE criteria

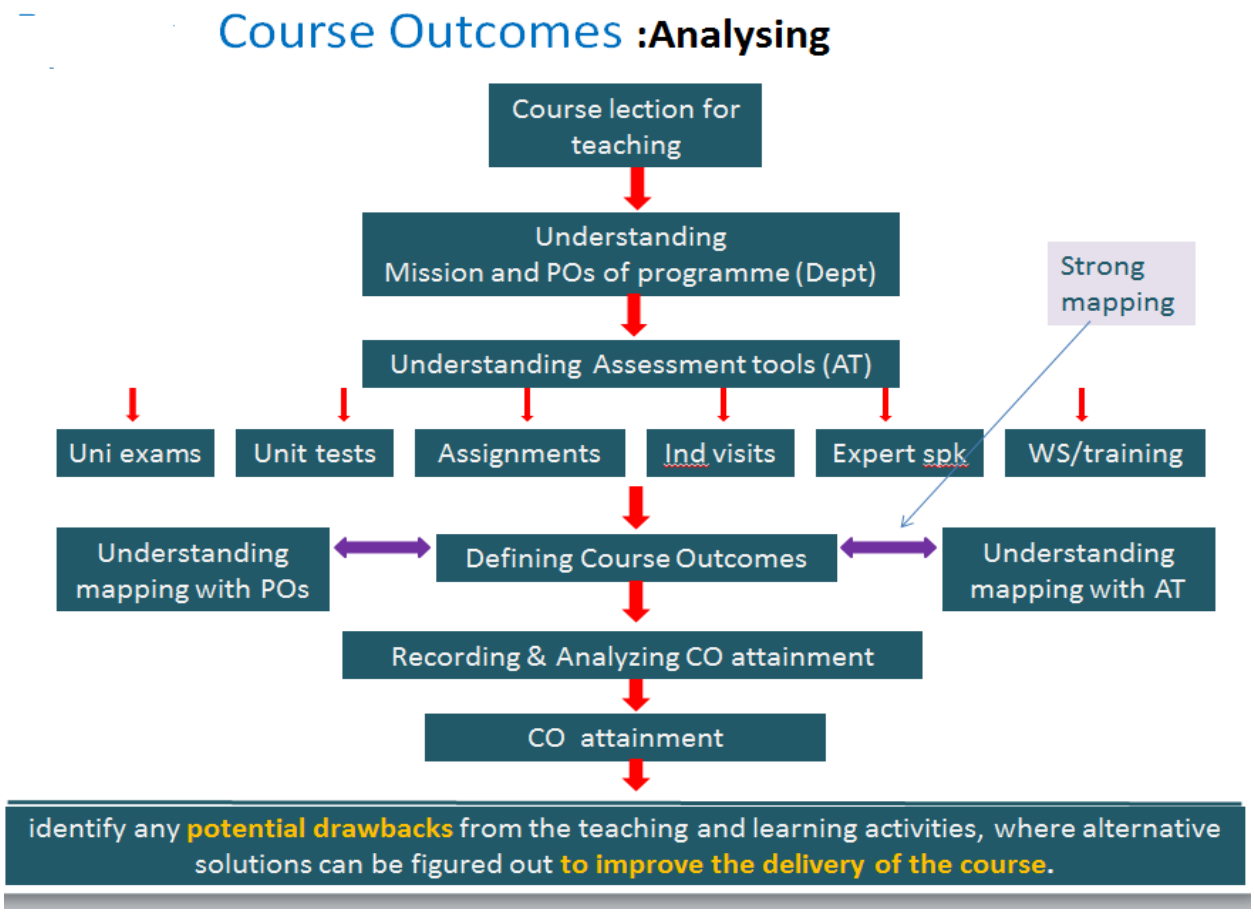
(iv) Fine-tuning of the teaching-learning process based on the feedback from the stakeholders.

Outcome-based education (OBE) is education in which an importance is given on a clearly articulated plan of what students are expected to know and be able to do, that is, what skills and knowledge they need to have, when they leave the system.

We have defined Course Outcomes (COs) for each course in the program. COs are the statements that help the learners to understand the reason for pursuing the course and help him to identify what he will be able to do at the end of the each course.

Student surveys are useful tools which provide good understanding modification, planning or redesigning a course. Course End survey has been taken at the end of each course. Since we are following outcome based education system this survey helps us to understand how much we have attained the COs indirectly.


Course Objectives
Course Syllabus & Modules
Learning Methods & tools
Course Outcomes (Learning course objectives) CO1-CO6
Program Outcomes
Assessment tools
Other learning resources
Approval of COs by Academic committee
CO publication and dissemination to Students & Employers


Course Outcomes :Analysing
Course lection for teaching
Understanding Mission and POs of programme (Dept)
Understanding Assessment tools (AT)
Strong mapping
Uni exams
Unit tests
Assignments
Ind visits
Expert spk
WS/training
Understanding mapping with POs
Defining Course Outcomes
Understanding mapping with AT
Recording & Analyzing CO attainment
CO attainment
identify any potential drawbacks from the teaching and learning activities, where alternative solutions can be figured out to improve the delivery of the course.

Teaching Plan Contents

Sr No	Content Nature	Objective
1.	Module(unit) syllabus and corresponding CO with cognitive levels involved 6 Units- 6 COs	Students will come to know what skills (COs) they have develop at the end of course, before the start of the course
2.	Practical planned to be conducted in sequence	Students will know the pre requisites before conducting practical and come prepared
3	Tests and Assignment with schedule	Students are aware of upcoming tests and assignments, resulting into they try to attend all classes/tutorials
4	Industrial visits planned	Curriculum gaps may be fulfilled
4	Expert lectures sessions planned	Curriculum gaps may be fulfilled
5	Any co-curricular activities planned	Support in attainment of Program dependent and program independent POs
6	Workshops/training planned	Support in attainment of Program dependent and program independent POs

2.2.2. Quality of Internal Semester Question Papers, Assignments and Evaluation

Internal assessment tools used by institute are class test and assignment. As per the policy of Institute, the department conducts 6 tests one on each unit and 3 assignments one each on 2 units. Tests are conducted by course teachers as per the schedule mentioned in the department academic calendar.

A. Process for Internal Semester Question Paper Setting and Evaluation and Effective Process Implementation:

1. Course coordinator sets the question paper for the internal test.
2. The course coordinator sets questions based on various cognitive levels and action verbs.
3. Department PAQIC members check test papers of each course on the parameters like cognitive level, to ensure Cos addressed.
4. Suggestions, changes are given by PAQIC to course teacher if any.
5. After revision/modification course teacher conducts test.
6. Course coordinator evaluates test paper.
7. The test marks are displayed.
8. Solution of the test is discussed by teacher in the class room.
9. Difficulties of any students and their problems are addressed by course coordinator.

B. Process to Ensure Questions from Outcomes/Learning Levels Perspective:

1. Every course coordinator sets test paper as per the cognitive level
2. Course coordinator sets question in test such that they will map with course outcomes.
3. Course coordinator submits test paper to PAQIC.
4. PAQIC checks test paper.

A sample test paper is included.

C. Evidence of COs Coverage in Class Test / Mid-term Tests:

1. Institute is affiliated to Savitribai Phule Pune University. As per Institute academic policy 20% weightage is given to internal tests, assignments.
2. Course coordinator decides target for attainment, it should not be below 60% as per the Institute policy.
3. Questions in test are set in accordance with associated CO. Each test is on one unit.
4. One CO is framed on each unit.

AISSMS
COLLEGE OF ENGINEERING

ज्ञानम् सकलजनहिताय

Accredited by NAAC with "A+" Grade

Department of Electrical Engineering

Test No – 2 (Unit 2)

Class: TE Electrical **Subject: Control System 1**

Date: 17/3/2021 **Marks: 20**

CO Statement: determine time response of systems upto second order for a given inputCO

Level: Apply (For eg Remember/Understand/Apply/Analyse/Evaluate/Create)

Instructions:-

All questions compulsory

1. Consider a close loop system shown Gp(s) = 14.4/s(1+0.1s) is the plant transfer function and Gc(s)=1 is the compensator. For a unit step input system output response has damped oscillations. The damped natural frequency of oscillations is ------- rad/sec. (round off upto 2 decimals)
   a) 10.9 b) 10.00 c) 11.5 d) 12.00
2. A second-order real system has the following properties:
   (a) the damping ratio d = 0.5 and undamped natural frequency wn = 10 rad/s
   (b) the steady state value of the output, to a unit step input, is 1.02.
   The transfer function of the system is

   (A) $\frac{1.02}{S^2+5S+100}$ (B) $\frac{1.02}{S^2+10S+100}$

   (C) $\frac{100}{S^2+10S+100}$ (D) $\frac{102}{S2+5S+100}$

3. The output response of system is denoted by y(t) and its Laplace transform is given by. The ste

   $Y(s)=\frac{10}{s\left(s^2+s+100\sqrt{2}\right)}$.

   ady state value of y(t) is given by

   (A) $\frac{1}{100\sqrt{2}}$ (B) $10\sqrt{2}$ (C) $\frac{1}{10\sqrt{2}}$ (D) $100\sqrt{2}$

4. A unity feedback control system is represented by the open loop transfer function G(s) = K/(s(s+2)). The range of values of K so that the system remains underdamped
   (A) K<1 (B) K>1 C) K=1 D) None of these

D. Quality of Assignment and Its Relevance to COs:

1. For each course 3 assignments are given.
2. Assignment is set on 2 units mapped with relevant COs
3. Assignments questions are given group wise. There are 4 groups formed in class.
4. Course coordinator sets questions as per cognitive level of corresponding COs.
5. Department PAQIC members check test papers of each course on the parameters like cognitive level, to ensure Cos addressed. 6.Suggestions changes are given by PAQIC to course teacher.
7. After modification course coordinator displays assignment to students.
8. Students are required to submit it in stipulated time.
9. Course teacher evaluate it and returns back.

10 Course teacher discusses assignment in class, give solution to numericals, points required to be added in answer, how to make answer more effective.

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Department of Electrical Engineering
Assignment No – 1 (Unit I & Unit II)

Class-BE **Sub: PECD** **Marks: 15**
Date of Assignment- **Date of Submission -**

Batch	Question Nos
Batch A	1, 2 &3
Batch B	1, 2 &4
Batch C	1, 2 &5
Batch D	1,2 &6

CO Statement:
CO 1: Explain the dynamics of a motor load system in all four quadrants of a speed-torque plane
CO2: Demonstrate different braking methods of DC motors and Analyze the operation of Converter and chopper fed Drives
Taxonomy Level: Understand & Analyze

balance

Q No	Question	Marks
1	Write the voltage equation and explain the speed torque characteristics of the following motors ~~with neat diagram~~ a. DC Shunt motor b. DC series motor c. 3 phase Induction motor d. BLDC motor e. Synchronous motors	5
2	Write the output voltage equations and draw their corresponding voltage waveforms for the following converters for what input a. Single phase full converter b. Three phase full converter c. Step down chopper d. Step up chopper e. Three phase inverter f. Three phase AC voltage regulator	5
3	A motor drives two loads. One has rotational motion. It is coupled to the motor through a reduction gear with a=0.2 and effieciency of 95%. The load has moment of inertia of 5 Kgm^2 and load torque of 20 N□m. The other load has translational motion and has a weight of 500 Kg which has to be lifted at a constant speed of 1m/sec. The coupling between the transational load and the motor has an effieciency of 90%. The motor inertia can be taken as 0.5 Kgm^2 and the motor runs at a speed of 960 rpm. Calculate the equivalent inertia referred to the motor shaft and power developed by the motor.	5
4	A 200 V, 11 A, 1500 rpm dc shunt motor has armature and field resistance of 0.5 Ωa nd 200 Ω respectively. The load torque ~~can be~~ is assumed to be constant at rated value. What is the motor speed if a resistance of 5 Ω is inserted in the armature circuit?	5
5	A 230 V, 50 Hz single phase supply feeds a full controlled converter bridge. The converter bridge is used to power the armature of a separately excited dc motor. The specifications of the dc motor are 200 V, 10 A (armature current), 1000 rpm,	5

	10 paise per kWh, find the overall cost per kWh.	
7	The maximum demand of a consumer is 20 A at 220 V and his total energy consumption is 8760 kWh. If the energy is charged at the rate of 20 paise per unit for 500 hours use of the maximum demand per annum plus 10 paise per unit for additional units, calculate : (i) annual bill (ii) equivalent flat rate.	04
8	A supply is offered on the basis of fixed charges of Rs 30 per annum plus 3 paise per unit or alternatively, at the rate of 6 paise per unit for the first 400 units per annum and 5 paise per unit for all the additional units. Find the number of units taken per annum for which the cost under the two tariffs becomes the same.	04
9	Calculate annual bill of a consumer whose maximum demand is 100 kW, p. f. = 0·8lagging and load factor = 60%. The tariff used is Rs 75 per kVA of maximum demand plus 15 paise per kWh consumed.	04
10	A factory has a maximum load of 240 kW at 0·8 p.f. lagging with an annual consumption of 50,000 units. The tariff is Rs 50 per kVA of maximum demand plus 10 paise per unit. Calculate the flat rate of energy consumption. What will be annual saving if p. f. is raised to unity?	04
11	In a 33 kV overhead line, there are three units in the string of insulators. If the capacitance between each insulator pin and earth is 11% of self-capacitance of each insulator, find (i) the distribution of voltage over 3 insulators and (ii) string efficiency.	04
12	Each line of a 3-phase system is suspended by a string of 3 similar insulators. If the voltage across the line unit is 17·5 kV, calculate the line to neutral voltage. Assume that the shunt capacitance between each insulator and earth is 1/8th of the capacitance of the insulator itself. Also find the string efficiency.	04
13	An insulator string consists of three units, each having a safe working voltage of 15 kV. The ratio of self-capacitance to shunt capacitance of each unit is 8 : 1. Find the maximum safe working voltage of the string. Also find the string efficiency.	04
14	A string of 5 insulators is connected across a 100 kV line. If the capacitance of each disc to earth is 0·1 of the capacitance of the insulator, calculate (i) the distribution of voltage on the insulator discs and (ii) the string efficiency.	04

Remarks: cognitive levels are appropriate with the Numericals chosen.

Course Coordinator | Module Coordinator | PAC Coordinator | H.O.D

2.1.3 Quality of student projects (25)

The project work should be based on the knowledge acquired by the student during the graduation and preferably it should meet and contribute towards the needs of the society. The project aims to provide an opportunity of designing and building complete system or subsystems based on area where the student likes to acquire specialized skills.

I. Identification of projects and allocation methodology to Faculty Members

1. Pre Final year students in semester 6 are briefed about the concept of project, different areas and requirements along with guides available in the department.
2. Students are provided with brief idea of various fields for selecting the project ideas.
3. The list of previous year projects is displayed at notice board which ensures no repetition of project work and also encourages students to enhance the previous works.
4. To begin with, students are asked to form the groups (max 4 per group) and submit to Project coordinator.
5. The departmental committee allocates guides to each group.
6. During allotment, it is taken care that, projects are given to faculty as per their expertise and interest in topics.
7. The student's projects are selected in line with department mission, vision and Program outcomes and forefront areas of Electrical Engineering.
8. Interdisciplinary projects are encouraged.
9. Students are encouraged to take up projects which have social impact and innovative in nature.
10. The faculties encourage the students to carry out in house projects and support is provided with all necessary software and hardware.
11. Some projects with high budget, special setup/software, students will try to get sponsorship from industries and carryout project in industry under the guidance of Industry person who is treated as co-guide.
12. The faculties encourage students to participate in project exhibitions. The project exhibition was aimed to provide common platform to exhibit their innovations and their work towards excellence in latest technology.
13. The faculties encourage students to publish their project work in reputed journals/conferences.
14. The faculties encourage students to avail the external funding from industries, University project funding schemes for their project work. (like KSCST, VTU project funding scheme) Evaluation scheme for final year Project

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

Project coordinator and respective guides see to it that project titles selected by students are from diversified areas.
Some of the areas identified are:

- Industrial Automation
- Power System Protection
- Power System Operation and Control
- High Voltage Engineering
- Energy storage systems & electric Vehicle
- Control systems
- Renewable energy
- Power Electronic Drives
- IOT applications in electrical Engg
- Energy Audit and conservation

Guide and project coordinator sees to it that project selection is done on following parameters like environment, sustainability, safety, ethics, cost, standards, advancement in technology, modern tools available.

CO's are framed for project and CO-PO-PSO mapping matrix along with justification is prepared.

Course outcomes: Students will be able to

1. Work in team and ensure satisfactory completion of project in all respect.
2. Handle different modern tools and apply Engineering knowledge to complete the given task and to acquire specified knowledge in the area of interest.
3. Provide solution to the current issues faced by the society.
4. develop ability of self-learning and life-long learning
5. Practice moral and ethical value while completing the given task.
6. Communicate effectively findings in verbal and written forms.

CO-PO mapping

Course Outcome	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12
CO403151.1									3		2	
CO403151.2	2	2	2	2	2		1				2	
CO403151.3	2	2	2			2	2				2	
CO403151.4												2
CO403151.5									1	3		
CO403151.								3				

6												

CO-PSO mapping

Course Outcome	PSO1	PSO2	PSO3
CO403151.1	2	1	1
CO403151.2	2	3	
CO403151.3	2	2	
CO403151.4			2
CO403151.5			2
CO403151.6			

III. Process for monitoring and evaluation

Monitoring

<u>Stages in project evaluation</u>

1. First presentation review, requires students to complete literature survey, problem definition and place of fabrication. This presentation is evaluated for 50 marks.

2. Second presentation at the end of 7th semester where it is expected that students on half way through in completing hardware. This is evaluated for 50 marks

3. Third presentation is complete project demonstration with the Dissertation copy where final corrections are given by panel of examiners appointed internally. It is like prequalification for appearing final viva.

4. During this stage students will be asked to write paper on the work they have done.

5. Finally Viva-voce is conducted at the end of 8th semester. The university BOS appoints external examiner. The project guide is the internal examiner.

Evaluation of Project.

In the final projects, the dissertation copy of the project plays important role which is assessed for 100 marks during final viva-voce and presentation/oral carries 100 marks.

Dissertation report index is decided by the respective guides who monitor the quality of the content of each chapter of report e. g Literature survey, problem definition, result analysis and conclusion which are crucial part of report.

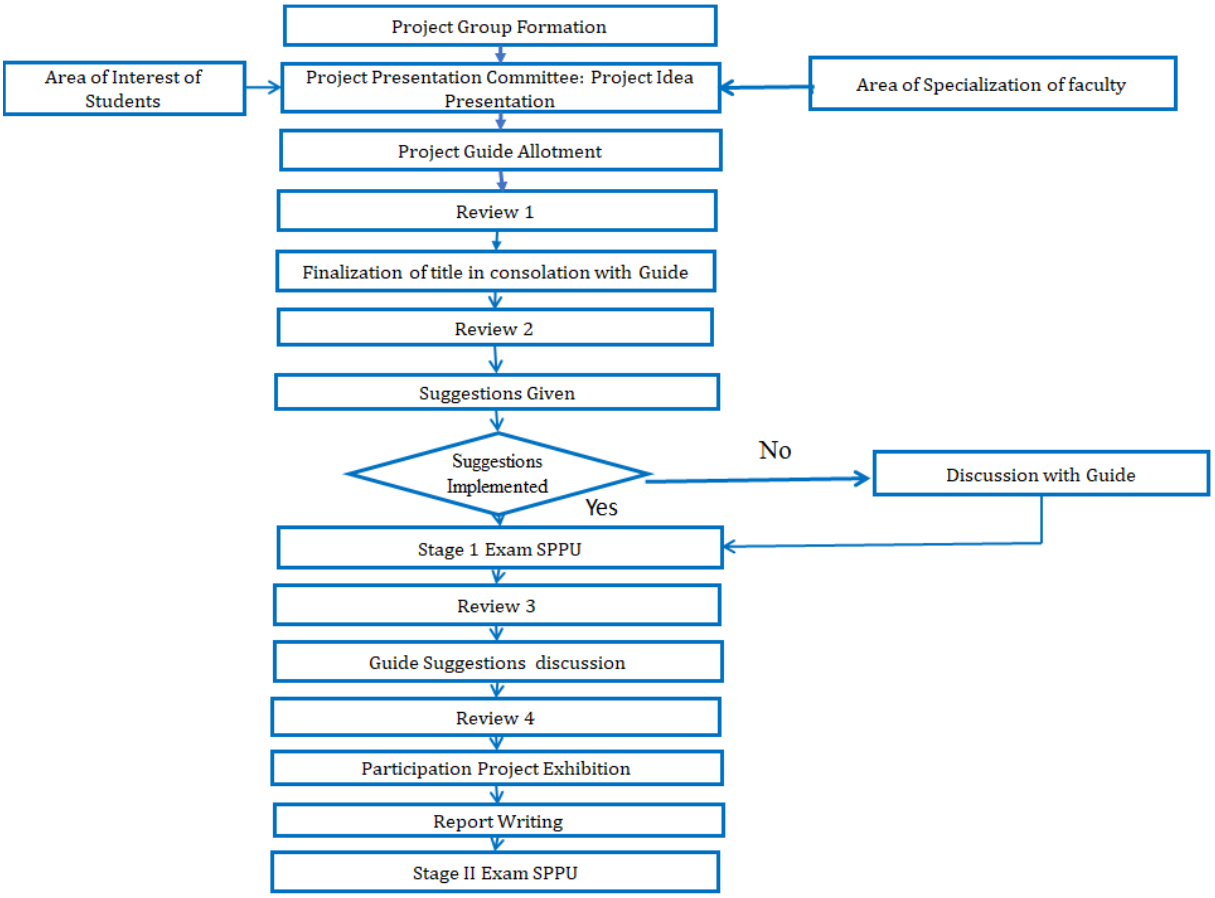


Fig 2.2.3 a Process of Project Allocation & Evaluation

Project evaluation parameters and rubrics

Project Presentation and Report Rubrics to assess team performance

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

Guide monitors the performance of each student individually and in a team. Project record book is maintained by each group and monitored by guide. Rubrics is used to evaluate students project.

Rubrics for Evaluation of Project as a Team

Evaluation of Individual performance

Each guide monitors students for their individual performance. Rubrics is used to evaluate individual performance along with guides observation while interaction with project groups.

Rubrics for evaluation of individual performance

Parameter	Excellent	Good	Average	Poor
Regularity	Student is regular, meets guide in every week, project	Student is regular, meets guide in every fortnight	Student meets guide occasionally, not so regular in	Uide has to remind student about work (3)

	work will be completed as per time frame (10)	project work will be completed as per time frame missing ne or two (8)	completing task. (6)	
Presentation skills	Excellent presentation, communication excellent (10)	Good presentation, communication good (8)	Average presentation, communication average (10)	Poor presentation, communication poor (3)
Depth of knowledge	Knowledge of subject is thorough (10)	Knowledge on few point of project missing (8)	Average knowledge (6)	No knowledge (2)
Involvement in project work	Passion enthusiasm involvement in project work seen (10)	Good involvement (8)	Average involvement (6)	Lack of involvement (2)
Ability to work in team	Good team member as well as leader (10)	Good team member but not leader (8)	Average team member (6)	No ability to work in team (2)

Responsibilities of Guide

The project Guide shall monitor, support and direct the student's work and progress soon after the allocation of project/dissertation titles. The responsibilities of the Guide include:

1. Proposing/supervising projects/dissertations in their own subject area.
2. Setting a framework for regularly scheduled progress meetings between Guide and students
3. Briefing the students and apprising them of the regulations pertaining to the final year projects/dissertations.
4. Giving frequent feedback/comments on progress part achieved by the students.
5. Giving guidance on the approach for the appropriate analysis of results obtained, interpretation

Parameter	Excellent	Good	Average	Poor
Project Title scope of project	Project title is clear, scope define clearly feasibility of implementation (5)	Project title is clear, scope define clearly clear, feasible for implementation not so clear, (4)	Project title is clear, scope define clearly clear, feasible for implementation not so clear (3)	Project title not yet finalize (1)
Project Scheduling and work delegation Team work	Proper scheduling and clear distribution of workload among the team members (5)	Not Proper scheduling and clear distribution of workload among the team members (4)	Proper scheduling and no clear distribution of workload among the team members (3)	No Proper scheduling and No clear distribution of workload among the team members (1)
Literature Survey	Referred to more than TEN articles; appropriately summarized; Referred IEEE,Science Direct, Springer, ASME,Taylor and Francis etc includes recent references (5)	Referred to more than Seven articles; appropriately summarized; All not reputed journals (4)	Referred to more than Five articles; appropriately summarized; NO recent references (3)	Referred less than 5 articles, not from reputed journals NO references Included (1)
Work Carried till date	Time frame defined clearly, work completed as per time frame (5)	Time frame defined but only 75% work completed as per time frame (4)	Time frame defined but only 50% work completed as per time frame (3)	Time frame not defined but work not completed as per time frame (0)

and presentation of results.

6. Assisting in the identification of a research methodology, planning and execution of the research project

Responsibilities of Students

1. ***Throughout project/dissertation work, the students are to seek advice, comments and guidance from his/her Guide on the nature of the project/dissertation work and standard expected.***
2. ***Students are also advised to keep a notebook for the purpose of the meeting with the Guide***
3. Responding to the supervisor's suggestions and/or criticisms on his/her work and progress; Following all laboratory safety guidelines (if applicable).

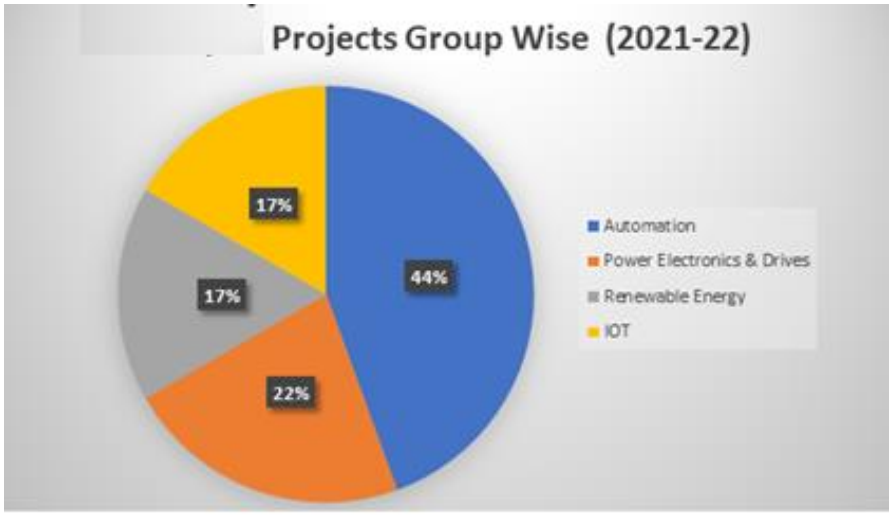
4. Bringing to the attention of the supervisor(s) any problems (academic and personal) associated with progress.
5. Discussing the layout of the final dissertation with the supervisor(s) prior to the writing-up stage.
6. Arranging with his/her supervisor(s) mutually agreed convenient times to discuss progress achieved (in the event that meetings are not possible, e-mails or other forms of communication may be used)

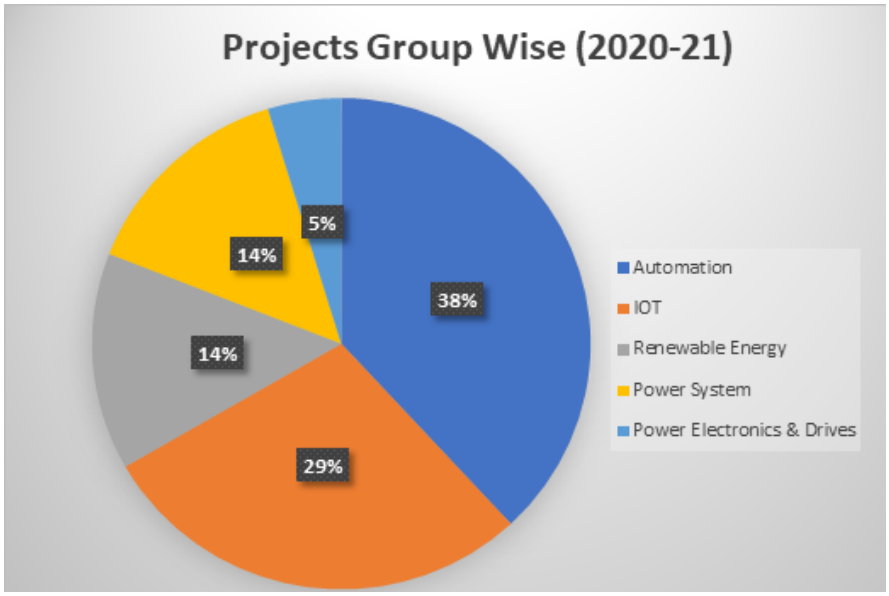
List of Projects completed in last three years group wise

Category	ACADEMIC YEAR			
	2021-22	**2020-21**	**2019-20**	**2018-19**
Automation	Health Monitoring System of Transformer by using Arduino and GSM Technology	Automatic flood gates control using PLC.	Automatic toll payment collection system	Poly house Automation
		RS-485 Based Low-Cost Remote Monitoring System for Gensets & other devices	Autonomous Fire Fighting Robot	Independent smart pole
			Four channel fault annunciations for industry	Electrical load management using PLC SCADA
	Rasberry Pi based Remote VFD Control Through Mobile App	Multipurpose defence robot		Automatic power factor controlled by Arduino
			Automatic power factor correction: low-cost solution using Arduino	Optimized methods of forest fire detection
		Automatic Multilevel Car Parking using PLC		Controlling of elevator using PLC HMI & Encoder
	Control of Robotic arm using Arduino		Automation in material separation at Construction site	Automated water Irrigation system
		Indoor air quality monitoring and improvement using PLC		Multilevel automatic car parking using PLC
	Sanctioned load monitoring and controlling using PLC SCADA		Google assisted controlled automation System	Traffic light priority control for emergency vehicle using RFID
		Smart road safety and vehicle accident prevention system for mountain roads		Automatic discharge ROD
			Automatic bank security system using PLC	Soldier health monitoring and location tracing
	Automatic gas leak detection	Monitoring of Distribution Transformer Parameters using		Magnetic Automobile Engine

	Electricity Theft Detection	GSM		
		Automatic Fast Tag system		
	Under water Communication using LIFI technology			
	Accident detection and vehicle tracking system			
IOT	IOT based smart Energy Meter and Billing system	IoT Based Smart Kitchen	IOT Based password protected circuit breaker	
		IOT based smart solar flower system	IOT based air quality monitoring system	
	IOT based Lineman Protection system	IOT based Transformer protection		
		IOT based transmission line protection		
	IOT based home security Model	IOT based underground cable fault detection		
		IOT based Weather monitoring system		
RENEWABLE ENERGY	Battery Management System	Battery Management System	Grid Interactive Rooftop Solar PV panel analysis	A hybrid solar wind generation system using air turbulence created by vehicles on highways
	Dual axis Solar Tracker	Modelling and simulation of Electric vehicle using MATLAB Simulink	Battery swapping System for electric vehicles using a robotic arm	Solar photovoltaic based thermo electrical cooling system
	Smart Mobile Charging Station		Application of smart solar systems in Irrigation process	Hybrid microhydel and solar power system
		Integrated wind solar Generation	Case study of Electric Vehicle	Solar Electrical Tricycle

				Energy harvesting using Piezo Electric transducer
POWER ELECTRONICS & DRIVES	Regenerative Breaking	Speed Control of DC Motor using chopper	Electronic soft start of 3 phase induction motor	DC transformer
	Soft start of single-phase Induction Motor			Cascaded multi-level inverters
	Three Phase rectifier with LC filter			Speed control of BLDC machine Using Arduino
	CVT Implementation on BLDC Motor			
POWER SYSTEM		Minimizing Penalty for Industries by Engaging APFC Unit	Foot step power generation	Phase selector & preventer
			Smart load control and overload protection	
		Power quality improvement using SVC		
		Underground cable fault detector		





I. Quality of completed projects/working prototypes

1. Students participate in inter college project competition

2. Based on Project exhibition best projects are rewarded.

3. Students publish papers based on their work.

4. Examiners feedback is taken at the time of internal evaluation of continuous assessment.

5. Feedback from external examiner at the time of University exam is taken and used for improving quality of project.

Evidence of papers published /Awards received by projects etc.

Sr.No.	Name of Students	Academic Year	Event Name	Title	Status
1	Mandar Kulkarni Tejswini Gawali Tamanna Attar Mulla Umair	2018-19	2nd IEEE International Conference on Emerging smart computing & Informatics 12-14 March 2020 AISSMS IOIT	A Novel circuit for DC voltage transformation using transformer	1st Prize in Paper presentation
2	Shubham Kale Mohan Patil YogeshGhodke	2018-19	Bharati Vidyapeeth 26 March 2019	Automatic Multilevel Car Parking using PLC	1st Prize in paper presentation
3	Gaurav Bhirud Pranil Patil Sayali Koli Vaibhav Ganorkar	2019-20	PES Modern COE with IET,IE(I),ISLE 2020	Automatic Power Factor Correction Low cost solution using Arduino	2nd Prize Project Poster Competition
4	Gaurav Bhirud	2019-20	International journal	Automatic Power	Paper published

	Pranil Patil Sayali Koli Vaibhav Ganorkar		of Advanced Research in Electrical, Electronics and Instrumentation Engineering	Factor Correction Low cost solution using Arduino	
5	Anurag Lambor	2019	VJTI Mumbai 27-18 Dec.2019		1st Prize
6	Anurag Lambor	2020-21	Technical Journal Vol.42 IEI 978-93-5346-080-8	Development of Automatic Gate operating Device	Paper published
7	Anurag Lambor	2020-21	ICDCIT – KIIT Bhubaneshwar978-81-924990-6-2	Automated Railway Crossing with Auto Train Speed Control Technology	1st Prize paper presentation
8	Shraddha Pore Trupti Bhamre Pooja Kumbhar	2020-21	Kshitij 2K21 State Level Technical Symposium	IOT: For Distribution Transformer Protection	Runner up

Sr. No	Competition	Organiser	Date	Rank
1.	PATENT 1- "Automatic Gate Operating Device"	Govt. of India	April 2018	Published
2.	PATENT 2- "Vaporized Gasoline Fuel"	Govt. of India	April 2018	Published
3.	PATENT 3- "Advanced EMF Meter"	Govt. of India	Jan 2020	Published
4.	PATENT 4- "Portable Inexpensive Potentiostat"	Govt. of India	Jan 2020	Published
5.	ISA State Level Project Competition	ISA Pune	5 Apr 2018	2nd
6.	National Level Project Competition	PCCOE Pune	4 Feb 2018	1st
7.	IIGP 2.0	DST	10-20 Jan 2018	National Qualifier
8.	Certificate of Recognition	AISSMS COE	2018	-
9.	IEEE-SS12 Project Competition	IEEE, Sri Lanka	3 Mar 2018	3rd
10.	Technical Paper Presentation	AISSMS COE	7 Sept 2018	1st
11.	Technical Paper Presentation	IEI Kolkata	11 Oct 2018	1st Best Paper Award
12.	Project Innovation Competition	KIIT Bhubaneshwar	9-12 Jan 2019	1st
13.	ICDCIT Bhubaneshwar	KIIT Bhubaneshwar	9-12 Jan 2019	Best Paper Award
14.	Smart Sociothon	VIIT Pune	Feb 2019	2nd

15.	IEEE Projects 2K19	MMCOE	Apr 2019	1st
16.	Makers Square	VJTI Mumbai	27-28 Dec 2019	1st
17.	Technical Paper Presentation	VJTI Mumbai	27-28 Dec 2019	1st
18.	CIPCIS 2K19	PCCOER	Dec 2019	Best Paper Award
19.	KPIT Sparkle 2020	KPIT	Feb 2020	Grand Finals- Top 30
20.	Vishwapariwartan 2020	VIIT	Jan 2020	1st


International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

CERTIFICATE OF PUBLICATION

Impact Factor 7.122

This is hereby Awarding this Certificate to

GAURAV BHIRUD

Students, Department of Electrical Engineering, AISSMS College of Engineering, Pune, Maharashtra, India

Published a paper entitled

Automatic Power Factor Correction: Low Cost Solution Using Arduino

of IJAREEIE, Volume 9, Issue 6, June 2020

Editor-in-Chief


TEST Engineering & Management

A Novel circuit for DC voltage transformation using transformer

Mr. Mandar Shriram Kulkarni, AISSMS College of engineering, Pune
Ms. Tejaswini Dilip Gawali, AISSMS College of engineering, Pune
Mr. Umair Habib Mulla, AISSMS, College of engineering, Pune
Ms. Tamanna Irsh Attar, AISSMS College of engineering, Pune

2.1.4 Initiatives related to industry interaction(15)

Industry-institute interaction (I3) is the most preferred activity for mutual benefit and growth of industries as well as institutions. I3 provides the best platform for showcasing the best practices, latest technological advancements, and their implementation and impact on the industry. To build good rapport between the industry and the institute, institutes should have Memorandum of Understanding (MoU) with the industries.

Sr No	Name of Company	Domain area	Period of MOU	Activity carried out
1	Apt Samriddhi Consultants Pvt Ltd, Pune	Power systems Protection , design, control and automation	30-09-2021 to 29-09-2023	1. Internship provided to students 2. Guest Lecture delivered on ' Internship Benefits' on 20 October 20201
2	Anaka Schalttafel Pvt Ltd	Electrical Consultant	28-07-2021 to 27-07-2023	Internship provided to students
3	Arakeri Electrical Industries, Pune	Manufacturers' of High Voltage Transformers. Current Transformers, AC Line Chokes. And control panels	26-07-2021 to 25-07-2023	1.Internship provided to students 2. Support given to E-Baja activity
4	VMS Controls, Pune	Software Development of PLC, SCADA and HMI	24-07-2021 to 23-07 -2023	1. Sponsored BE Project 2. Placement assistance

				3. Delivered Guest Lecture

MOU signing with Apt Samriddhi Consultants Pvt Ltd, Pune

Fig 2.2.4 b MOU signing with Zen Solutions Pvt Ltd, Pune

Industry supported laboratories

1. The department of Electrical Engineering was donated Switchgear equipment worth INR 3.25lacs by Hagger India Pvt Ltd. to the Power Systems Lab.
2. Automation anywhere lab is established

3. **Paramtech Electric Motors Pvt Ltd**

As we know that electric vehicles will replace all IC engine vehicles in coming few years. Currently, SPPU has also included few subjects namely Hybrid and electric Vehicles and electric Mobility in curriculum and importance of study of EV is underlined.

An area of electric vehicle is now open for electrical students and much research is going on worldwide in improvising its performance to make the design safe and increase its driving range.

The department has received an E-Rickshaw from Paramtech Electric Motors Pvt Ltd. The said E-Rickshaw could be used by the students to carry out projects and verify new concepts.

e Rickshaw donated by Paramtech Electric Motors Pvt Ltd

Fig 2.2.4.c Switchgear Equipment Received from Hagger India Pvt Ltd. worth 3.25 Lacs

2. **Centre of Excellence**

The Automation anywhere lab is established through the Centre of Excellence initiative at the Institute Centre of excellence in the field of robotics and automation is established in college on 12 April 2019 by Automation Anywhere Pvt. Ltd. The main motive of this engagement is to providing Industrial Exposureto the Students and faculties in order to sustain and enhance interaction with Industries. Faculties and students' undergone basic and advance level training under center of excellence.

Impact of Centre of Excellence:

- 210 students got basic training
- Advanced 5 day Faculty Training at Bangalore
- Two day A-lister training for Students at Bangalore
- Advanced Certification completed

Industry involvement in the program design and partial delivery of any regular courses for students

- The Department has MoUs with several industries. The objectives of the MoU is to assist in Industry training, internship, students project sponsor and expert lectures.
- During Syllabus revision workshops Industry experts deliver their input on the advanced technology.
- At institute level, DAB committee is in place whose members are selected from Industry, Academics and R&D organizations. This committee attend the meeting once in Semester and discuss with Faculty and students and suggest on curriculum improvement , keeping in view Program objectives and outcomes.
- Audit course are conducted by Industry Experts
- Besides regular Industrial Expertlectures and the visits are organized.
-

I. Industry involvement in the program design and partial delivery of any regular courses for students

- The Department has MoUs with several industries. The objectives of the MoU is to assist in Industry training, internship, students project sponsor and expert lectures.
- DuringSyllabus revision workshops Industry experts deliver their input on the advanced technology.
- At institute level, DAB committee is in place whose members are selected from Industry, Academics and R&D organizations. This committee attend the meeting once in Semester and discuss with Faculty and students and suggest on curriculum improvement , keeping in view Program objectives and outcomes.
- Audit course are conducted by Industry Experts
- Besides regular Industrial Expert lectures and the visits are organized.

Expert Lectures/Industrial Visits Organized

CAY(2021-22)

S.N	Date	Activity Planned	Topic	Speaker	Coordinator	No. of Participants
1	2nd Sep 2021	Expert Lecture	Soft skills needed in Corporate	Ms Priti Kibe, Forbes Marshall	Dr AA Apte & P Sankala	SE, TE & BE students, 87
2	16th Sep 2021	Expert Lecture	What competencies a core company looks for in a graduate engineer trainee	Mrs Kavita Kaushik, Quality Champion Cummins India	Dr A A Godbole	SE, TE & BE students, 117
3	29th Sep 2021	National level student Symposium	Pirates of Wizard	Engineering Today 2019	V N Tarange & P Sankala	**59**
4	30th Sep 2021		Technical Cross Word		C D Kulkarni & P Sankala	**73**
5	29th& 30th Sep 2021		Mock Placement		Dr AA Apte & S R Lengade	**15**
6	22nd Nov 2021	Expert Lecture	Nano Technology and its scope in Research	Dr P B Karandikar,Associate Prof, AIT Pune	Dr M H Dhend	SE students
7	23rd Nov 2021	Workshop	Fabrication of Buck converter	Mr Mohan Pare & Mr Utkarsh Alset, Design & Development Engineer, R&D Arthetec Innovative solutions, Pune	P Sankala & Dr AA Apte	TE students- 61
8	26th Nov 2021	Expert Lecture	Chargers for Battery operated vehicles	Mr Utkarsh Alset, Design & Development Engineer, R&D Arthetec Innovative solutions, Pune	P Sankala	TE students-55
9	9th& 10th Dec 2021	IEI Conclave Western Region	Circuit Wizard		P Sankala	Students from all over India- 97
10	26th Feb 2022	Extension activity	Cleaning Drive	Sinhgad Fort, Pune	V N Tarange & P Sankala	
11	16th March 2022.	Career Counseling	Study abroad for Engineers	Mr Rajarshi Banerjee Jamboree Education Pune	P Sankala	150 students (Electrical & Computer)
12	6th April	Visit	Electrical drives and switchgear protection	Pune Metro Rail	Dr A A Apte P Sankala V N Tarange R S Shinde	110(TE & BE)
13	***12th April***	Visit	***HV Engineering***	***Pirangut***	Dr M H Dhend	BE
14	***5th May 2022***	Student Activity	Project Exhibition	***AISSMSCOE***	Dr.A.A.Apte	B.E.
15	***7th May 2022***	Visit	Switch Gear & Protection	***Mapro Food plant***	P Sankala V N Tarange	BE
16	***7th May 2022***	Visit	***Power System II***	***HVDC Phadge***	Dr A A Apte V S Ponkshe R S Shinde	TE

CAY m1 (2020-21)

S.N	Date	Activity Planned	Topic	Speaker	Coordinator	Participants
01	18 Aug 2020	Expert Lecture	Electrical Systems in Automobiles	Mr.Ajay Pradhan TATA Motors	Dr.A.A.Apte	TE & BE students
02	4th Aug 2020	Expert	"Power Electronics:	Dr. KalaiSelvi	P.Sankala	TE students

		Lecture	Applications and Research"	Jayaraman, IITRopar		
03	18 Sep 2020	Expert Lecture	Applications of PLC in Automation Industry	Mr Milind Pundalik VMS Control	C D Kulkarni	BE students
04	16 Nov 2020	Expert Lecture	Electrical Vehicle Drives-Induction Motor	Mr Naresh Dhopare Regal Beloit	S S Mujawar	BE students
05	4 Dec 2020	Expert Lecture	Selection of motors and Batteries used in EV's	Mr Hrishikesh Mehta Aethertech Innovative solutions	S S Mujawar	BE students
06	20 Aug 2020	Expert Lecture	Passenger Vehicle Development Life cycle	Mr. Sandip Patil Project Manager,TATA Technologies ,Pune	V N Tarange	BE students
07	23 Oct 2020	Expert Lecture	lecture on Importance of healthy lifestyle	Dr. Vaibhav Lunkad	Dr AA Godbole	TE & BE students
08	29 Aug2020	One Day Workshop	Project Management and Finances	Mr.Manoj Badve Senior Engineer TATA Motors, and Mr. Prakash Mali Senior Manager ,John Deere TCI Pune	Dr.A.A.Apte Ms.S.R.Lengade Mrs P Sankala	TE & BE students
09	4th, 5th& 6th Aug2020	3 days workshop	1. Skills for Employability 2. Role of Community Service and Patent Filing	1. Mrs. Shraddha Kale, DGM Corporate Strategy, GERA Pune 2. Prof. Dr. Ishrat. M. M, Professor, Mechanical Engg. Dept., Convener, R & D Cell, MJCET and Patents Committee, MJCET, Hyderabad, Telangana.	Dr. M H Dhend V N Tarange	SE, TE & BE students
10	24th July 2020	Expert Lecture	Self- Awareness	Ms. Neetu Gupta ,MSW,University of Delhi	Dr. M H Dhend	SE students
11	***30th July 2020.***	Expert Lecture	***Overview of placement***	***Mr. Ketan Mhaske and Mr. Shrikant Nagargoje ,Alumni ,DEE,AISSMS COE Pune***	Dr. M H Dhend	SE & BE students
12	***03 Oct 2020***	Expert Lecture	***Power Quality issues in Power system network***	***Shri H.D Dongargaonkar Executive Engineer, MSETCL***	Mr L S Godse	BE students
13	***3rd Dec 2020.***	Expert Lecture	***Analog and Digital Electronics***	***Mrs. Sonali Nalamwar , Assistant Professor, Department of Computer Science,AISSMS College of Engineering ,Pune***	Mrs V N Tarange	SE students
14	5th Dec 2020	Expert Lecture	***Insights of Electric Vehicle Technology***	***Mr.Sagar Pawar,Force motors***		TE & BE students
15	***11Aug 2020***	Expert Lecture	***selection of Seminar Topics and Report Writing***	***Dr A A Apte & S R Lengade***	Dr A A Apte & S R Lengade	TE students
16	***5th Dec, 2020.***	Expert Lecture	***Control Systems***	***Dr. Jaywant Kolhe Scientist D, DRDO Dighi Pune***	Dr AA Godbole	BE students
17	***1Feb 2021***	National level Student competition	***Trouble Shooting***	***AISSMSCOE***	Mrs P Sankala	Engg Student participants in and around Pune
18	6March 2021	Panel discussion	Role of women engineers in the corporate sector	Mrs Charuta Muley (MD Thyssenkrupp)	Dr AA Godbole S R Lengade	SE, TE & BE students

				Mrs Swati Mehendale (Head Regulatory, Tata Power) Ms Mayanka Goyal (Engineering Manager GE Renewables)	P.Sankala	
19	4March 2021	Coffee and Conversation with Alumni	Coffee and Conversation with Alumni	Ms.Sujata Chandra Chairman and MD Vigyanvidya Pvt.Ltd Bhosari Pune	Dr.A.A.Apte	SE, TE & BE students
20	27 Jan 2021	Expert Lecture	Current Life style and How it is impacting on the life	Mr.Amol Vaidya Alumni and fitness Expert	Dr.A.A.Apte	SE, TE & BE students
21	4March 2021	Tree Plantation Drive	Tree Plantation Drive for Faculty and students		P.Sankala & V N Tarange	Faculty & SE, TE & BE students
22	25 Feb 2021	Interactive session	Startup with our own entrepreneurs	Mr Onkar Dahiwal & Mr S Mangulurkar, Mr Sumit Ghodke	P.Sankala & V N Tarange	Faculty & SE, TE & BE students
23	23 Feb 2021	Student Activity	Traditional day celebrations(Online)	AISSMSCOE	S R Lengade & P Sankala	Faculty & SE, TE & BE students
24	8March 2021	International Women's Day Celebration	Importance of Gender Equality	Mrs. Namrata Patil DCP zone 05, pune & Dr. Mrs. Gauri Ranade Intensive care, honorary consultant, Deenanath Mangeshkar Hospital, Pune	V N Tarange and S R Lengade	SE, TE & BE students

CAYm2(2019-20)

S.N	Date	Activity Planned	Topic	Speaker/ Coordinator	No. of Participants
01	12/7/2019	Expert Lecture	Audit course session II	Mr Aditya Akole	**42**
02	24/07/2019	Expert Lecture	Career in Management studies	Amar Salunke	**42**
03	02/08/2019	Industrial Visit	Power Plant Engineering	Hydro Power Plant Ghatghar	**40**
04	02/08/2019	Expert Lecture	Project area selection and project management	Mr Ajit Jha	**25**
05	28/08/2019	Expert Lecture	Energy Audit and Conservation, BEE and case studies	Mr Pramod Daspute	**61**
06	29/8/2019	Industrial Visit	Robotics and their control	PARI Automation	**35**
07	25/07/2019	Industrial Visit	Electrical Measuring instruments	Star Electricals	**42**
08	30/08/2019	Industrial Visit	Electrical Installation	Lonikand 400 KV substation, Pune	**38**
09	11/09/2019	Industrial Visit	Material science	Madhav Capacitors Pvt Ltd, Bhosari	**55**
10	11/09/2019	Industrial Visit	various science projects	Science Park, Pimpri Chinchwad	**55**
11	23/09/19	Expert Lecture	Role of PLC in Automation	Ms Nital Sarap, Technocrat	**50**
12	12/10/2019	Industrial Visit	Power system operation	SLDC, Kalwa	**58**
13	15/10/2019	Expert Lecture	Applications of Control Systems in Defence	***Mr Jaywant Kolhe Sc 'D' R & D Engineers, DRDO***	**60**
14	06/01/2020	Expert Lecture	Career Counselling	Mr Anuj Mehta, Ms Swapnaja, Global	**73**

				Education Pvt Ltd, Pune	
15	09/01/2020	Expert Lecture	Awareness on innovative projects and Internship	Mr Mayank Arora and Mr Chinmoy Zagade, Elite Techno group	**24**
16	15/01/2020	Industrial Visit	2MV and 0.2MV high voltage laboratory	Mahati Electricals, Yawat	**57**
17	21/01/2020	Industrial Visit	Electric traction	Pune Metro Rail, Pimpri Chinchwad	**46**
18	21/01/2020	Industrial Visit	Substation	Pune Metro Rail, Pimpri Chinchwad	**46**
19	22/01/2020	Industrial Visit	Electric traction-UEE	Pune Metro Rail, Pimpri Chinchwad	**50**
20	7/02/2020	Industrial Visit	Tata Power Plant khopoli	Tata Power Plant khopoli	**49**
21	31/01/2020	Industrial Visit	Manisha Transformers	Manisha Transformers	**52**
22	18/2/2020	Expert Lecture	Microcontroller applications	Mr Rajendra Khope, IOcare systems	**45**
23	26/2/2020	Expert Lecture	Energy Audit & Conservation	Mr Vinay Gadikar	**47**
24	12/03/2020	Industrial Visit	Paper Mills	Sakal Press Pune	**28**
25	12/03/2020	Training	Soft skills		**40**
26	21/05/2020 to 26/5/2020	Online National level Quiz	Power Electronics & Drives		**1650**
27	15/05/2020 to 15/6/2020	Online National level Quiz	Electrical Safety		**3600**
28	10/05/2020	Alumni Interaction	***Job Scenario post Covid & Higher studies***	Shantanu Pathak, Prasad Venikar,Pradeep Patil	**21**
29	24/5/2020	Alumni Interaction	Interacted and motivated the students regarding placements and higher studies during COVID 19	Mr Chetan Phakatkar	**25**
30	18th Sep 2019	Pirates of Wizard	Students	Engineering Today 2019	**37**
31	18,19 & 20 Sep 2019	License To Kill: The Laser War	Students		**43**
32	19th Sep 2019	Technical Cross Word	Students		**63**
33	19th Sep 2019	Aviated Fall	Students		**33**
34	20th Sep 2019	Science Exhibition	Students	Science Exhibition 2019	**45**

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

1. Involvement of Industry through various activities like curriculum design, delivery of course through expert lectures, Industrial visit, field demonstration etc .This Industry exposure assist student to experience the trends, technology and practices in Industry.

2. Improves Internships, projects, placements.

3. Liasoning with Industry

The Institute practices the One-faculty-one-Industry initiative, where each faculty is associated with an Industry. Signing of MOU with the Industry promotes exchange of knowledge and helps reducing the

curriculum gap if any.

2.1.5 Initiatives related to industry internship/summer training

Industry being one of the major Stakeholders, the Institute takes utmost efforts to have Industry Institute Interaction in all possible ways. It aims to reduce the gap between Industry needs & Academics

In view of this the Institute & department offers number of activities like Expert Lecture, Student training, Internship etc, for the UG students to be associated with the real time Industrial needs.

After the conclusion of 5th semester students are encouraged and suggested relevant Industry for the Internship. The T.E 2019 SPPU, course curriculum has also introduced mandatory Industry Internship for the students after the completion of 5th semester.

The Institute recently has started AISSMS I-connect program to offer the Industry Institute Initiatives Interdisciplinary, where the events are arranged at Institute level open to all the students of different program.

Internships: Initiatives

- The students are encouraged to take up internship after the completion of 5th semester.
- Students are allotted to faculty members for internship program
- Faculty members give their guidelines, suggestions and scope and contact details of industries**.** They also help the students by interacting with the industrial experts, provide the students recommendation letters and other necessary support.

- The Department has a strong Alumni Network across the country. The Alumni not only help arranging the Internships but also mentor the students in their internship.

- The alumni coordinator constantly interacts with alumni working in the industries and request them to provide necessary guide lines and supports for the students.

- Minimum period of internship is 4 weeks for which University has mentioned Credit marks in their curriculum

- During the course of internship, Mentor faculty try to visit the industry or he may communicate the industry supervisor under which his student is doing internship

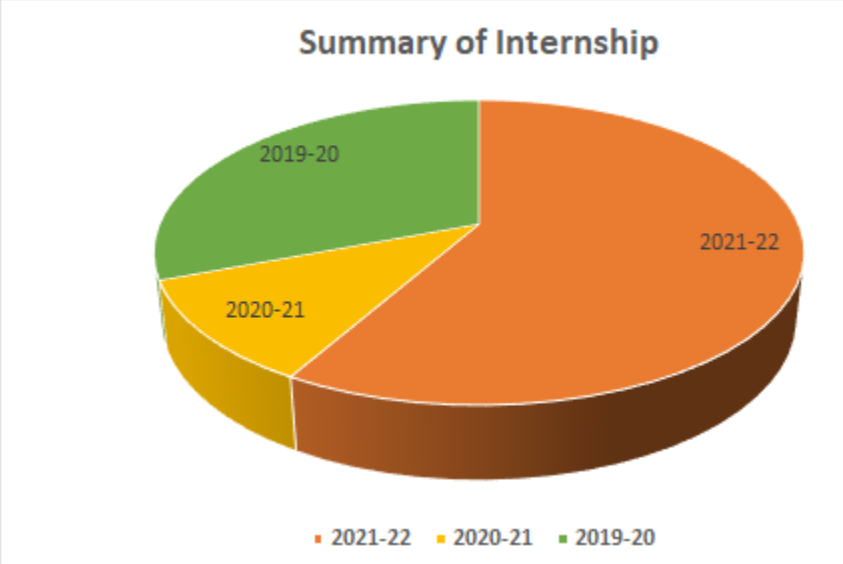
- A feedback report prepared by the department has to be filled by the industry supervisor which reflects students' progress and performance during training

- After completion of the training, in 6th semester every internship student has to prepare a report about his work assignment and learning and give presentation in front of panel of examiners appointed by the HOD.

- Final grade/marks given by the examiners is uploaded to University examination portal.

Internship Details for Last 3 Years

Academic Year	No. of studentscompletedInternship
2021-22	85
2020-21	16
2019-20	45



Year wise Internship details

CAY (2021-22)

Name of Student	Roll No.	Name of Company	Internship Start Date	Internship End Date
Lokhande Tushar Shankarrao	13EL025	R.K.Solar Systems Pune	1/12/2022	1/20/2022
Madane Yogita Bapurao	16EL026	Plan power company	12/22/2021	1/30/2022
Madane Yogita Bapurao	16EL026	Plan power	12/20/2021	1/20/2022
Borse Sanket Somnath	17EL008	MSETCL	1/1/2022	1/31/2022
Yede Pranjal Shivaji	17EL054	Plan power shaniwar peth	12/20/2021	1/20/2022
Chavan Manav Santosh	18EL011	M.S.E.D.C.L. Latur	1/15/2022	3/14/2022
Gaikwad Anushka Abhay	18EL013	ZF India pvt	1/3/2022	1/31/2022
Kalyankar Abhishek Vitthalrao	18EL020	Plan Power	12/20/2021	1/20/2022

Kirwale Saourabh Babasaheb	18EL023	MSEDCL.O&M Circle Vidyut Bhavan Beed	12/27/2021	1/27/2022
Lahamge Sidharth Deepak	18EL025	MSEDCL	1/6/2022	2/7/2022
Rupanawar Kiran Ravsaheb	18EL040	MSEB sub-division-Velapur (Solapur)	1/3/2022	2/2/2022
Aarushi Mahajan	19EL001	Cummins power generation technology India pvt limited	1/10/2022	2/18/2022
Adarsh Santosh Vishwakarma	19EL002	Silverline Electricals Pvt. Ltd.	1/3/2022	1/31/2022
Balkawade Maithili Milind	19EL003	Prayog Electricals Pvt. Ltd.	12/15/2021	2/28/2022
Bansode Susmita Pandurang	19EL004	Brose automotive systems private limited	12/20/2021	1/30/2022
Bhusari Sarvesh Pravin	19EL005	Swara Enterprises	1/16/2022	2/16/2022
Bodhe Sarvesh Anil	19EL006	APT Samriddhi Consultants Pvt. Ltd. Pune	12/21/2021	1/31/2022
Chaudhari Laxmi Rajesh	19EL007	Siemens	1/3/2022	1/31/2022
Chavan Harshwardhan Yashwant	19EL008	Maharshi Shakarao Mohite Patil Sahakari Sakhar Karkhana Pvt.Ltd Shankarnagar,Akluj	12/26/2021	1/31/2022
Darade Supriya Sayas	19EL009	MSEDCL	12/15/2021	1/31/2022
Deshmukh Om Vinod	19EL010	AGASTI SUGAR FACTORY AKOLE	1/3/2022	1/31/2022
Doke Rushikesh Sanjay	19EL011	MSEDCL	1/13/2022	2/13/2022
Ghodake Sumit Suhas	19EL012	Tata Motors PVBU	1/10/2022	3/10/2022
Gulumkar Ankit Sharad	19EL013	VCB ELECTRONICS,PUNE	12/20/2021	1/20/2022
Ingale Girish Sampatrao	19EL014	Saara Enterprises	1/3/2022	1/30/2022
Ingle Pratik Arun	19EL015	MSEDCL		

Jivane Hrutuja Dipak	19EL016	Chandrapur Super Thermal Power Station	12/25/2021	1/30/2022
Junaid Javaid Ganai (Jksss)	19EL017	JKPTCL	12/1/2022	10/2/2022
Kadam Kumar Balasaheb (Tfws)	19EL018	Pie Infocomm	1/10/2022	2/23/2022
Kajale Rushikesh Ganesh	19EL019	MSEDCL Sub-Division Manchar	12/29/2021	2/4/2022
Karhe Mahesh Bapurao	19EL020	132 kv substation Ashti	12/21/2021	1/21/2022
Khapre Gauri Rajesh	19EL021	MSETCL	1/1/2022	12/31/2021
Kinkar Aniket Ramchandra	19EL022	DOO LITTLE PVT.LTD	1/1/2022	1/31/2022
Krishna Pranali Ashok	19EL023	Mahuli engineering satara, government electrical contractor	1/6/2022	2/6/2022
Kulkarni Ameya Dhananjay	19EL024	Sannati Engineers	12/20/2021	1/31/2022
Limaye Vaishnav Vinayak	19EL025	Shivshakti transformers pvt LTD	1/3/2022	2/3/2022
Lokhande Sakshi Ganesh	19EL026	Northway Motorsport	1/1/2022	6/30/2022
Mahadik Advait Ramesh	19EL027	Embio Ltd.	1/1/2022	2/1/2022
Mali Tushar Bhausaheb	19EL028	Rapid Systems, Korochi Ichalkaranji	12/24/2021	1/21/2022
Malpani Pushkar Rambilas (Ews)	19EL029	Embio ltd.	1/1/2022	2/1/2022
Maske Sharwari Rohidas	19EL030	MSETCL, AURANGABAD	1/3/2022	1/28/2022
Meshram Ruchika Sharadkumar	19EL031	MSETCL	1/4/2022	2/4/2022
Mohire Pratik Gajanan	19EL032	APT. Samriddhi Consultants Pvt. Ltd	12/21/2021	12/31/2021
More Kunal Rajendra	19EL033	Thyssenkrupp electrical steel India pvt. Limited, nashik		
More Manjit Manish	19EL034	Wixika innovative solution pvt. Ltd.	12/22/2021	1/31/2022

Nadaf Ansarali Sikandar	19EL036	The Saswad Mali Sugar Factory Pvt. Ltd, Malinagar.	1/1/2022	2/4/2022
Naik Ritesh Pravin	19EL037	Rajesh Electro Fabricators And Supplier Jalgaon	12/21/2021	1/21/2022
Neelansh Bhambhani	19EL038	Centre of Railway Electrification	12/15/2021	1/31/2022
Nirali Samarth Anil	19EL039	CTR private limited ,pune	12/27/2021	1/26/2022
Pakhare Mangesh Balasaheb	19EL040	Innovation Transformer and Services	1/3/2022	1/31/2022
Patil Prasad Pravin	19EL041	Rajesh electro fabricators and suppliers	12/22/2021	1/22/2022
Patil Rohit Tatyasaheb	19EL042	Ravi Industries Kolhapur	1/1/2022	2/5/2022
Patil Shivam Vijay	19EL043	Jai Hind Sugar Pvt Ltd	12/15/2021	1/30/2022
Patil Viraj Ravikiran	19EL044	Kaivalya Electricals	12/30/2021	1/29/2022
Patil Yash Bhausaheb	19EL045	AZ automation	1/1/2022	1/31/2022
Praphul Kumar Yadav	19EL046	Blazeclan	1/30/2022	3/30/2022
Prathmesh Omkar Sampgaonkar	19EL047	Mahindra and Mahindra	12/15/2021	
Rajarwad Venkat Govind	19EL048	Plan Power	12/20/2021	
Rithik Rajan	19EL049	Tata	12/20/2021	1/25/2022
Shreya Vinayak Waghmare	19EL050	Plan Power	12/20/2021	1/20/2022
Shruti Bhurelal Surajbansi	19EL051	MSEDCL	12/15/2021	
Sonawane Rohan Suresh	19EL052	Hummingbyte technologies Pvt.Ltd	1/5/2022	3/15/2022
Soumit Debbarma	19EL053	Swara enterprises		
Suryawanshi Hitesh Rajesh	19EL054	MSEDCL	1/3/2022	
Taur Arjun Prakash	19EL055	Doolitte Energies Private Limited	1/1/2022	1/31/2022
Vairagal Akshay Narsing	19EL057	Amar Electrical		

Vakare Tejas Santosh	19EL058	Nashik Thermal Power Station, Eklahare	12/27/2021	1/23/2022
Wabale Aditya Sharad	19EL060	MSEDCL Manchar	1/13/2022	2/13/2022
Warade Videh Subhash	19EL061	Brose Automotive India Pvt. Ltd.	12/20/2021	1/30/2022
Bhosale Madhavi Laxman	20EL301	AG Electro Services	12/15/2021	1/15/2022
Chandgude Shreeyash Satish (Ews)	20EL302	Borse Automotive Pvt Ltd	12/20/2021	1/29/2022
Chavan Utkarsha Yuvraj	20EL303	AG Electro Services	12/22/2021	1/22/2022
Dhabade Pooja Madhukar	20EL304	Mass- Tech controls private limited	1/12/2022	2/8/2022
Dhok Payal Doma	20EL305	Nashik Power Equipment	1/3/2022	
Ghuge Nilesh Limbaji	20EL306	N. kenin Transformer, Latur	12/25/2021	1/25/2022
Holmukhe Swapnali Sandip	20EL307	AG ElectroMotors	12/15/2021	1/15/2022
Jagadale Neha Vijay (Ews)	20EL308	Innovation Transformers and Services	1/3/2022	1/31/2022
Kulkarni Nivedita Nishikant (Ews)	20EL309	Karad Projects and Motors Limited, Tasawade MIDC	12/31/2021	1/31/2022
Mali Pranali Balasaheb	20EL310	AG Electro Motors	12/22/2021	1/22/2022
Patil Ritika Nitin	20EL311	Rajesh electro fabricators and suppliers	12/22/2021	1/22/2022
Pattewar Sakshi Ramdas (Ews)	20EL312	N Kenin Transformers	12/25/2021	1/25/2022
Sayyad Mahammadsakib Raju	20EL313	Priyanka Trading Co.	1/3/2022	
Shah Chirag Sanjay (Ews)	20EL314	Avihas electricals Pvt Ltd.	12/29/2021	
Shinde Abhijeet Khulesh	20EL315	Brihanmumbai electricity supply and transport (BEST)	12/29/2021	1/29/2022
Shinde Sameer Ravindra	20EL316	Perfect House Pvt Ltd	1/3/2022	2/3/2022

Urane Kedar Raghuvir	20EL317	Power Tech Automation	1/4/2022	1/31/2022
Zanwar Suraj Dattaprasad (Ews)	20EL318	N KENIN TRANSFORMER	12/25/2021	1/25/2022

CAYm1(2020-21)

Sr No	Name of Student	Class	Name of Company	Internship Duration	
				Start Date	End Date
1	Hrutuja Jiwane	SE	MAHAGENCO, Chandrapur	17/11/2020	16/12/2020
2	Hrishikesh Gaikwad	BE	MAHA Pareshan, Nashik	23/12/2020	31/12/2020
3	Shivam Deshmukh	BE	MAHA Pareshan, Nashik	23/12/2020	31/12/2020
4	Pranav Deshmukh	BE	MAHA Pareshan, Nashik	23/12/2020	31/12/2020
5	Girish Jadhav	BE	MAHA Pareshan, Nashik	23/12/2020	31/12/2020
6	Pritam Suryawanshi	BE	MAHA Pareshan, Nashik	23/12/2020	31/12/2020
7	Komal Patil	BE	RCSS Enerzies Nashik	29/06/2020	28/07/2020
8	Janhavi Sapkal	BE	RCSS Enerzies Nashik	29/06/2020	28/07/2020
9	Ankita Wakchaure	BE	RCSS Enerzies Nashik	29/06/2020	28/07/2020
10	Trupti Bhamare	BE	RCSS Enerzies Nashik	29/06/2020	28/07/2020
11	Trupti Bhamare	BE	Unschool-online	30/11/2020	30/1/2021
12	Akash Godbole	BE	The Sparks Foundation	26/04/2021	26/05/2021
13	Sanket Darekar	BE	Pantech Solutions	3/5/2021	7/3/2021
14	Sanket Darekar	BE	Skill Lync Gamma Technologies	18/07/2020	20/07/2020
15	Sanket Darekar	BE	NSDC	17/07/2020	22/07/2020
16	Sanket Darekar	BE	RCSS Enerzies Nashik	29/06/2020	28/07/2020

CAYm2 (2019-20)

Sr No	Name of Student	Class	Name of Company	Internship Duration	
				Start Date	End Date
1	Nishi Choubey	TE	TATA Communications Ltd, Pune	9/12/2019	10/1/2020
2	Janhavi Sapkal	TE	RCSS Enerzies, Nashik	29/06/2020	28/07/2020
3	Sanket Darekar	TE	Epsit Enterprises	12/9/2020	18/09/2020
4	Komal Patil	TE	RCSS Enerzies, Nashik	29/06/2020	28/07/2020
5	Sanket Darekar	TE	RCSS Enerzies, Nashik	29/06/2020	28/07/2020
6	Ritik Yadav	TE	RCSS Enerzies, Nashik	29/06/2020	28/07/2020
7	Trupti Bhamare	TE	RCSS Enerzies, Nashik	29/06/2020	28/07/2020
8	Aman Tekade	TE	Siddhi Electricals	16/12/2019	31/12/2019
9	Shivam Deshmukh	TE	Siddhi Electricals	16/12/2019	31/12/2019
10	Vipul Khebade	TE	512 Army Based Workshop, Kirkee,Pune	6/6/2019	6/7/2019
11	Hrishikesh Gaikwad	TE	Siddhi Electricals,Keshav nagar,Pune	16/12/2019	1/1/2020
12	Sudarshan Lule	TE	Spectrum Electrical Industries Ltd	16/12/2019	16/01/2020
13	Sana Atar	TE	Oneness Control Panels Pvt Ltd	9/12/2019	26/12/2019
14	Pradnya Patil	TE	Oneness Control Panels Pvt Ltd	9/12/2019	26/12/2019

15	Girish Jadhav	TE	MAHA Transco, Nashik	16/12/2019	24/12/2019
16	Akash Godbole	TE	MAHAVITARAN SCADA, Sholapur	13/02/2020	27/02/2020
17	Aishwarya Bhagat	BE	MAHA Transco, Padghe	18/06/2019	22/06/2020
18	Tejaswini Patil	BE	MAHA Transco, Padghe	18/06/2019	22/06/2020
19	Pratik Kachare	BE	MAHA Transco, Padghe	18/06/2019	22/06/2020
20	Abhishek Pande	BE	MAHA Transco, Padghe	18/06/2019	22/06/2020
21	Pranav Ahire	BE	MAHA Transco, Padghe	18/06/2019	22/06/2020
22	Rushikesh Sable	BE	MAHA Transco, Padghe	18/06/2019	22/06/2020
23	Shubham Gondhali	BE	NaiK Electroman Systems	22/12/2018	5/1/2019
24	Aditya Baraskar	BE	NaiK Electroman Systems	22/12/2018	5/1/2019
25	Rushikesh Sambare	BE	NaiK Electroman Systems	22/12/2018	5/1/2019
26	Pratik Choudhari	BE	ICAP Automation	20/12/2018	4/1/2019
27	Rahul Sarode	BE	MAHATRANSCO	20/06/2019	27/06/2019
28	Sudarshan Kasat	BE	V L Engineers	1/6/2019	30/06/2019
29	Neha Kaveri	BE	Western Coalfields Ltd	7/6/2019	26/06/2019
30	Mayur Savdekar	BE	Maktech India System Services	15/06/2019	27/06/2019
31	Mrunal Thorat	BE	Maktech India System Services	15/06/2019	27/06/2019
32	Omkar Chavan	BE	Emerson Climate Technology Pvt Ltd	17/06/2019	2/7/2019
33	Koushki Koul	BE	Baglihar Hydro Electric Project, Chanderkote	4/6/2019	4/7/2019
34	Shrikant Nagargoje	BE	Anshuman Tech Pvt Ltd	11/6/2019	28/06/2019
35	Snehal Mali	BE	Anshuman Tech Pvt Ltd	11/6/2019	28/06/2019
36	Geetanjali Upadhyaya	BE	R & DE, Dighi	4/6/2019	3/8/2019
37	Rutuja Sawant	BE	Godrej & Boyce Mfg Co Ltd	1/6/2019	20/06/2019
38	Jayesh Shaha	BE	Igatpuri Municipal Council, Nashik	21/06/2019	2/7/2019
39	Pranoti Raut	BE	Hrushi Industries	1/6/2019	30/06/2019
40	Krishna Pawar	BE	Rucha Engineers Pvt Ltd	10/6/2019	25/06/2019
41	Aishwarya Bhagat	BE	Larsen and Turbo	26/06/2019	28/06/2019
42	Hussain Bharmal	SE	Internshala	1/4/2020	
43	Sohan Narkhede	TE	Thermax Ltd	24/12/2019	23/01/2020
44	Satyam Mundhe	SE	RCSS Enerzies, Nashik	24/08/2020	23/09/2020
45	Shreyas Patil	SE	RCSS Enerzies, Nashik	24/08/2020	23/09/2020

Impact Analysis

1. Students get exposure to the Industrial environment and practices.
2. Correlation of academics and actual field
3. Helps students to identify their area of interest for their future career. (Design, operations, maintenance, research analysis, testing, quality control, marketing and sales)
4. The industry exposure helps a lot in personality development of the students. For many students it is their first experience of staying away from home on their own.
5. They are also exposed to industry culture and learnt to communicate with their industry mentors

and perform tasks assigned within the given time frame in an industrial setting

6. Their performance in interview for their recruitment will be better
7. Many students, who perform well, get Placement offers from the industry where they do their coop internship
8. Some students get their Final Year Major Project ideas from their co-op training. They continue to be in touch with their industry mentor and many work on the project under their joint

STUDENT FEEDBACK ON INTERNSHIP TRAINING

Indicate the degree to which you agree or disagree with the following statements

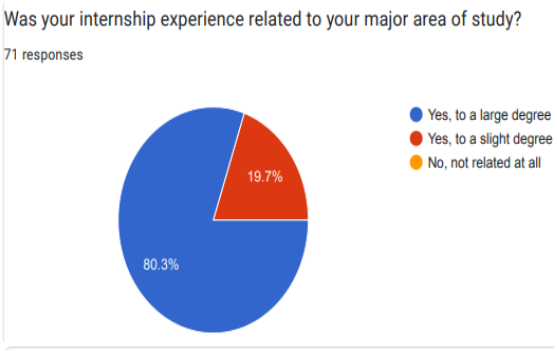
(5-strongly agree, 4-agree, 3-no opinion, 2-disagree, 1-strongly disagree)

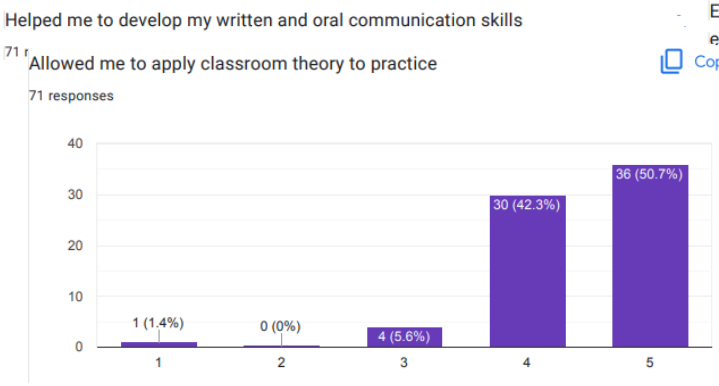
Q1) was your internship experience related to your major area of study?
Q2) This internship experience has given me the opportunity to explore a career field?
Q3) Helped me to develop my decision making and problem-solving skills
Q4) Expanded my knowledge about the work world prior to permanent employment
Q5) Helped me to develop my written and oral communication skills

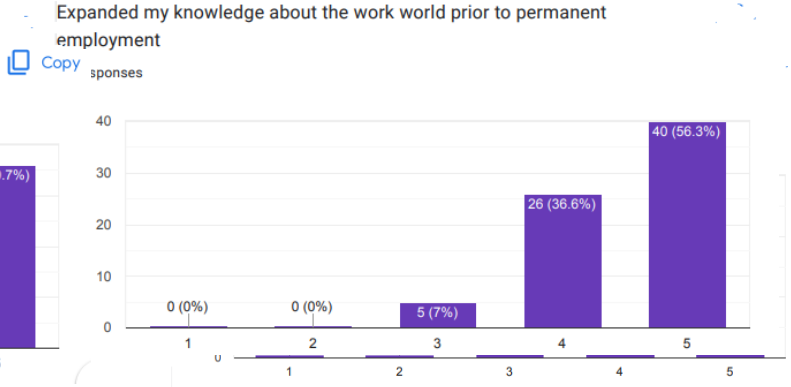
Q6) Provided a chance to use leadership skills (influence others, develop ideas with others, stimulate decision-making and action)
Q7) Expanded my sensitivity to the ethical implications of the work involved
Q8) Made it possible for me to be more confident in new situations
Q9) Given me a chance to improve my interpersonal skills
Q10) I have learned to handle responsibility and use my time wisely

Q11) Helped me to discover new aspects of myself
Q12) Helped me to develop new interests and abilities
Q13) Helped me to clarify my career goals
Q14) Provided me with contacts that may lead to future employment
Q15) Allowed me to acquire information and/ or use equipment not available at my Institute

Feedback Response (for few sample questions)



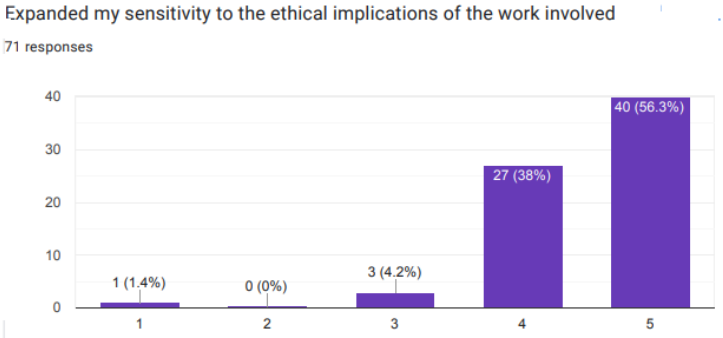


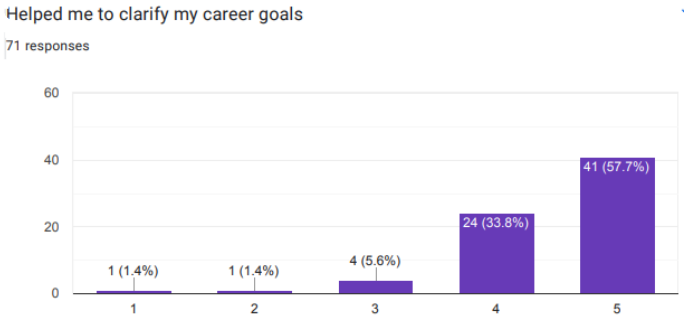


9.

Feedback from Industry supervisor on student's performance during training

The Department has provided a feedback questionnaire to Industry Supervisor and they were asked to give their opinion on our students' performance during internship.





Below is the one sample feedback:

10.

Apt Samriddhi
Consultants Pvt. Ltd.

Behind Govt. Polytechnic College,
Chatushringi Road,
Model Colony, Shivajinagar,
Pune - 411 016, Maharashtra (India).
Phone No.: +91 20 25662741, 42, 43
Email : elect@aptsamriddhi.com
Website : www.aptsamriddhi.com
CIN No : U74999PN2013PTC148222

DEPARTMENT OF ELECTRICAL ENGINEERING
INDUSTRY INSTITUTE INTERACTION
(TE-INTERNSHIP 2021-2022)

SUPERVISOR EVALUATION OF INTERN

Student Name: Mr. Sarvesh Anil Bodhe Date: 01/02/2022
Work Supervisor: Mr. Sandeep Kalkar Title: M.D (managing Director)
Company/Organization: Apt. Samriddhi consultant Pvt. ltd
Internship Address: modern colony, Shivajinagar Pune.
Dates of Internship: From 21st Dec 2021 To 31st January 2022

Please evaluate your intern by indicating the frequency with which you observed the following behaviors:

Parameters	Needs improvement	Satisfactory	Good	Excellent
Behaviors				✓
Performs in a dependable manner			✓	
Cooperates with co-workers & supervisors			✓	
Shows interest in work			✓	
Learns quickly				✓
Shows initiative			✓	
Produces high-quality work			✓	
Accepts responsibility			✓	
Accepts criticism			✓	

Apt Samriddhi
Consultants Pvt. Ltd.

427/1, "Chaphalkar Bunglow"
Behind Govt. Polytechnic College,
Chaturshringi Road,
Model Colony, Shivajinagar,
Pune - 411 016. Maharashtra (India).
Phone No.: +91 20 25662741, 42, 43
Email : elect@aptsamriddhi.com
Website : www.aptsamriddhi.com
CIN No : U74999PN2013PTC148222

Demonstrates organizational skills			✓	
Uses technical knowledge and expertise			✓	
Shows good judgment				✓
Demonstrates creativity/originality			✓	
Analyzes problems effectively			✓	
Is self-reliant			✓	
Communicates well				✓
Writes effectively				✓
Has a professional attitude			✓	
Gives a professional appearance				✓
Is punctual			✓	
Uses time effectively			✓	

Overall performance of student intern (Tick mark):

(Needs improvement/ Satisfactory/Good/Excellent)

Additional comments, if any: keep it up!

APT SAMRIDDHI CONSULTANTS PVT. LTD. PUNE

1, Kennedy Road, Pune-411001

MAHAVITARAN

Maharashtra State Electricity Distribution Co. Ltd.

Uses technical knowledge and expertise				✓
Shows good judgment			✓	
Demonstrates creativity/originality				✓
Analyzes problems effectively				✓
Is self-reliant				✓
Communicates well				✓
Writes effectively				✓
Has a professional attitude				✓
Gives a professional appearance			✓	
Is punctual			✓	
Uses time effectively				✓

Overall performance of student intern (Tick mark):

(Needs improvement/ Satisfactory/Good/Excellent) ✓

Additional comments, if any: best for office & field work

Signature of Industry Supervisor

CRITERION 3	Course Outcomes And Program Outcomes	120

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

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)

SE Electrical: Electrical Measurements and Instrumentation

At the End of the course, students will be able to	
203144.1	Define various characteristic and classify measuring instruments
203144.2	Extend the range of measuring instruments using instrument transformers.
203144.3	Apply standard measurement technique to measure resistance, inductance and capacitance
203144.4	Demonstrate construction, working principle of electrodynamo type and induction type instruments for measurement of power and energy.
203144.5	Use CRO for measurement of voltage, current and frequency
203144.6	Classify and select appropriate transducer and apply it for measurement of physical parameters in real time

SE Electrical: Fundamentals of Microcontroller & Its Applications

On completion of the course, students will be able to -	
203149.1	describe the architecture of 8051 and compare the features of various types of microcontrollers
203149.2	Identify the addressing modes of the 8051 microcontroller and execute programs in assembly language
203149.3	develop programs in C language for microcontroller 8051
203149.4	build programs in C to handle external interrupts and interface ADC with 8051 microcontroller
203149.5	to write programs using serial communication protocol for serial data exchange
203149.6	interface sensors with microcontrollerfor application of physical processes/systems

TE Electrical: Power Electronics

On completion of the course, students will be able to -	
303143.1	Explain and analyze the characteristics of SCR &Triac and derive the characteristics by conducting experiment and able to demonstrate Triac application for light dimmer.
303143.2	Explain and analyze the characteristics of MOSFET & IGBT and analyze the working principle of DC-DC Converters with different control strategies
303143.3	Analyze the operation of single phase AC-DC Converters with R & RL loads and able to demonstrate converter application for speed control of DC motor
303143.4	Analyze the operation of three phase AC-DC Converter and AC-AC Converter with R & RL loads
303143.5	Analyze the operation of Single phase DC-AC Converters with different voltage control techniques and able to demonstrate inverter application for UPS
303143.6	Analyze the operation of Three phase DC-AC Converters and explain the concept of Multi level inverter and inverter application for speed control of AC motor

TE Electrical: Control System Engineering

On completion of the course, students will be able to -	
303150.1	Construct mathematical model of Electrical and Mechanical system using differential equations and transfer function and develop analogy between Electrical and Mechanical systems.
303150.2	Determine time response of systems for a given input and perform analysis of first and second order systems using time domain specifications
303150.3	Investigate closed loop stability of system in s-plane using Routh Hurwitz stability criteria and root locus
303150.4	Analyze the systems in frequency domain and investigate stability using Nyquist plot
303150.5	Analyze the systems in frequency domain and investigate stability using Bode plot
303150.6	Design PID controller for a given plant to meet desired time domain specifications

BE Electrical: Power System Operation and Control

On completion of the course, students will be able to -	
403141.1	To analyze system stability under different transient conditions with equal area criterion
403141.2	To explainconcept of reactive power compensation.
403141.3	To describe working and applications FACTS devices.
403141.4	To apply the concept of Load Frequency Control (LFC) to power system
403141.5	To select generator unit for load dispatch using Unit Commitment.
403141.6	To explain energy balance and demand system

BE Electrical: Switch Gear and Protection

On completion of the course, students will be able to -	
403147.1	Understand fundamentals of protective relaying and working principles of relays.
403147.2	Explain arc interruption theories and derive expression for restriking voltage and RRRV.
403147.3	Explain Construction, and working of different HV /LV circuit breakers and their laboratory testing .
403147.4	Appropriate use of digital relaying scheme and describe protective schemes of induction motor.
403147.5	Demonstrate protection schemes for transformer, alternator and busbar
403147.6	Demonstrate transmission line protection schemes using distance relay

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)

SE Electrical: Electrical Measurements and Instrumentation

Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO203144.1	3	2	2	2	2		1	1	2	1		1	3	3	1	
CO203144.2	3	2	1	2	2		1	1	2	1		1	3	2	1	
CO203144.3	3	2	1	2	2		1	1	2	1		1	3	2	1	
CO203144.4	3	2	1	2	2		1	1	2	1		1	3	3	1	
CO203144.5	3		2		2	1	1	1	2	1		1	3	2	1	
CO203144.6	3		3	1	3	1	1	1	2	3		1	3	3	1	
Average Values	3.00	2.00	1.67	1.80	2.17	1.00	1.00	1.00	2.00	1.33		1.00	3.00	2.50	1.00	

SE Electrical: Fundamentals of Microcontroller & Its Applications

Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO203149.1	2				1			1	1	1			1	1		
CO203149.2	1	2			2			1	2	2			1	2		
CO203149.3	2	2			2			1	2	2		1	1	1	1	
CO203149.4	2	2			2			1	1	2		1	1	2	1	
CO203149.5	2	2			2			1	1	2		1	1	2	1	
CO203149.6	2	3	2	2	2	1		1	1	2		2	2	2	2	
Average Values	1.83	2.20	2.00	2.00	1.83	1.00		1.00	1.33	1.83		1.25	1.17	1.67	1.25	

TE Electrical: Power Electronics

Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO303143.1	3	1	1	1	1		1	1	1	1		1	3	2	1	
CO303143.2	3	2	2	1	2	1	1	1	1	1		1	3	2	1	
CO303143.3	2	2	2	2	2		1	1	1	1		1	3	2	1	
CO303143.4	2	2	2	2	2		1	1	1	1		1	3	2	1	
CO303143.5	2	2	2	2	2	1	1	1	1	1		1	3	2	1	
CO303143.6	2	2	2	2	2	1	2	1	1	1		1	3	2	1	
Average Values	2.33	1.83	1.83	1.67	1.83	1.00	1.17	1.00	1.00	1.00		1.00	3.00	2.00	1.00	

TE Electrical: Control System Engineering

Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO303150.1	3	2				1			1	1		1	3	2		
CO303150.2	3	2	1		2	1		1	1	1		1	3	2	1	
CO303150.3	2	3	2	1	3			1	1	1		1	2	2	1	
CO303150.4	2	3	2	1	3			1	2	1		1	2	2	1	
CO303150.5	3	3	2	1	2			1	2	1		1	2	2	1	
CO303150.6	3	2	2	1	2	1	1	1	2	1		1	3	2	1	
Average Values	2.67	2.50	1.80	1.00	2.40	1.00	1.00	1.00	1.50	1.00		1.00	2.50	2.00	1.00	

BE Electrical: Power System Operation and Control

Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO403141.1	3	2	2	2	1	1		1	1	1		1	2	1	1	
CO403141.2	1	2	1	2	2	1	1	1	1	1		1	1		1	
CO403141.3	1	2	1	1	1	1	2	1	1	1		1	1		1	
CO403141.4	2	1	2	2	1			1	1	1		1	1	1	1	
CO403141.5	2	2	2	2	2	1		1	1	1		1	1	1	1	
CO403141.6			3	2	1	1		1	1	1		1	2		1	
Average Values	1.80	1.80	1.83	1.83	1.33	1.00	1.50	1.00	1.00	1.00		1.00	1.33	1.00	1.00	

BE Electrical: Switch Gear and Protection

Course Articulation Matrix																
Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO403147.1	2	2	3	2	1	1		1	2	1		1	2		1	
CO403147.2	2	2	3	2		1		1	1	1		1	2		1	
CO403147.3	2	2	2	2	2	1		1	1	1		1	2	2	1	
CO403147.4	3	1	3	1		1		1	1	1		1	2	2	1	
CO403147.5	3	2	3	2	2	1		1	1	1		1	3	2	1	
CO403147.6	2	2	3	2	1	1		1	1	1		1	2		1	
Average Values	2.33	1.83	2.83	1.83	1.50	1.00		1.00	1.17	1.00		1.00	2.17	2.00	1.00	

3.1.3 - A Program level Course-PO matrix of all courses INCLUDING first year courses (10)

TE Electrical																
303141	Advance Microcontroller &	2.33	2.00	2.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00		1.00	3.00	3.00	1
303142	Electrical Machines II	2.75	1.74	2	1			1	0.5	1	1		1	2.33	1.83	1
303143	Power Electronics	2.16	1.83	1.83	2.00	1.00			1.00	1.00	1.00		1.00	3.00	2.50	1
303144	Electrical Installation and M	2.50	2.00	1.50	2.00	2.00		2.50		2.00	3.00	3.00	2.00	2.50	2.00	1.5
303145	Seminar and Communication	1.00				2.00	1.00	1.00	1.00	2.00	3.00		1.00	1.00	1.00	1
303146	Power System II	2.00	1.83	2.17	1.83	1.50	1.00	2.00		1.00	1.00		1.00	1.33	1.00	1
303147	Control System I	3.00	2.00	2.00	1.00	2.33	1.00		1.00	1.00	1.00	1.00	1.00	3.00	2.00	1
303148	Utilization of Electrical Ene	2.00	2.00	1.67	2.00	1.75		1.00					1.00	3.00	1.50	1
303149	Design of Electrical Machine	2.50	1.67	1.80	2.40	1.50	1.00	1.00	2.00	1.33		1.00	2.50	1.50	1.00	
303150	Energy Audit and Manageme	2.00	2.00	1.33	1.83	2.00	1.50	1.00	1.00	2.00	1.33	1.83	1.00	3.00	2.50	1
303151	Electrical Workshop	2.00	2.00	1.17	2.00	1.83		1.33		1.00	1.00		1.00	3.00	2.50	1
311121	Industrial Technology & Ma		1.50	1.00		2.00		1.50	3.00	3.00	2.50	2.50	2.60	1.00	1.67	3
BE Electrical																
403141	Power System Operation and	1.80	1.80	1.83	1.83	1.33	1.00	2.00		1.00	1.00		1.00	1.33	1.00	1
403142	PLC SCADA	2.67	1.50	2.00	2.50	1.00							1.00	3.00	3.00	2
403144	Electric Hybrid Vehicle	2.33	2.50	2.17	1.33	1.50			1.83		1.50		1.00	1.67	1.50	1.33
403145	Control System II	2.00	2.00	2.00		1.83				2.00	2.00		1.00	2.67	2.17	2
403147	switchGear and Protection	2.40	1.83	2.83	1.83	1.20	1.00		2.00	1.17	1.00		2.00	2.33	2.00	
403148	Power Electronic Controlled	2.00	2.00	1.17	2.00	1.83		1.33		1.00	1.00		1.00	3.00	2.50	1
403149	High Voltage Engineering	2.00	1.75	1.00		1.80	1.50	1.33	2.00	1.20	1.00	1.00	1.33	1.20	1.50	1.33
403151	Project	2.00	2.00	2.00	2.00	2.00	2.00	1.50	3.00	2.00	3.00	2.00	2.00	2.00	2.00	1.66

Courser Code	Course	Division	Faculty	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
FE Electrical																		
107001	Engineering Mathematics - I			3.00	2.00	1.00										2.00		
107002	Engineering Physics - I			2.00	1.33	1.00		1.00								2.00		
111003	Fundamentals of Programmi			2.00	1.00	1.00		1.00								1.00	1.00	
103004	Basic Electrical Engineering			1.67	1.00	1.00										3.00		
101005	Basic Civil and Environment			1.00	1.00	1.00		1.00								1.00		
102006	Engineering Graphics - I			2.00	2.00								1.00			1.00		
111007	Workshop			1.00	1.00	1.00	1.00		1.00							1.00		
107008	Engineering Mathematics - I			3.00	2.00	1.00										2.00		
107009	Engineering Chemistry			2.00	1.00	1.00										1.00		
110010	Fundamentals of Programmi			2.00	1.00	1.00		1.00								1.00	1.00	
101011	Engg Mechanics			2.00	1.00											1.00		
104012	Basic Electronics Engg.			2.00	1.00	1.00		1.00								2.00		
101013	Basic Mechanical Engg			2.00	2.00											1.00		
102014	Engineering Graphics II			1.00	1.00			1.00								1.00		
SE Electrical																		
207006	Engineering Mathematics - I			1.67	1.50	1.00	1.00									1.00		1
203141	Power Generation and Techr			2.00			1.00		1.17	2.00	1.00	1.00	1.00		1.00	1.00	1.00	1
203142	Material Science			2.00	2.50	1.00	1.00	2.00								1.00		1
203143	Analog and Digital Electroni			3.00	2.67	2.50	1.83	1.50	1.00	2.00		1.00	1.00		1.00	1.33	1.00	1
203144	Electrical Measurements and			3.00	2.00	1.67	1.80	2.17		1.00	1.00	2.00	1.33		1.00	3.00	2.50	1
203145	Power System I			1.67	2.00	1.00										1.00		
203146	Elect.M/cI			2.17	1.67	1.20	1.00	1.00				1.83	1.00			2.00	1.00	1
203147	Network Analysis			3.00	3.00	2.00	2.00	2.00				2.00	1.00		1.00	3.00	3.00	1
203148	Numerical Method and Comp			3.00	3.00	2.00	2.00	3.00				1.00	1.00		1.00	2.00	1.00	1
203149	Fundamentals of Microcontr			2.83	2.50	2.00	1.00		1.00	1.00			2.00		1.00	1.00	1.20	
203150	Soft Skills			3.00	2.67	2.50	1.83	1.50	1.00	2.00		1.00	1.00		1.00	1.33	1.00	1

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)

(Examples of data collection processes may include, but are not limited to, specific exam/ tutorial questions, assignments, laboratory tests, project evaluation, student portfolios (A portfolio is a collection of artifacts that demonstrate skills, personal characteristics and accomplishments created by the student during study period), internally developed assessment exams, project presentations, oral exams etc.)

Assessment Process Details

Course Outcomes (COs): Statements indicating what a student will be able do after the successful completion of a course. Every Course have some Course Outcomes. The CO statements are defined by considering the course content covered in each unit of a course. For every course there are 6 COs framed/reframed. The keywords used to define COs are based on Bloom's Taxonomy.

The department carried out assessment processes to gather and prepare data to evaluate the attainment of course outcomes and program outcomes. Attainment is the action of attaining a standard result towards achievement of expected goals.

Course Outcome is evaluated based on the performance of students in internal assessments and in external assessment (university examination) of a course. Internal assessment contributes 20% and university assessment contributes 80% to the total attainment of a CO.

Theory:

Internal Tests and Assignments: Internal tests and assignments serve to encourage students to keep up with course content covered in class. Each course is divided in to six units and one test on each unit is conducted to evaluate students' performance. Three assignments based on 2 units each are designed. The questions are framed in such a way that it should satisfy Bloom's Taxonomy, wherein each question paper is mapped to the respective course outcome of the course, which is evaluated based on the set attainment levels by the department.

University Examination: These in-semester and end-semester examinations are conducted by university. In semester examination covers 3 units of the course and end-semester examination covers the entire syllabus of the course. In-semester examination satisfy 3 COs and End-semester examination would satisfy all course outcomes for a particular course.

Practical:

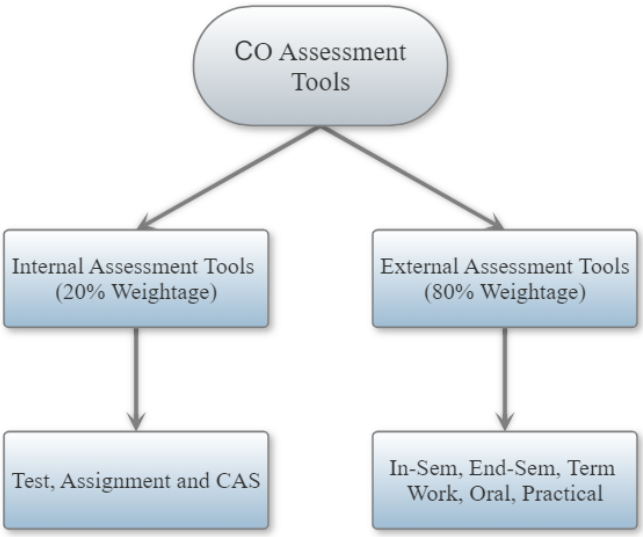
Lab courses provide students direct knowledge with course concepts and the opportunity to explore methods used in their discipline. All the students are expected to learn the practical aspects of the course and develop the necessary skills to become professionals. Students' performance is evaluated using Continuous Assessment Sheet (CAS). Parameters used in CAS are Regularity, Experiment write up and his/her Performance during each experiment.

University Examination: The end semester examination in the form of Term Work/Oral/Practical is conducted with an external examiner and the internal examiner.

CO Assessment Tools:

Direct assessment method i.e., using internal and external assessment tools is considered for evaluation of CO.

For the evaluation and assessment of CO's, different tools as defined aboveare used. Course Outcome is evaluated based on the performance of students with internal assessments and external assessment (university examination) tools for respective course.



The particulars of Assessment tools used for the evaluation of Course Outcomes, Program Outcome and Program Specific Outcome is given in **Table – B 3.2.1a**. The various assessment tools used to evaluate COs, POs/PSOs and the frequency with which the assessment processes are carried out are listed in table.

Sr. No.	Assessment Tool	Description	Evaluation of Course Outcomes	Related POs/PSOs	Frequency of assessment per term
Internal Assessment Tools					
1.	Test	Written examination	Questions in the test are mapped against CO of respective course.	Corresponding mapped POs/PSOs with the CO	Six (One for each CO)
2.	Assignment	Set of question to solve to home. (Open Book)	Questions in the assignment are mapped against two CO of respective course.	Corresponding mapped POs/PSOs with the COs	Three (one for Two COs)
3	Continues Assessment Sheet (CAS)	Assessment of students during practical	Based on the COs mapped with the experiments / assignments	Corresponding mapped POs/PSOs with the COs	For each experiment/ assignment during practical.
External Assessment Tools					
4	In-Sem Exam	Written examination	Questions in the exam are mapped against COs corresponds to first three units of respective course.	Corresponding mapped POs/PSOs with the COs	One (Mid of the Term)
5	End-Sem Exam	Written examination	Questions in the exam are mapped against COs corresponds to complete syllabus of respective course.	Corresponding mapped POs/PSOs with all COs	One (End of the Term)
6	Term Work	Based on the continues assessment during practical sessions – CAS is used	Based on the COs mapped with the experiments / Assignments	Corresponding mapped POs/PSOs with the COs	One (End of the Term)
7	Oral/Practical	Based on the experiments / assignment	Based on the COs mapped with the	Corresponding mapped POs/PSOs with the COs	One (End of the Term)

		performed during practical session	experiments / Assignments		
8	Seminar	Based on the continues assessment during practical sessions – CAS is used	Based on the COs mapped	Corresponding mapped POs/PSOs with the COs	One (End of the Term)
9	Project	Based on the continues assessment during internal review and university exams, CAS and rubrics are used	Based on the COs mapped	Corresponding mapped POs/PSOs with the COs	External – One (End of the Term)and Internal Review – Tw0 in Term

Table – 3.2.1a: Mapping of assessment tools to COs, POs/PSOs with frequency

3.2.2 Record the attainment of Course Outcome of all courses with respect to set attainment levels (40)
Program shall have set Course Outcome attainment levels for all courses.
(The attainment levels shall be set considering average performance levels in the university 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 to the Course Outcomes of a course in addition to the performance in the University examination)

Attainment Levels

Course outcomes of the courses are assessed with the help of assessment tools and attainment level is evaluated. Target is stated in terms of percentage of students getting more than the set percentage of marks. Attainment is measured in terms of actual percentage of students getting set percentage of marks. Attainment Levels for internal as well as external assessment tools are defined as;

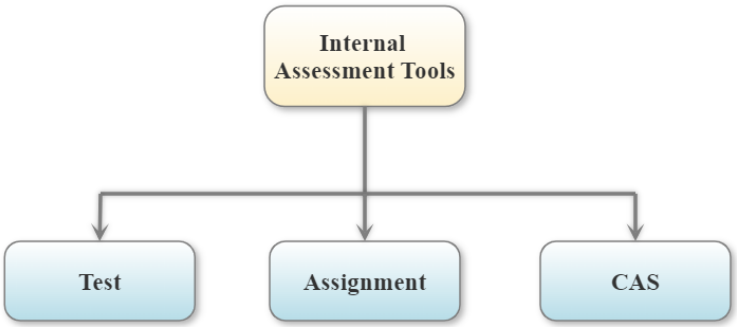
Attainment Level 1: students scoring less than **60%** marks out of the relevant maximum marks.

Attainment Level 2:60% to 70%students scoring more than **60%** marks out of the relevant maximum marks.

Attainment Level 3: More than **70%** students scoring more than **60%** marks out of the relevant maximum marks.

A. Evaluation of CO Attainment by Internal Assessment Tool

Internal assessment tools such as Test, Assignment and Continues Assessment Sheet are used to evaluate CO attainment level.



i. CO – Assessment ToolMapping and evaluation

For the evaluation of the student's performance in terms of CO attainment, each internal assessment tool is mapped with COs.

Consider a particular course having Six Course Outcomes (CO.1 to CO.6) and the assessment tools for each CO and maximum marks (MTi and MAi) as in below **Table – B 3.2.2a**. Considering performance of students and target values, ATi and AAi are the CO attainment by each tool.

Assessment Tool -->	Test-1	Test-2	Test-3	Test-4	Test-5	Test-6	Assig.-1	Assig.-2	Assig.-3	CAS
COs Mapped	**CO.1**	CO.2	CO.3	CO.4	CO.5	CO.6	**CO.1**, CO.2	CO.3, CO.4	**CO.5**, CO.6	**CO.1** to CO.6
Maximum Marks	MT1	MT2	MT3	MT4	MT5	MT6	MA1	MA2	MA3	MCS
CO Attainment Level	AT1	AT2	AT3	AT4	AT5	AT6	AA1	AA2	AA3	ACS

Table – B 3.2.2a - Mapping of Assessment Tools

As multiple tools are used for assessment of each Course Outcome, Final CO attainment of each CO will depend on CO attainment by each tool. Final CO attainment of CO.1 depends on CO attainment through multiple assessment tools such as Test – 1, Assig. – 1 and CAS.

Final CO attainment of CO.1

ACO.1 = f(AT1, AA1, ACS)

Similarly

ACO.2 = f(AT2, AA1, ACS) and

ACO.6 = f(AT6, AA3, ACS)

ii. Weightage and Attainment Levels

Final CO attainment of each CO is calculated by weighted method. Maximum marks allocated for each tool are considered for deciding the weight of corresponding tool. If an assessment tool is used for two

or more COs, equal distribution of maximum marks is considered. Assig.-1 is assessment tool for CO.1 and CO.2, maximum mark are distributed equally to each CO i.e. AT1/2 for each CO.

CO	**Assessment Tool, Weightage and Attainment Level**			**Total**
CO.1	Test-1	Assig.-1	CAS	
Marks for CO.1	MT1/1	MA1/2	MCS/6	**MCO1**
Weightage	WT1 = MT1 / (1*MCO1)	WA1 = MA1 / (2*MCO1)	WCS = MCS / (6*MCO1)	**1**
CO Attainment	AT1	AA1	ACS	
Final CO Attainment =		**WT1*AT1 + WA1*AA1 + WCS*ACS**		
CO.6	Test-6	Assig.-3	CAS	
Maximum Marks	MT6/1	MA3/2	MCS/6	**MCO6**
Weightage	WT6 = MT6 / (1*MCO6)	WA3 = MA3 / (2*MCO6)	WCS = MCS / (6*MCO6)	**1**
CO Attainment	AT6	AA3	ACS	
Final CO Attainment =		**WT6*AT6 + WA3*AA3 + WCS*ACS**		

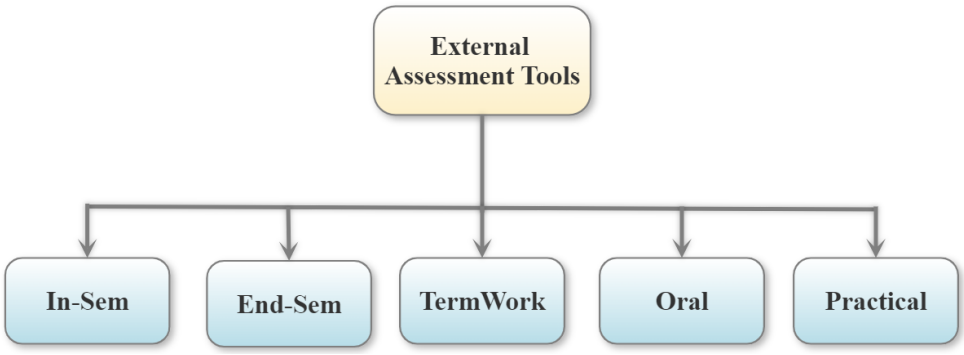
Table – B 3.2.2bEvaluation of CO attainment

Final CO Attainment for particular CO using multiple internal assessment tools is calculated as

$$\Sigma \text{ weightage} * CO\ attainment$$

B. CO Attainment Levels by External Assessment Tools:

CO attainment by the external assessment tools (defined in the university syllabus structure)is calculated by weighted average method.



i. CO – Assessment Tools Mapping

For the evaluation of the student's performance in terms of CO attainment, each external assessment tool is mapped with COs.

Mapping					End-Sem with weightage	
CO	Tools					
	In-Sem	TW	OR	PR	End-Sem	Marks
CO.1	Yes	Yes	Yes		Yes	**6**
CO.2	Yes	Yes	Yes	Yes	Yes	**6**
CO.3	Yes	Yes	Yes	Yes	Yes	**7**
CO.4		Yes	Yes	Yes	Yes	**17**
CO.5		Yes	Yes	Yes	Yes	**17**
CO.6		Yes	Yes		Yes	**17**
					Total	**70**

Table – B 3.2.2cCO – Assessment tool Mapping

End Sem examination is for 70 marks and weightage for each CO is different as marks allocated for each CO are different.

Considering mapping of each external assessment tool and marks allocated weightage is calculated for each assessment tool.

Weighted method is used to calculate final attainment of each CO as defined earlier in case of internal assessment tools.

C. CO Attainment Level for Course

Multiple tools are used for the evaluation and assessment of COs. Internal assessment tools are Tests, Assignments and CAS. External assessment tools are university exams.

FE Electrical Term I& II 2017-18							
Subject	Code	CO1	CO2	CO3	CO4	CO5	CO6
Basic Civil and Environmental Engineering	101005	2.37	2.32	2.37	2.37	1.60	1.58
Engg Mechanics	101011	1.37	1.34	1.26	1.26	0.95	0.92
Basic Mechanical Engg	101013	1.16	1.13	1.16	1.16	0.95	0.92
Engineering Graphics - I	102006	1.26	1.26	1.26	1.26	1.26	1.26
Engineering Graphics II	102014	2.85	2.85	2.85	2.85	2.85	2.85
Basic Electrical Engineering	103004	1.32	1.29	1.20	1.20	0.98	0.96
Basic Electronics Engg.	104012	1.54	1.51	1.45	1.45	1.43	1.40
Engineering Mathematics - I	107001	1.30	1.30	1.30	1.30	1.38	1.38
Engineering Physics	107002	1.24	1.21	1.43	1.43	0.93	0.90
Engineering Mathematics - II	107008	1.05	1.05	1.05	1.05	1.05	1.05
Engineering Chemistry	107009	1.97	1.88	1.97	1.97	1.06	1.03
Fundamentals of Programming Language - I	110003	2.69	2.69	2.61	2.61		
Fundamentals of Programming Language-II	110010	1.37	1.37	1.37	1.37		
Workshop	111007	2.85	2.85	2.85	2.85		

SE Electrical Term I 2018-19							
Subject	Code	CO1	CO2	CO3	CO4	CO5	CO6
Power Generation and Technology	203141	1.54	1.52	1.48	1.46	1.54	1.54
Material Science	203142	1.70	1.68	1.70	1.72	1.99	1.93
Analog and Digital Electronics	203143	1.65	1.61	1.61	1.49	1.47	1.48
Electrical Measurements and Instrumentation	203144	1.37	1.17	1.17	1.17	1.41	1.41
Soft Skills	203151	2.26	2.64	2.70	2.34	2.64	2.13
Engineering Mathematics III	207006	1.15	1.13	1.06	1.07	0.80	0.80
SE Electrical Term II							
Power System I	203145	0.71	0.70	0.67	0.81	0.60	0.60
Elect.M/cI	203146	2.03	2.05	1.91	1.76	1.85	1.83
Network Analysis	203147	1.96	1.97	1.84	1.96	2.10	2.12
Numerical Methods Computer Programming	203148	2.31	2.31	1.95	1.94	2.62	2.62
Fundamentals of Microcontroller Application	203149	1.29	1.39	1.60	1.61	1.29	1.31

TE Electrical Term I 2019-20							
Advance Microcontroller & Applications	303141	2.16	2.33	2.30	1.92	2.01	2.04
Electrical Machines II	303142	1.85	1.85	1.86	1.33	1.25	1.28
Power Electronics	303143	1.97	2.04	1.99	1.98	1.95	1.92
Electrical Installation and Maintainance	303144	2.13	2.13	2.27	2.04	1.85	1.83
Seminar and Communication Technology	303145	2.96	2.94	2.90	2.96		
Industrial Technology & Management	311121	1.55	1.54	1.54	1.58	1.58	1.56
TE Electrical Term II							
Power System II	303146	2.05	2.07	1.83	2.02	2.04	1.88
Control System I	303147	2.16	2.17	2.16	2.08	2.02	2.06
Utilization of Electrical Energy	303148	1.88	1.87	1.85	1.56	1.55	1.53
Design of Electrical Machines	303149	2.54	2.52	2.51	2.29	2.20	2.20
Energy Audit and Management	303150	1.62	1.63	1.61	1.61	1.65	1.73
Electrical Workshop	303151	2.94	2.95	2.96	2.96	2.95	2.95

BE Electrical Term I 2020-21							
Power System Operation and Control	403141	2.75	2.86	2.89	2.81	2.90	2.88
PLC SCADA	403142	2.84	2.93	2.94	2.63	2.91	2.55
Electric Hybrid Vehicle	403144	2.96	2.95	2.82	2.96	2.92	2.96
Control System II	403145	2.91	2.82	2.90	2.90	2.91	2.90
BE Electrical Term II							
SwitchGear and Protection	403147	2.90	2.90	2.90	2.92	2.92	2.92
Power Electronic Controlled Drives	403148	2.95	2.95	2.95	2.95	2.95	2.96
High Voltage Engineering	403149	2.88	2.9	2.86	2.9	2.92	

Project Stage I	403150	2.96	2.95	2.92	2.94	2.96	2.96
Project Stage II	403151	2.94	2.95	2.948	2.96	2.96	2.94

While calculating the CO attainment for each CO, 20% weightage is given to internal assessment tools and 80% weightage is given to external assessment tools.

Course Outcome of all courses are listed in table below:

Table – B 3.2.2d CO – Attainment for Batch 2020 – 21

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

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

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

"In outcome-based education, a "design down" process is employed which moves from POs to Course Outcomes (COs) and outcomes for individual learning experiences. Outcomes at each successive level need to be aligned with, and contribute to, the program outcomes.

Courses are the building blocks of a program. Teaching strategies, learning activities, assessments and resources should all be designed and organized to help students achieve the learning outcomes at the course level. In the assessment activities, students demonstrate their level of achievement of the course learning outcomes. In a constructively aligned program, the courses are carefully coordinated to ensure steady development or scaffolding from the introduction to mastery of the learning outcomes, leading to achievement of the intended POs. For the effectiveness of the program, the achievement of POs is crucial which needs to be proven through accurate and reliable assessments.

POs give useful guidance at the program level for the curriculum design, delivery and assessment of student learning. However, they represent fairly high-level generic goals that are not directly measurable. Real observability and measurability of the POs at course level is very difficult. To connect high-level learning outcomes (POs) with course content, course outcomes and assessment, there is a necessity to bring further clarity and specificity to the program outcomes. This can be achieved through the following two-step process of identifying Competencies and Performance Indicators (PI).

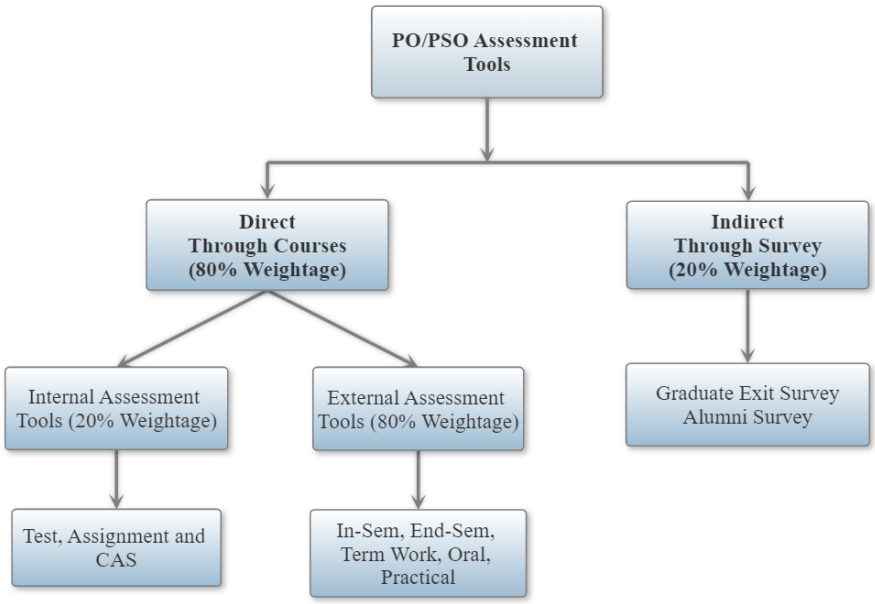
(1) Identify Competencies to be attained: For each PO define competencies –different abilities implied by program outcome statement that would generally require different assessment measures. This helps us to create a shared understanding of the competencies we want students to achieve. They serve as an intermediate step to the creation of measurable indicators.

(2) Define Performance Indicators: For each of the competencies identified, define performance Indicators (PIs) that are explicit statements of expectations of the student learning. They can act as measuring tools in assessment to understand the extent of attainment of outcomes. They can also be designed to determine the appropriate achievement level or competency of each indicator so that instructors can target and students can achieve the acceptable level of proficiency.

Once the above process is completed for the program, the assessment of COs for all the courses is designed by connecting assessment questions (used in various assessment tools) to the PIs. By following this process, where examination questions map with PIs, we get clarity and better resolution for the assessment of COs and POs."

PO/ PSO Assessment Tools

Direct assessment tools and indirect assessment tools are considered for assessment of POs and PSOs. Direct assessment tool used is through courses. The tools used for assessment of POs/PSOs are same which are used for assessment of COs. These tools are defined in **Table – B 3.2.1a**. Indirect assessment is done through Graduate exit survey and Alumni Survey.



PO/PSO assessment is done by giving 80% weightage to direct assessment and 20% weightage to indirect assessment. Direct assessment is based on CO attainment, where 80% weightage is given to attainment through external assessment (university exam) and 20% weightage is given to attainment through internal assessments. Indirect assessment is done through Graduate exit surveyand Alumni Survey. Weightage for each survey is equal i.e., 50% each.

Target Levels for PO/PSO

The tools used for evaluation on Pos and PSOs are courses and the survey. Hence to decide the target levels of PO/PSOs, average of CO – PO/PSO mapping of all subjects and target level of surveys are consider. 80 % weightage is for average of CO – POS mapping and 20 % weightage for survey.

Attainment Levels of POs/PSOs through Courses

The various direct assessment tools used to evaluate COs and the frequency with which the assessment processes are carried out are listed in **Table – B 3.2.1a**.

Tools used to evaluate PO/PSO attainment are same as that of CO attainment. Attainment Levels for internal as well as external assessment tools are also same for PO/PSO attainment and defined as;

Attainment Level 1: students scoring less than **60%** marks out of the relevant maximum marks.

Attainment Level 2:60% to 70 %students scoring more than **60%** marks out of the relevant maximum marks.

Attainment Level 3: More than **70%** students scoring more than **60%** marks out of the relevant maximum marks.

As the tools and criteria for defining attainment level are same for CO attainment and PO/PSO attainment levels, values of CO attainment levels are used to calculate PO/PSO attainment. Direct assessment of PO/PSO is based on CO attainment and correlation level.

Sample calculation for PO/PSO attainment is described in following three steps:

Step – 1

CO Attainment and CO – PO/PSO mapping is defined for course by correlation level low to high (1 to 3).

Course Outcomes	CO Attainment	Program Outcomes			
		PO1	PO2	PO3	PSO1
CO207002.1	2.5	3	1		
CO207002.2	2.8	3	2	1	1
CO207002.3	2.3	2	2		2
CO207002.4	1.5	2	1	1	1
CO207002.5	2.0	1	1		
CO207002.6	3.0	3	3		

Table – B 3.3.1a CO - PO Mapping

Step – 2

Direct PO/PSO attainment is calculated using following formula:

PO/PSO attainment = (Level of Mapping of PO with CO X CO attainment Level) / 3

Course Outcomes	CO Attainment	Program Outcomes			
		PO1	PO2	PO3	PSO1
CO207002.1	2.5	=2.5x3/3	=2.5x1/3		
CO207002.2	2.8	=2.8x3/3	=2.8x2/3	=2.8x1/3	=2.8x1/3
CO207002.3	2.3	=2.3x2/3	=2.3x2/3		=2.3x2/3
CO207002.4	1.5	=1.5x2/3	=1.5x1/3	=1.5x1/3	=1.5x1/3
CO207002.5	2.0	=2.0x1/3	=2.0x1/3		
CO207002.6	3.0	=3.0x3/3	=3.0x3/3		

Table – B 3.3.1b PO/PSO Attainment Calculations

Step – 3

Direct PO/PSO attainment is evaluate by taking average of PO/PSO attainment by each CO attainment.

Course Outcomes	CO Attainment	Program Outcomes			
		PO1	PO2	PO3	PSO1
CO207002.1	2.5	2.50	0.83		
CO207002.2	2.8	2.80	1.87	0.93	0.93
CO207002.3	2.3	1.53	1.53		1.53
CO207002.4	1.5	1.00	0.50	0.50	0.50
CO207002.5	2.0	0.67	0.67		
CO207002.6	3.0	3.00	3.00		
Average PO/PSO Attainment		1.92	1.40	0.72	0.99

Table – B 3.3.1c Average PO/PSO Attainment by Course

Indirect PO/PSO attainment: Graduate Exit Survey and Alumni Survey are conducted at the end of program and 20% weightage is given to it.

Surveysare conducted for graduating students and alumni who have graduated out of the department. Relevant questionnaire in survey form to evaluate attainment of POs and PSOs. Each question is having

5 options namely Excellent, Very Good, Good, Average and Poor, which is given marks 5, 4, 3, 2, 1 respectively. These survey results are tabulated and the average values corresponding to each PO and PSO are determined. The attainment for POs/PSOs is calculated by converting average score on the scale of 0 to 3.

Graduate Exit Survey: Relevant questionnaire in graduate Exit survey form to evaluate attainment of POs and PSOs is given in section (i) and relation of POs & PSOs with questionnaire is given in section (ii).

i. Questionnaire Format:

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

5.Excellent 4. Very Good 3. Good 2.Average 1.Poor

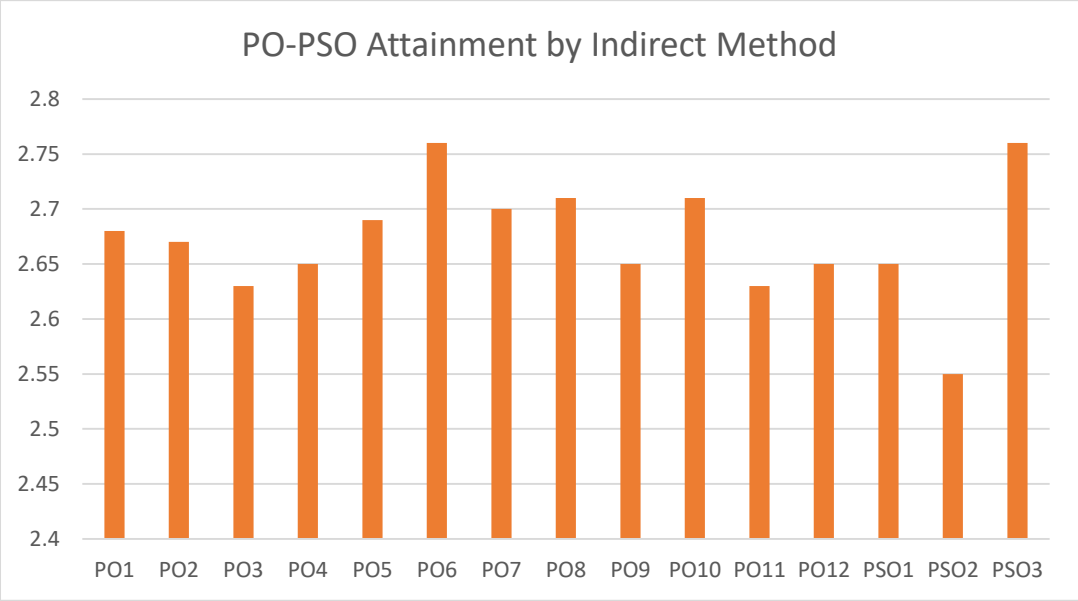
Q1	Will you be able to apply your knowledge of Mathematics, Science, Engineering Fundamentals to solve Engineering problems? (Hint: Project/Mini Project/Intercollegiate events
Q2	With Electrical Engineering background will you be able to analyze complex engineering problems?
Q3	Will you be able to develop effective solutions to complex engineering problems?
Q4	Will you be able to carry out systematic investigation of complex engineering problems?
Q5	Will you be able to select and apply appropriate modern tool to complex engineering problems?
Q6	Being an Engineer, will you be able to understand and participate in contemporary societal problems?
Q7	Rate your awareness about available resources and ensure judicious use of them without affecting the environment for sustainable development.
Q8	Do you follow professional ethics and are aware of norms of engineering practices?(Hint: Plagiarism in paper writing, project report writing, software development)
Q9	Have you acquired administrative, managerial skills and can work effectively as an individual and as a team leader/ member? (Hint: your exposure to the events like coordinator, participation in ET activities, Shivanjali, Ashwamedh, NSS, blood donation camp, sports, industrial visit, expert lecture, inter college events, project, ET sponsorship)
Q10	Rate your communication skills acquired during graduation period (Hint: Soft skill training, seminar/project, presentation, inter collegiate events)
Q11	How will you rate your ability to execute interdisciplinary projects with in stipulated time along with financial management? (Hint: project, participation in Efficycle, BAJA, SUPRA, ET, Shivanjali)
Q12	On completion of four years of graduation, do you feel prepared as a self reliant engineer?

Q13	Do you feel equipped to solve problems in diverse area of engineering like Electrical Machines, Power/Energy Systems, Instrumentation and Control, Power Electronics, Automation?
Q14	Will you be able to use IT tools for solving engineering problems?
Q15	Will you be able to use ethics and human values to become responsible citizen of the country?
Q16	How do you rate human resources and infrastructural facilities in the department?
Q17	In case of any difficulty (personal/technical) faced by you, the department was supportive (counselling/mentoring).

i. Relation of POs and PSOs with questionnaire

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
Question	Q9	Q10	Q11	Q12	Q13	Q14	Q15	
PO/PSO	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO	

Exit survey was collected from final year students at the end of 8th term. Results of graduate exit survey and PO attainment from that is given in table 3.3.1



Alumni Survey: Feedback is taken from alumni. Relevant questionnaire in alumni survey form to evaluate attainment of POs and PSOs is given in section (i) and relation of POs & PSOs with questionnaire is given in section (ii).

i. Questionnaire Format:

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

5. Excellent 4. Very Good 3. Good 2. Average 1. Poor

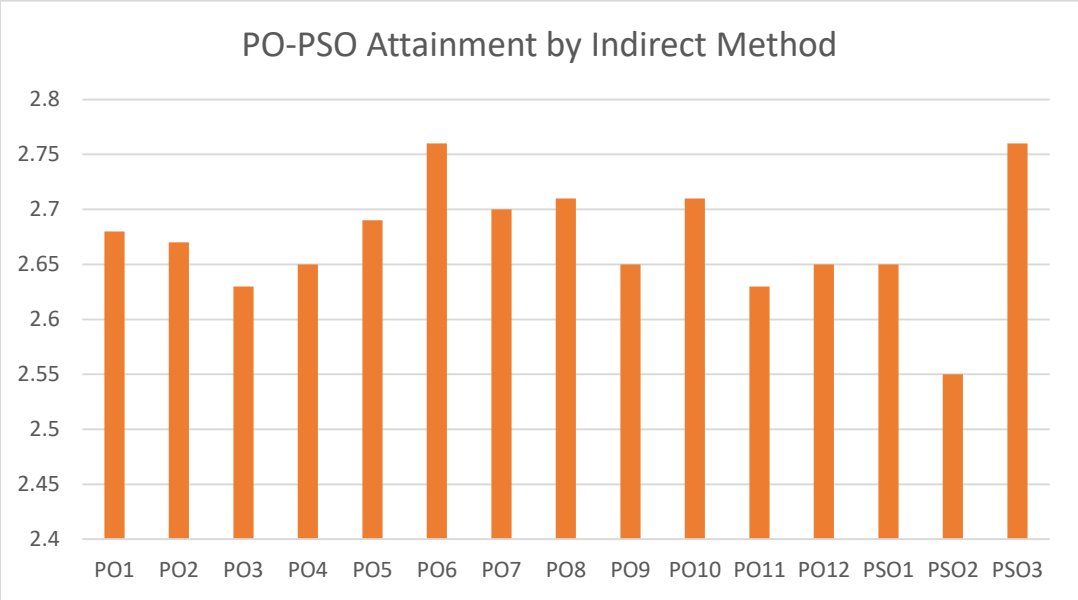
Q. No.	Question
Q1	You are able to provide solution to industry problem using engineering knowledge acquiredduring your graduation and capable of design systems as per the project requirement.
Q2	Do you think that you are able to give solution to new system problems using your research based knowledge and use appropriate modern tools like software and advanced instruments?
Q3	Do you think that engineer isresponsible for any social issuesrelated on health, Safety, environment and if so have you tried to give solution based on your knowledge?
Q4	Are you able to communicate effectively with engineering community and society?
Q5	Are you able to work individually as a leader and as a team member giving importance toprofessional ethics?
Q6	Are you able to work effectively in multidisciplinary environment and know how to useEngineering management principles?
Q7	Are you able to extend your knowledge gained to solve industrial problem?

Question	Q1	Q2	Q3	Q4
PO/PSO	PO1, PO2,PO3	PO4, PO5	PO6, PO7	PO10
Question	Q5	Q6	Q7	
PO/PSO	PO8, PO9	PO11	PO12	

Question No	**Related POs/PSOs**	**Average Response**	**Percentage**	**Attainment**
1	PO1	4.47	89.4	2.68
2	PO2	4.45	89.09%	2.67
3	PO3	4.38	87.6%	2.63
4	PO4	4.41	88.36%	2.65
5	PO5	4.49	89.8%	2.69
6	PO6	4.6	92%	2.76
7	PO7	4.5	90.1%	2.7
8	PO8	4.52	90 5%	2.71
9	PO9	4.41	88.36%	2.65

10	PO10	4.52	90 5%	2.71
11	PO11	4.38	87.6%	2.63
12	PO12	4.41	88.36%	2.65
13	PSO1	4.41	88.36%	2.65
14	PSO2	4.25	85.09%	2.55
15	PSO3	4.6	92%	2.76
16	Feedback on Facilities	4.6	92%	2.76
17	Feedback on Mentoring	4.6	92%	2.76

Table 3.3.1 – PO attainment from Graduate Exit survey



For indirect PO/PSO attainment 20% weightage is given.

Total PO/PSO attainment is calculated as:

Direct Attainment by all courses X 0.8 + Indirect Attainment X 0.2

PO attainment is recorded in the table given.

PO Attainment 2020-21 Batch													
FE Electrical Term I													
Sub	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Basic Civil and Environmental Engineering	101005	0.70	0.66	0.53		0.79							
Engg Mechanics	101011	0.79	0.39										
Basic Mechanical Engg	101013	0.72	0.62										
Engineering Graphics - I	102006	0.84	0.84								0.42		
Engineering Graphics II	102014	0.95	0.95			0.95							
Basic Electrical Engineering	103004	0.66	0.38	0.39									
Basic Electronics Engg.	104012	0.98	0.49	0.48		0.50							
Engineering Mathematics - I	107001	1.33	0.88	0.44									
Engineering Physics	107002	0.79	0.55	0.40		0.48							
Engineering Mathematics - II	107008	1.05	0.70	0.35									
Engineering Chemistry	107009	1.10	0.66	0.53									
Fundamentals of Programming Language - I	110003	1.77	0.88	0.88		0.88							
Fundamentals of Programming Language-II	110010	0.92	0.46	0.46		0.46							
Workshop	111007	1.00	1.00	1.00	1.00		1.00						

PO Attainment 2020-21													
SE Electrical Term I													
Sub	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Power Generation and Technology	203141	1.01			0.50		0.59	1.01	0.50	0.50	0.50		0.51
Material Science	203142	0.97	1.41	0.56	0.57	1.13				0.58	0.60		
Analog and Digital Electronics	203143	1.55	1.37	1.30	0.95	0.79	0.52	1.07		0.52	0.52		0.52
Electrical Measurements and Instrumentation	203144	1.28	0.81	0.74	0.75	0.93		0.43	0.43	0.86	0.58		0.43
Soft Skills	203151	0.88	0.88					1.78	1.73	1.24	2.02		1.45
Engineering Mathematics III	203150	0.57	0.52	0.33	0.34								
Average													

SE Electrical Term II													
Power System I	203145	0.38	0.46	0.24									
Elect.M/cI	203146	1.38	1.08	0.76	0.67	0.62				1.16	0.63		
Network analysis	203147	1.99	1.99	1.33	1.33	1.31				1.33	0.66		0.66
Numerical Method and Computer Programming	203148	2.29	2.29	1.53	1.53	2.29				0.76	0.76		0.76
Fundamentals of Microcontroller and Application	203149	1.41	1.34	1.35	0.68	0.83	0.43			0.47	0.47		0.47
Average													

TE Electrical Term II													
Advance Microcontroller & Applications	303141	1.64	1.42	0.69	0.68	1.42	0.68	0.68	0.74	1.30	0.71		0.68
Electrical Machines II	303142	1.05	0.63	0.52	0.64	0.52	0.79			1.12		0.68	0.43
Power Electronics	303143	1.32	1.32	0.76	1.33	1.10		0.87		0.66	0.66		0.66
Electrical Installation and Maintainance	303144	1.38	1.39	1.36	1.52	0.66	1.03	0.87	0.71	1.11			0.97
Seminar and Communication Technology	303145	1.31	1.97	0.97	1.48		0.97	0.97	1.97	0.99	2.96		0.97
Industrial Technology & Management	311121		0.77	0.51		1.03		0.77	1.57	1.56	1.30	1.30	1.35
TE Electrical Term II													
Power System II	303146	1.32	1.21	1.41	1.22	0.98	0.66	1.30		0.66	0.66		0.66
Control System I	303147	2.11	1.40	1.40	0.72	1.64	0.70		0.68	0.71	0.70	0.69	0.72
Utilization of Electrical Energy	303148	1.14	1.14	0.95	1.25	1.01		0.57					0.57
Design of Electrical Machines	303149	1.62	1.30	1.46	1.88	1.27	0.79	0.79	1.59	1.04		0.79	1.99
Energy Audit and Management	303150	1.10	0.55			1.10	0.82	0.55	0.55	1.10	0.74	1.00	0.55
Electrical Workshop	303151	1.97	1.97	1.15	1.97	1.80		1.31		0.98	0.98		0.98
BE Electrical Term I													
Power System Operation and Control	403141	1.69	1.71	1.74	1.74	1.27	0.95	1.92		0.95	0.95		0.95
PLC SCADA	403142	2.38	1.36	1.84	2.15	0.93							0.85
Electric Hybrid Vehicle	403144	2.29	2.44	2.12	1.31	1.47			1.79		1.46		0.94
Control System II	403145	1.93	1.93	1.93		1.77				1.94	1.93		0.97

BE Electrical Term II													
Switchgear and Protection	40147	2.33	1.78	2.75	1.78	1.16	0.97		1.94	1.13	0.97		1.94
Power Electronic Controlled Drives	40148	1.97	1.97	1.15	1.97	1.80		1.31		0.98	0.98		0.98
High Voltage Engineering	40149	1.93	1.68	0.96		1.74	1.46	1.29	1.94	1.16	0.96	0.97	1.29
Project Stage I	40150	1.96	1.95	1.95	1.96	1.96	1.94	1.46	1.31	1.31	2.96	1.96	1.31
Project Stage II	40151	1.96	1.96	1.96	1.96	1.96	1.96	1.47	1.30	1.30	2.96	1.96	1.31

PSO Attainment

FE		
PSO1	PSO2	PSO3
0.82		
0.54		
0.56		
0.43		
1.00		
1.58		
1.11		
0.99		
0.92		
0.72		
0.30		
0.41	0.41	
0.53	0.53	
1.00		
SE Term I		
0.50	0.50	0.50
0.60		0.60
0.69	0.55	0.51
1.28	1.08	0.43
0.82	0.88	0.81
0.33		0.30

SE Term II		
0.23		
1.27	0.61	0.60
1.99	1.99	0.66
1.53	0.76	0.76
1.26	0.94	0.47
0.23		
TE Term I		
1.64	2.13	0.68
0.93	1.03	0.74
1.97	1.64	0.66
1.38	0.68	0.96
0.51	0.86	1.57
TE Term II		
0.88	0.68	0.66
2.11	1.40	0.68
1.71	0.86	0.57
1.20	0.79	
1.64	1.37	0.54
2.95	2.46	0.98
BE Term I		
1.26	0.92	0.94
2.80	2.80	1.70
1.63	1.47	1.29
2.57	2.09	1.93
BE Term II		
2.26	1.94	0.97
2.95	2.46	0.984
1.15	1.44	1.29
1.96	1.96	1.64
1.964	1.965	1.64

CRITERION 4	Student's Performance	150

Item	CAY (2021-22)	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
Sanctioned intake of the program (N)	60	60	60	60
Total number of students admitted in first year minus number of students migrated to other programs/institutions plus no. of students migrated to this program (N1)	66	56	61	51
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	12	19 + 3 = 22	18	19 + 2 = 21
Separate division students, if applicable (N3)	---	---	-----	-----
Total number of students admitted in the Program (N1 + N2 + N3)	78	78	79	72

Year of Entry	N1+N2+N3	No of students who have successfully graduated without backlogs in any semester / year of study			
		I Year	II Year	III Year	IV Year
CAY (2021-22)	66 (66 + 12)	41 (29 + 12)			
CAYm1 (2020-21)	78 (56 + 19 + 3)	74 (55 + 19)	28 (13 + 15)		
CAYm2 (2019-20)	79 (61 + 18)	72 (54 + 18)	68 (50 + 18)	48 (33 + 15)	
CAYm3 (2018-19)	72 (51 + 19 + 2)	49 (30 + 19)	34 (20 + 14)	34 (20 + 14)	33 (19 + 14)
CAYm4 (2017-18)	79 (51 + 28)	41 (13 + 28)	28 (13+15)	23 (09 +14)	23 (09 + 14)
CAYm5 LYG (2016-17)	80 (55 + 24 + 1)	46 (22+ 24)	29 (16 +13)	26 (14 +12)	26 (14 +12)
CAYm6 LYGm1 (2015-16)	82 (59 + 22 + 1)	35 (13 + 22)	26 (11+15)	26 (11+15)	26 (11+15)

Year of Entry	N1+N2+N3	No of students who have successfully graduated (Students with backlogs in stipulated period of study)			
		I Year	II Year	III Year	IV Year
CAY (2021-22)	66 (66 + 12)	77 (65 +12)			
CAYm1 (2020-21)	78 (56 + 19 + 3)	77 (58 +19)	75 (56 + 19)		
CAYm2 (2019-20)	79 (61 + 18)	76 (58 + 18)	76 (58 + 18)	75 (57 + 18)	
CAYm3 (2018-19)	72 (51 + 19 + 2)	62 (43 + 19)	60 (42 + 18)	60 (42 + 18)	57 (41 + 16)
CAYm4 (2017-18)	79 (51 + 28)	60 (32 + 28)	55 (28 + 27)	55 (28 + 27)	55 (28 + 27)
CAYm5 LYG (2016-17)	80 (55 + 24 + 1)	65 (41 + 24)	59 (37 + 22)	52 (32 + 20)	52 (32 + 20)
CAYm6 (LYGm1) (2015-16)	82 (59 + 22 + 1)	72 (50 + 22)	62 (40 + 22)	60 (40 + 20)	60 (40 + 20)

4.1 Enrolment Ratio (20)

Enrolment Ratio = N1/N

Year of Entry	N Sanctioned Intake	N1 Total no of students admitted in first year	Enrolment Ratio (N1/N)	Marks
CAY (2021-22)	60	66	0.966	20
CAYm1 (2020-21)	60	56	0.933	20
CAYm2 (2019-20)	60	61	0.983	20
CAYm3 (2018-19)	60	51	0.866	18
CAYm4 (2017-18)	60	51	0.85	18
CAYm5 LYG (2016-17)	60	55	0.916	20
CAYm6 (LYGm1) (2015-16)	60	59	0.983	20

Average Enrolment Ratio = 19.42 = **20**

4.2 Success Rate in stipulated period of program (40)

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

Item	**LYG - CAYm4 (2017-18)**	**LYG m1- CAYm5 (2016-17)**	**LYGm2- CAYm6 (2015-16)**
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	51 + 28 = 79	55 + 24 + 1 = 80	59 + 22 + 1 = 82
Number of students who have graduated without backlogs in the stipulated period	23	26	26
Success Index (SI)	0.291	0.325	0.317
Average of SI	**0.311**		

S1= (Number of students who have graduated from the program without backlog)/ (Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry and separate division, if applicable)

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

Success rate without backlogs in any year of study = 25 × Average SI

Success Rate = 7.775 = 7.8

4.2.2. Success rate with backlog in stipulated period of study (15)

Item	**LYG - CAYm4 (2017-18)**	**LYG m1- CAYm5 (2016-17)**	**LYGm2- CAYm6 (2015-16)**
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	51 + 28 = 79	55+24+1 = 80	59+22+1 = 82
Number of students who have graduated with backlogs in the stipulated period	55	52	60
Success Index (SI)	0.696	0.65	0.731
Average of SI	**0.692**		

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

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

Success rate without backlogs in any year of study = 15 × Average SI

Success Rate = 10.385 = 10.4

4.3. Academic Performance in Third Year (15)

Academic Performance	**CAY (2021-22) TE-2020-21**	**CAYm1 (2020-21) TE-2019-20**	**CAYm2 (2019-20) TE-2018-19**
Mean of CGPA or Mean Percentage of all successful students(X)	9.77	7.65	7.40
Total no. of successful students (Y)	60	55	52
Total no. of students appeared in the examination (Z)	60	55	59
API = x* (Y/Z)	**9.77**	**7.65**	**6.522**
Average API	**7.98**		

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

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

Successful students are those who are permitted to proceed to the final year

Academic Performance = 11.97 = 12

4.4. Academic Performance in Second Year (15)

Academic Performance	**CAY (2021-22) SE-2019-20**	**CAYm1 (2020-21) SE-2018-19**	**CAYm2 (2019-20) SE-2017-18**
Mean of CGPA or Mean Percentage of all successful students(X)	8.40	7.45	6.81
Total no. of successful students (Y)	60	55	59
Total no. of students appeared in the examination (Z)	62	60	65
API = x* (Y/Z)	**8.12**	**6.829**	**6.181**
Average API	**7.043**		

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

API = ((Mean of 2nd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Second Year/10)) x (number of successful students/number of students appeared in the examination)

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

Academic Performance= 10.56 = **10.6**

4.5. Placement, Higher Studies and Entrepreneurship (40)

Item	CAY (2021-22)	CAYm1 (2020-21)	CAY*m*2 (2019-20)	CAY*m*3 (2018-19)
Total No. of Final Year Students (N)	57	55	52	60
No. of students placed in companies or Government Sector (x)	40	36	27	29
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (y)	2	3	4	5
No. of students turned entrepreneur in engineering/technology (z)	1	2		
x + y + z =	43	41	31	34
Placement Index : (x + y + z)/N	0.754	0.745	0.596	0.566
	0.665			

Assessment Points = 40 × average placement
Assessment Points = 26.61 = **27**

4.6 Professional Activities (20)

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

Electrical Engineering Department is having following professional chapters

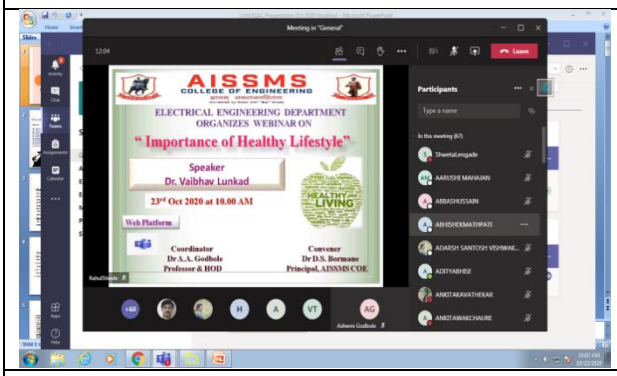
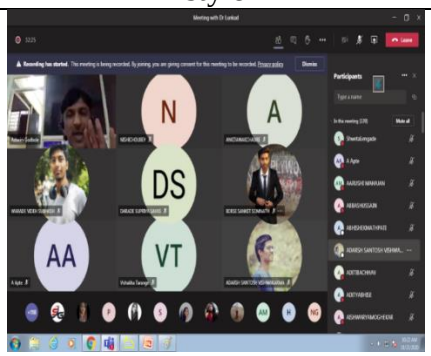
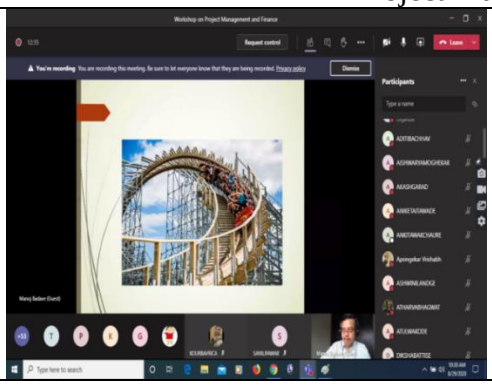
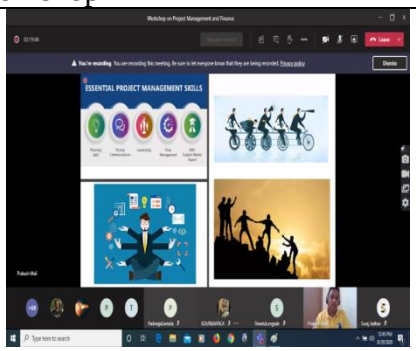
Sr No	Name of Chapter / Society	Faculty Advisor
1	Institution of Engineers (IE (I))	Prof P.K. Sankala
2	Resonance racing e-BAJA	Dr A.A. Apte & Prof V.S. Ponkshe
3	IEEE & ISTE	Prof Itkarkar
4	Team Garudashwa	Dr D.Y. Dhande

Institution of Engineers – India (IE (I))

Electrical Engineering Department of AISSMS College of Engineering has successfully running Institution of Engineers – India (IE (I)) chapter since last 5 years. All the students of the department from SE to BE are the members of chapter. Prof P.K. Sankala is the faculty advisor for this chapter.

The chapter is run by the students for overall development of students. It provides a perfect platform to students to conduct, organize and manage the events. Students engaged in different activities, so they can improve their soft skills, communication skills. The department organizes various activities under IE (I) chapter which includes

1. Expert lectures
2. Industrial Visits
3. Social activities (tree plantation, blood donation)
4. Workshops
5. Alumni Interaction
6. Project Exhibition
7. Engineering Today (Technical Symposium)

	
Industrial Visit to Substation	Project Exhibition
	
Social Activity-Cleanliness Drive	Expert Lecture-Importance of Healthy Life style
	
Project Management Workshop	
	

Electrical Engineering Department is also having ISTE chapter an IEEE chapter

Total ISTE members are 60 and IEEE members are 08

Resonance Racing
eBAJA

Goal of eBAJA
To design an off-road **Electric ATV** in pursuit of the perfect balance of speed, strength, and endurance.

Team List-

Sr No.	Roll No.	Name	Class	Mobile No.
1	18EL019	Yash Kakade (Captain)	BE Electrical	9373081182
2	19EL026	Sakshi Lokhande (Vice Cap.)	TE Electrical	9022552610
3	19MS023	Atharav Karande (Team Manager)	TE Mech Sand	9421732364

- There are total 25 students from Electrical Department and other branches acting as a team member of eBAJA

Faculty Advisors
Dr. A. A. Apte
Prof. V. S. Ponkshe

Team eBAJA-Activities

ACHIEVEMENTS

1. **AIR 2 - Suspension & Traction.**
2. **AIR 3 - All Terrain Performance**
3. **AIR 4 – Maneuverability**
4. **AIR 5 - Overall Virtual Dynamic Event**
5. **AIR 12 -Design Evaluation**

AISSMSCOE IEEE Student Branch (STB-98723) was established under IEEE Pune Section in August 2020. The branch has organized various International & National Level Webinars, Workshops, Motivational Talks, SDP, Quizzes and Conference in the field of Technical, Non-Technical, Professional Development, Health, etc. The branch invited eminent personalities and guest speakers from International and National regions to deliver expert talks. Till now, 4500+ participants get benefitted from events organized by the branch. The branch was awarded as 'IEEE Pune Section Emerging Student Branch 2020' by IEEE Pune Section. AISSMSCOE IEEE Student Branch is committed to students' overall development and advancing technology for benefit of humanity.

Branch Name: STB98723 – All India Shri Shivaji Memorial Society College of Engineering-Pune (AISSMSCOE IEEE Student Branch)
Section: IEEE Pune Section Branch Formation Month & Year: August 2020
Branch Counsellor: Dr. D.G.Bhalke (HOD-E&TC, IEEE Senior Member - No. 93963878)
Faculty Advisor: Mrs. R.R.Itkarkar (Asst. Prof. Department of E&TC)
Branch Chairperson: Ms. Pragna Chatla (IEEE Student Member – No. 96995536) (August 2020 – June 2021)
Branch Chairperson: Mr. Piyush Dinesh Chaudhari (IEEE Student Member – No.96995795) (July 2021 – Present)
Professional Members: 03 Student Members: 40
Branch Website: https://aissmscoeieee.wixsite.com/official

Events organized

Event Title: International Conference on Smart Generation Computing, Communication and Networking (SMARTGEN) 2021
Organised by: Department of Electronics & Telecommunication Engineering, AISSMS College of Engineering Pune & AISSMSCOE IEEE Student Branch (STB-98723)

Technically Co-Sponsored by: IEEE Pune Section
Date: 29th – 30th October 2021
Papers Published : **157**

Team Garudashwa
Every Year We Fly Better

An Aero Modeling Collegiate Club from AISSMS COE, Pune that builds designs and tests RC airplanes. Team Garudashwa was founded in 2015 and participates in various National and International Aero Design Series organized by SAE.

Representative from Electrical Department: **Ameya Kulkarni (B.E. Electrical)**

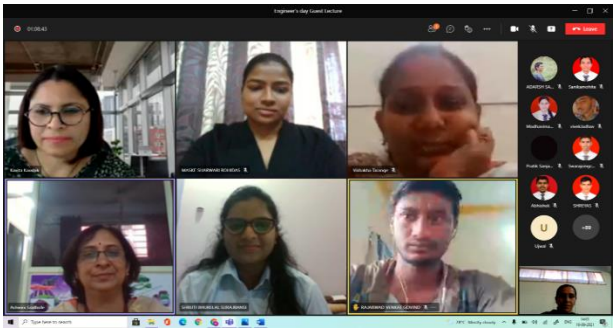
Website: http://teamgarudashwa.club/

Technical Events Organized by Department
Event Details (Academic Year - 21-22)

S.N	Date	Activity Planned	Topic	Speaker	Coordinator	No. of Participants
1	2nd Sep 2021	Expert Lecture	Soft skills needed in Corporate	Ms Priti Kibe, Forbes Marshall	Dr AA Apte & P Sankala	SE, TE & BE students, 87
2	16th Sep 2021	Expert Lecture	What competencies a core company looks for in a graduate engineer trainee	Mrs Kavita Kaushik, Quality Champion Cummins India	Dr A A Godbole	SE, TE & BE students, 117
3	29th Sep 2021	National level student Symposium	Pirates of Wizard	Engineering Today 2019	V N Tarange & P Sankala	**59**
4	30th Sep 2021		Technical Cross Word		C D Kulkarni & P Sankala	**73**
5	29th & 30th Sep 2021		Mock Placement		Dr AA Apte & S R Lengade	**15**
6	22nd Nov 2021	Expert Lecture	Nano Technology and its scope in Research	Dr P B Karandikar,Associate Prof, AIT Pune	Dr M H Dhend	SE students
7	23rd Nov 2021	Workshop	Fabrication of Buck converter	Mr Mohan Pare & Mr Utkarsh Alset, Design & Development Engineer, R&D Arthetec Innovative solutions, Pune	P Sankala & Dr AA Apte	TE students- 61
8	26th Nov 2021	Expert Lecture	Chargers for Battery operated vehicles	Mr Utkarsh Alset, Design & Development Engineer, R&D Arthetec Innovative solutions, Pune	P Sankala	TE students-55
9	9th & 10th Dec 2021	IEI Conclave Western Region	Circuit Wizard		P Sankala	Students from all over India- 97
10	26th Feb 2022	Extension activity	Cleaning Drive	Sinhgad Fort, Pune	V N Tarange & P Sankala	
11	16th March 2022.	Career Counseling	Study abroad for Engineers	Mr Rajarshi Banerjee Jamboree Education Pune	P Sankala	150 students (Electrical & Computer)
12	6th April	Visit	Electrical drives and switchgear protection	Pune Metro Rail	Dr A A Apte P Sankala V N Tarange R S Shinde	110(TE & BE)
13	12th April	Visit		Pirangut	Dr M H Dhend	BE
14	5th May 2022	Project Exhibition				BE
15	7th May 2022	Visit	Industrial Visit	Mapro Food plant	P Sankala V N Tarange	BE
16	7th May 2022	Visit	Industrial Visit	HVDC Phadge	Dr A A Apte V S Ponkshe R S Shinde	TE

Event Details (Academic Year - 20-21)

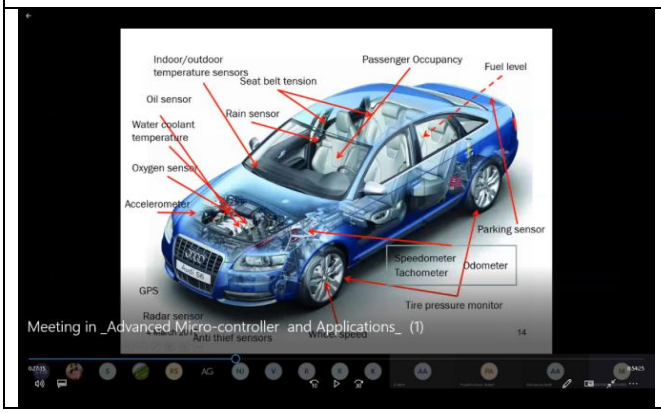
Expert lecture on What competencies a core company looks for in a graduate engineer trainee' on 16th Sep 2021

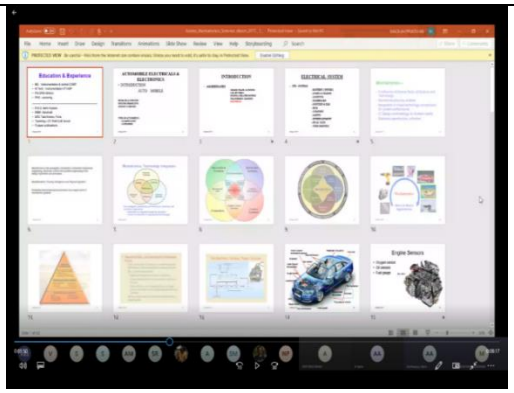


S.N	Date	Activity Planned	Topic	Speaker	Coordinator	No. of Participants
01	18 Aug 2020	Expert Lecture	Electrical Systems in Automobiles	Mr.Ajay Pradhan TATA Motors	Dr.A.A.Apte	TE & BE students
02	4th Aug 2020	Expert Lecture	"Power Electronics: Applications and Research"	Dr. KalaiSelvi Jayaraman, IITRopar	P.Sankala	TE students
03	18 Sep 2020	Expert Lecture	Applications of PLC in Automation Industry	Mr Milind Pundalik VMS Control	C D Kulkarni	BE students
04	16 Nov 2020	Expert Lecture	Electrical Vehicle Drives-Induction Motor	Mr Naresh Dhopare, Regal Beloit	S S Mujawar	BE students
05	4 Dec 2020	Expert Lecture	Selection of motors and Batteries used in EV's	Mr Hrishikesh MehtaAethertech Innovative solutions	S S Mujawar	BE students
06	20 Aug 2020	Expert Lecture	Passenger Vehicle Development Life cycle	Mr. Sandip Patil ProjectManager, TATA Technoogies ,Pune	V N Tarange	BE students
07	23 Oct 2020	Expert Lecture	lecture on Importance of healthy lifestyle	Dr. Vaibhav Lunkad	Dr AA Godbole	TE & BE students
08	29 Aug2020	One Day Workshop	Project Management and Finances	Mr.Manoj Badve Senior Engineer TATA Motors, and Mr. Prakash Mali Senior Manager ,John Deere TCI , Pune	Dr.A.A.Apte Ms.S.R.LengadeMrs P Sankala	TE & BE students
09	4th, 5th & 6th Aug2020	3 days workshop	1. Skills for Employability 2. Role of Community Service and Patent Filing	1. Mrs. Shraddha Kale, DGM Corporate Strategy, GERA Pune 2. Prof. Dr. Ishrat. M. M, Professor, Mechanical Engg. Dept., Convener, R & D Cell, MJCET and Patents Committee, MJCET, Hyderabad, Telangana.	Dr. M H Dhend V N Tarange	SE, TE & BE students

10	24th July 2020	Expert Lecture	Self- Awareness	Ms. Neetu Gupta ,MSW,University of Delhi	Dr. M H Dhend	SE students
11	30th July 2020.	Expert Lecture	Overview of placement	Mr.Ketan Mhaske and Mr. Shrikant Nagargoje ,Alumni ,DEE,AISSMS COE Pune	Dr. M H Dhend	SE & BE students
12	03 Oct 2020	Expert Lecture	Power Quality issues in Power system network	Shri H.D Dongargaonkar Executive Engineer, MSETCL	Mr L S Godse	BE students
13	3rd Dec 2020.	Expert Lecture	Analog and Digital Electronics	Mrs. Sonali Nalamwar , A.P., Department of Computer Science,AISS MS COE Pune	Mrs V N Tarange	SE students
14	5th Dec 2020	Expert Lecture	Insights of Electric Vehicle Technology	Mr.Sagar Pawar,Force motors		TE & BE students
15	11Aug 2020	Expert Lecture	Selection of Seminar Topics and Report Writing	Dr A A Apte & S R Lengade	Dr A A Apte & S R Lengade	TE students
16	5th Dec, 2020.	Expert Lecture	Control Systems	Dr. Jaywant Kolhe	Dr AA Godbole	BE students
17	1Feb 2021	National level Student competitio n	Trouble Shooting		Mrs P Sankala	Engg Student participants in and around Pune
18	6th March 2021	Panel discussion	Role of women engineers in the corporate sector	Mrs Charuta Muley (MD Thyssenkrupp) Mrs Swati Mehendale (Head Regulatory, Tata Power) Ms Mayanka Goyal (Engineering Manager GE Renewables)	Dr AA Godbole S R Lengade P.Sankala	SE, TE & BE students
19	4th March 2021	Coffee and Conversati on with Alumni	Coffee and Conversation with Alumni	Ms.Sujata Chandra Chairman and MD Vigyanvidya Pvt.Ltd Bhosari Pune	Dr.A.A.Apte	SE, TE & BE students
20	27 Jan 2021	Expert Lecture	Current Life style and How it is impacting on the life	Mr.Amol Vaidya Alumni and fitness Expert	Dr.A.A.Apte	SE, TE & BE students
21	4March 2021	Tree Plantation Drive	Tree Plantation Drive for Faculty and students		P.Sankala & V N Tarange	Faculty & SE, TE & BE students
22	25 Feb 2021	Interactive session	Startup with our own entrepreneurs	1.Mr Onkar Dahiwal & Mr S Mangulurkar, 2.Mr Sumit Ghodke	P.Sankala & V N Tarange	Faculty & SE, TE & BE students
23	23 Feb 2021		Traditional day celebrations (Online)		S R Lengade & P Sankala	Faculty & SE, TE & BE students
24	8March 2021	Internation al Women's Day Celebration	Importance of Gender Equality	Mrs. Namrata Patil DCP zone 05, pune & Dr. Mrs. Gauri Ranade Intensive care, honorary consultant, Deenanath Mangeshkar Hospital, Pune	V N Tarange and S R Lengade	SE, TE & BE students

Expert lecture by Mr.Ajay Pradhan Free Lancer for Electric Vehicle



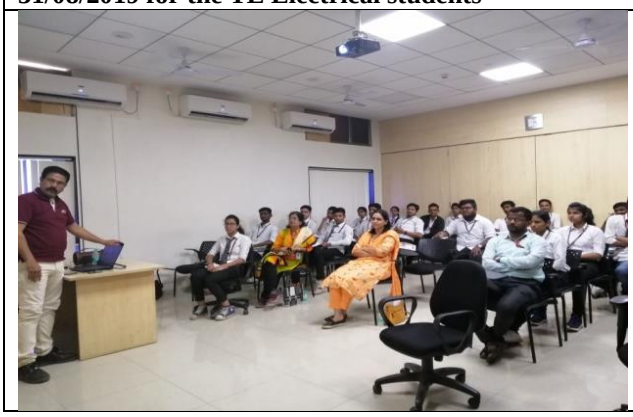


Event Details (Academic Year – 19-20)

S.N	Date	Activity Planned	Topic	Speaker/ Coordinator	No. of Participants
01	12/7/2019	Expert Lecture	Audit course session II	Mr Aditya Akole	**42**
02	24/07/2019	Expert Lecture	Career in Management studies	Amar Salunke	**42**
03	02/08/2019	Industrial Visit	Power Plant Engineering	Hydro Power Plant Ghatghar	**40**
04	02/08/2019	Expert Lecture	Project area selection and project management	Mr Ajit Jha	**25**
05	28/08/2019	Expert Lecture	Energy Audit and Conservation, BEE and case studies	Mr Pramod Daspute	**61**
06	29/8/2019	Industrial Visit	Robotics and their control	PARI Automation	**35**
07	25/07/2019	Industrial Visit	Electrical Measuring instruments	Star Electricals	**42**
08	30/08/2019	Industrial Visit	Electrical Installation	Lonikand 400 KV substation, Pune	**38**
09	11/09/2019	Industrial Visit	Material science	Madhav Capacitors Pvt Ltd, Bhosari	**55**
10	11/09/2019	Industrial Visit	various science projects	Science Park, Pimpri Chinchwad	**55**
11	23/09/19	Expert Lecture	Role of PLC in Automation	Ms Nital Sarap, Technocrat	**50**
12	12/10/2019	Industrial Visit	Power system operation	SLDC, Kalwa	**58**
13	15/10/2019	Expert Lecture	Applications of Control Systems in Defense	Mr Jaywant Kolhe Sc 'D' R & D Engineers, DRDO	**60**
14	06/01/2020	Expert Lecture	Career Counseling	Mr Anuj Mehta, Ms Swapnaja, Global Education Pvt Ltd, Pune	**73**
15	09/01/2020	Expert Lecture	Awareness on innovative projects and Internship	Mr Mayank Arora and Mr Chinmoy Zagade, Elite Techno group	**24**
16	15/01/2020	Industrial Visit	2MV and 0.2MV high voltage laboratory	Mahati Electricals, Yawat	**57**
17	21/01/2020	Industrial Visit	Electric traction	Pune Metro Rail, Pimpri Chinchwad	**46**
18	21/01/2020	Industrial Visit	Substation	Pune Metro Rail, Pimpri Chinchwad	**46**

19	22/01/2020	Industrial Visit	Electric traction-UEE	Pune Metro Rail, Pimpri Chinchwad	**50**
20	7/02/2020	Industrial Visit	Tata Power Plant khopoli	Tata Power Plant khopoli	**49**
21	31/01/2020	Industrial Visit	Manisha Transformers	Manisha Transformers	**52**
22	18/2/2020	Expert Lecture	Microcontroller applications	Mr Rajendra Khope, IOcare systems	**45**
23	26/2/2020	Expert Lecture	Energy Audit & Conservation	Mr Vinay Gadikar	**47**
24	12/03/2020	Industrial Visit	Paper Mills	Sakal Press Pune	**28**
25	12/03/2020	Training	Soft skills		**40**
26	21/05/2020 to 26/5/2020	Online National level Quiz	Power Electronics & Drives		**1650**
27	15/05/2020 to 15/6/2020	Online National level Quiz	Electrical Safety		**3600**
28	10/05/2020	Alumni Interaction	Job Scenario post Covid & Higher studies	Shantanu Pathak, Prasad Venikar,Pradeep Patil	**21**
29	24/5/2020	Alumni Interaction	Interacted and motivated the students regarding placements and higher studies during COVID 19	Mr Chetan Phakatkar	**25**
30	18th Sep 2019	Pirates of Wizard		Engineering Today 2019	**37**
31	18,19 & 20 Sep 2019	License To Kill: The Laser War			**43**
32	19th Sep 2019	Technical Cross Word			**63**
33	19th Sep 2019	Aviated Fall			**33**
34	20th Sep 2019	Science Exhibition		Science Exhibition 2019	**45**

Electrical Engineering Department has organized an industrial visit to PARI Robotics, Shirwal on 31/08/2019 for the TE Electrical students



Event Details (Academic Year – 18 – 19)

S.N	Date	Activity Planned	Topic	Speaker/ Coordinator	No. of Participants
01	12th & 13th July, 2018	Workshop	Arduino and interfacing of different sensors	Mr Rigved Kelkar/ Mrs A A Apte	46
02	24th Jul 2018	Expert Lecture	Electrical safety awareness	Dr S Patni, MSEB,Pune/ Mrs M H Dhend	55
03	24th Jul 2018	Expert Lecture	Applications of Control systems	Dr A A Mujumdar, CME, Pune/Dr A A Godbole	56
04	26th Jul 2018	Expert Lecture	Career Guidance	Miraj Thomas, Career Launcher,Pune/ Mrs P Sankala	45
05	10th Jul 2018	Expert Lecture	Industrial training and management	Dr S H Wankhede	32
06	1st Oct 2018	Expert Lecture		Mr Amit Shinde, General Manager , I-cap Private Limited	37
07	4th Oct 2018	Industrial Visit	Cahors Industries, Ranjangaon MIDC	Mrs A A Apte & Mrs P Sankala	40
08	3rd Oct 2018	Expert Lecture	Presentation Techniques	Mr S M Choudhari	46
09	5th Oct 2018	Industrial Visit	EIMT	220KV Parvati Substation /Mr L S Godse	66
10	15th Jan 2019	Expert Lecture	Industrial training and career opportunities	Mr Sushant Kerimani, SKADA Technologies/ Ms S R Lengade	65
11	22nd Jan 2019	Safety awareness activity	Electrical safety	BE Electrical students/Mrs M H Dhend	90
12	22nd Jan 2019	Expert Lecture	Electrical safety and safety at High voltage installation	Dr S Patni, MSEB,Pune/ Mrs M H Dhend	90
13	30th Jan 2019	Industrial Visit	High Voltage	Mahati Industries, Yewat/ Mrs M H Dhend	66
14	30th Jan 2019	Expert Lecture	Energy audit	Mr Sanjay Gawade, Gawade Electricals /Ms S R Lengade	65
15	1st Feb 2019	Industrial Visit	Industrial Drives	Sakal Press Urli Devachi/ Mrs P Sankala	50
16	22nd Feb 2019	Industrial Visit	Industrial Drives	Anuraj Sugars Ltd, Yavat/ Mrs P Sankala	35
17	23rd Feb 2019	Social Program	Educational and Fun Games conducted	Avishree Balsadan,Kurkumbh/ Dr A A Godbole &Mrs P Sankala	30
18	23rd Feb 2019	Social Program	Career Counselling	Shri Firangai Maata Secondary and Higher Secondary School, Kurkumbh/ Dr A A Godbole &Mrs P Sankala	75
19	25th Feb 2019	Expert Lecture	Power System	Mr O A Pawaskar/ Mr K Shende	55
20	28th Feb 2019	Expert Lecture	Basics of C	Mr S Dhengre,Computer Dept, AISSMS COE	65

21	28th Feb 2019	NPTEL Lecture	Electric train system-manufacturing to operations	Mr V V Kulkarni	65
22	5th March 2019	workshop	MATLAB hands on training	Mr Alok Bhat, Mathworks, India	64
23	5th March 2019	Expert Lecture	PID Controller Design	Mr Dhirendra Singh Mathworks, India	74
24	5th March 2019	Expert Lecture	High Voltage safety	Dr S Patni, MSEB,Pune/ Mrs M H Dhend	60
25	27th March 2019	Expert Lecture	Case studies on Energy conservation	Mr Kumar Pawar, Nashik/ Ms S R Lengade	64
26	28th March 2019	One day Seminar	Electric Vehicles	Mr Arpurbo Kirty, Mahindra & Mahindra , Chennai	75
27	2nd April 2019	Expert Lecture	Applications of Drives	Mr Manoj Badave, Tata motor, Pune	60
28	2nd April 2019	Project Exhibition		1.Mr Manoj Badave, Tata motor, Pune 2. Dr A A Mujumdar, CME Pune	71
29	2nd April 2019	Expert Lecture	Electric Traction System	Mr S M Choudhari/ Mr V V Kulkarni	66
30	4th April 2019	Industrial Visit	Traction systems	Khadki Locoshed/ Mr V V Kulkarni	25
31	10th April 2019	Industrial Visit	Transformer design	Rebus Industries LLP, Chakan/ Dr D Srivastava	51
32	11th April 2019	Industrial Visit	Switchgear & Protection	Crompton Greaves,Nashik/ Mr V S Ponkshe	25
33	11th April 2019	Industrial Visit	Traction systems	Pune station Locoshed/ Mr V V Kulkarni	16
34	10th Sep 2018	Technical Paper Presentation		Engineering Today 2018	5
35	10th Sep 2018	Pirates of Wizard			28
36	10th Sep 2018 & 11th Sep 2018	License To Kill: The Laser War			75
37	11th Sep 2018	Brain Pop			64
38	10th Sep 2018	Technical Cross Word			56
39	11th Sep 2018	Parachute Panic			84
40	10th Sep 2018	NFS			34
41	12th Sep 2018	Science Exhibition		Science Exhibition 2018	45

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

Technical Magazine
VidYouth

On 6th May 2022, HOD Dr. Ashwini Godbole and the other faculties inaugurated the Department Technical Magazine, **VidYouth**.
The magazine is published to motivate students to write technical articles. The magazine also includes articles from faculties of the department.
Editorial Team

Sr No	Name of Student	Class
1	Sarvesh Bodhe	T.E. Electrical
2	Chirag Shah	T.E. Electrical
3	Sharwari Maske	T.E. Electrical
4	Carolyne Verghese	B.E. Electrical
5	Videh Warade	T.E. Electrical

Faculty advisor: 1) Dr A.A. Apte 2) Prof S.R. Lengade

Technical Magazine Release

The magazine included technical papers written by department's students of second to last year. It also contains some general trivia and technical information. For the uniqueness to be preserved, the team has added crossword puzzle to keep the reader interactive.

On the same day, department's wall magazine was also inaugurated. It's a special and reserved space for students to showcase their writing, drawing skills. Decorated with aesthetic items, the wall magazine currently holds the poems and non-technical paragraphs, drawings as well as memes from students.

News - Letter

Electrical Engineering Department published news letter from last 4 years. It includes overall report of the department for

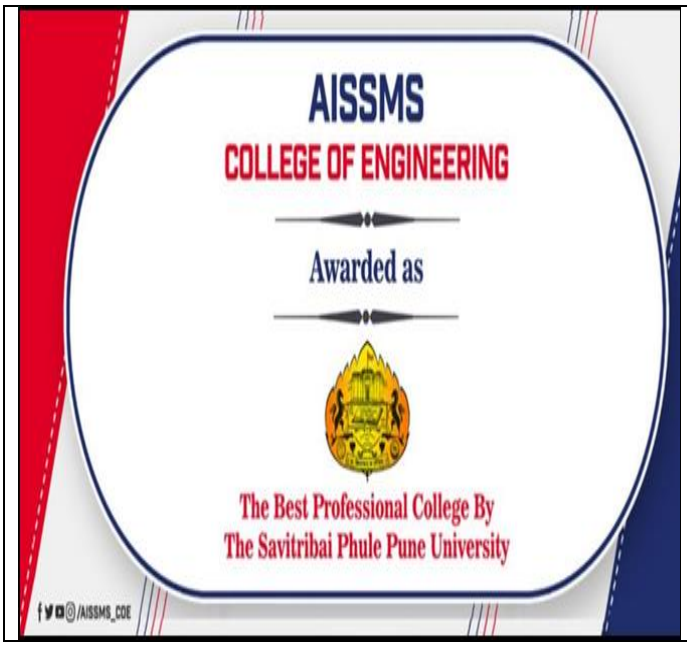
AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

ElectricalEngineering

"We step up, we transform"

NEWSLETTER

January-June 2020 VOL: 06



FROM THE PRINCIPAL'S DESK...

I'm glad to signify that with commencement of this year 2019, AISSMS College of Engineering has completed 27 grand years of its establishment. AISSMS COE as an outcome of academic excellence achieved, is consistently producing University gold medalists and top rankers in different branches of engineering. Faculty is actively involved in research and development. College has number of very high–end analytical, computational and experimental facilities at the disposal of students. I wish all the best to the aspiring students, employers and all other stake-holders in achieving their goals.

-Dr. D.S. Bormane

FROM THE HOD'S DESK...

It gives me immense pleasure to find that the department magazine team is striving very hard to ensure a good quality magazine. The magazine provides a platform for the students to showcase their literary skills. All round the year, the faulty members and student are organizing and participating in different technical, co- curricular, extracurricular and sports activities. These efforts are needed to be applauded and encouraged. This also gives an opportunity to connect with the alumni who are eagerly waiting to know the development in the department. I extend my best and sincere wishes to the editorial team.

-Dr. Mrs. A.A. Godbole

From the Editor's Desk…

The Editorial Board of the Department proudly presents its very own creation – Department Newsletter, which would be a snapshot of the various activities and advancements associated with Electrical Engineering Department. The progress of the society mainly depends on many people who are working behind the scenes, overtime round the clock planning things to the smallest. This newsletter will be a medium to provide proper acknowledgement and respect to all of these efforts and its results. This issue is a brief account of the important events held from July 2019 to December 2019. I want to extend my sincere thanks to my editorial team for the support to make this Newsletter stand out.

-Mrs. P.K. Sankala

"No resistance can drop our potential"

Published at:

Electrical Engineering Department, AISSMS College of Engineering, Kennedy Road, Shivaji Nagar, Pune – 411001

Visit us at: www.aissmscoe.com

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

4.6.3 – Student Achievements

Year 2021-22			
Winners			
National Level Competion			
Sr No	**Name of Winner Students**	**Event Name**	**Event organised by**
1	Aniket Aitawade	GATE 2022	IIT Kharagpur
2	1) Kunal More 2) Sakshi Lokhande 3) Aniket Kinkar 4) Arjun Taur 5) Mangesh Pakhare 6) Sumit Ghodke 7) Kunal Pardeshi 8) Ujwal Bugade 9) Yash Kakade	SAE INDIA eBAJA 2022	SAE Internationals
3	Ameya Kulkarni	SAE Aero Design Challenge West 2022	SAE India
4	Shreyas Chandgude	SAE REEV	SAE India
5	1) Sahil Gole 2) Nikhil Borude 3) Ravi Yadav	BAJA SAE INIDIA mBAJA	SAE India
6	1) Maithili Balkawade 2) Aditya Bhise 3) Aarushi Mahajan	SAE NIS Efficycle Season 11 and 12	SAE India
State Level Competion			
Sr No	**Name of Winner Students**	**Event Name**	**Event organised by**
1	Kaustubh Patil	IEI Circuit Wizards	Department of Electrical Engineering, AISSMS College of Engineering
2	1) Satyam Mundhe 2) Arya Polas	Firodiya Karandak – Intercollegiate Dance Competitions	Firodiya Karandak by - Suryakant Kulkarni and Jayashree Firodia
3	1) Jayesh Phalke 2) Kaustubh Patil 3) Nikhil Shinde 4) Utkarsh Chavan 5) Pranav Mulay 6) Vishrut Karangale 7) Rushikesh Kajale	Inter-departmental Cricket	AISSMS College of Engineering

	8) Manjit More 9) Pratik Mohire 10) Ritesh Naik 11) Aditya Wabale 12) Yash Patil 13) Siddharth Lahamge 14) Atharva Kadam 15) Sahil Sarvade 16) Nikhil Thorat 17) Amit Rathod 18) Chetan Bidgar		
4	1) Shreyas Patil 2) Inamulhasan Shaikh 3) Suraj Shendge 4) Aditya Bhise 5) Rushikesh Kajale 6) Manjit More 7) Prathamesh Lamgaonkar 8) Siddharth Lahamge 9) Prafull Kumar Yadav 10) Sumit Ghodake 11) Ashutosh Kamble 12) Abhishek Patil 13) Kunal Pardeshi 14) Ajit Saware 15) Kunal Magar 16) Niraj Rikibe 17) Amir Hamza 18) Sahil Solaki	Inter-departmental Football	AISSMS College of Engineering
5	Kunal Kakade	Thread Art and Dance	Firodiya Karandak
6	Dipti Pandav	Women's Day Speech	AISSMS College of Engineering
7	1) Shreya Waghmare 2) Dipti Pandav 3) Yogeshri Kadam 4) Saanvi Pote	Inter – Department Chess	AISSMS College of Engineering

Year 2020-21

Winners

National Level Competion

Sr No	Name of Winner Students	Event Name	Event organised by
1	Anurag Lambhor	Hackathon2021.	SSPU
2	Anurag Lambhor	Project competitionat Quantum	RajarambapuInstitute ofTechnology, Sangli
3	Anurag Lambhor		Ministry Educations of Innovation cell
4	Yash Bhausaheb Patil	SAE efficycle(season 11)	

State Level Competion			
Sr No	**Name of Winner Students**	**Event Name**	**Event organised by**
1	Anurag Lambhor	Vishwa Parivartan 2020	IIIT, Pune
2	Anurag Lambhor	SPPU-I-2-E	SPPU Incubation Centre, Pune.
Year 2019-20			
Winners			
National Level Competion			
Sr No	**Name of Winner Students**	**Event Name**	**Event organised by**
1	Anurag Lambhor	Anveshan	GOI.
2	Arya Polas	Dance Competition	IIT Kharagpur
3	Aditya Bhople, Aniket Aitawade	Game of Circuits	AISSMS IOIT, Pune
4	Anurag Lambhor	Pragati 2020	SFIT, Mumbai.
5	Shraddha Pore	National Conference on Cyber Security	PVG's COET,Pune.
6	Shraddha Pore	National levelTechnical event-Paper presentation	Universal COE, Pune
7	Shraddha Pore	National level Paper Presentation	JSPM COE, Pune.
Year 2019-20			
Winners			
State Level Competion			
Sr No	**Name of Winner Students**	**Event Name**	**Event organised by**
1	Anurag Lambhor		SPPU Incubation centre, Pune.
2	Anurag Lambhor	Young Aspiring Entrepreneurs,	VIIT Pune.
3	Arya Polas	Vinodattam Karandak	
4	Arya Polas	Dance Competition	AISSMS COE, Pune
5	Gaurav Bhirud, Pranay Patil, Vaibhav G, Koli Sayali	Project poster Competition	PES's Modern COE, Pune.
6	Anurag Lambhor	Vishwa Parivartan 2020 Paper Presentation	VIIT, Pune.

Year 2020-21					
Participation					
State Level Competion					
Sr No	**Name of Winner Students**	**Event Name**	**Event organised by**	**Prize/Rank/achievement**	**Date**
1	Ankita R Wakchaure	Industrial Traning	RCSS Enerzies Nashi	Participation	29 June to 28 July 2020
2	Janhavi S Sapkal	Industrial Traning	RCSS Enerzies Nashi	Participation	29 June to 28 July 2020
3	Komal S Patil	Industrial Traning	RCSS Enerzies Nashi	Participation	29 June to 28 July 2020
4	Tripti A Bhamar	Industrial Traning	RCSS Enerzies Nashi	Participation	29 June to 28 July 2020
5	Onkar Patole	Industrial Traning	RCSS Enerzies Nashi	Participation	29 June to 28 July 2020
6	Sanket R Darekar	Workshop	NSDC	Participation	17 July 2020
7	Sanket R Darekar	Workshop	Pantech Prolabs India Pvt.Ltd	Participation	3 May to 7 May 2020
8	Sanket R Darekar	Workshop	Gamma Technologies	Participation	18 July 2020
9	Tripti A Bhamar	Internship	Sunschool	Participation	30 Nov. 2020
10	Akash A Patil	Internship	VI Solution	Participation	28 Dec. To 29 Jan. 2020
11	Arjun P Taur	Webinar	AISSMS COE, Pune	Participation	14 May 2020
12	Arjun P Taur	Webinar	AISSMS COE, Pune	Participation	5 June 2020
13	Satyam S Mundhe	Webinar	AISSMS COE, Pune	Participation	24 Oct. 2020
14	Arjun P Taur	Short Course	Google	Participation	6 June 2020
15	Arjun P Taur	Course	Electrosteel	Participation	7 to 20 April 2020
16	Arjun P Taur	Talk	NHRD Inovation CELL	Participation	13 June 2020
17	Supriya S Darade	Short Course	Energy Swaraj Foundation.AISSMS COE	Participation	11 July 2020
18	Aniket R Kinkar	Iucee Soft Skill Course	IUCEE	Participation	Aug. 2020
19	Ruchika Meshram	Professional Com. Skill	WorsaMaya	Participation	8 May 2020
20	Sakshi G Lokhande	IUCEE Soft Skill Course	IUCEE	Participation	Aug. 2020
21	Sharaddha V Patil	Short Training	Shirke Electrod Pvt. Ltd.	Participation	20 to 28 March. 2020
22	Gayatri Lokare	Short Training Course	MathWorks	Participation	28 April 2020
23	Atharva Bhagwat	Short Training Course	MathWorks	Participation	4May 2020
24	Satyam S Mundhe	Internship	RCSS Enerzies, Nasik	Participation	24 Aug. To 23 Sept.2020
25	Aditya R Bhise	Internship	RCSS Enerzies, Nasik	Participation	24 Aug. To 23 Sept.2020

26	Sayali D Pawar	NPTEL	NPTEL IIT Madras	Participation	Sept. Dec. 2020
27	Rituja P Patil	Short Course	SOLOLEARN	Participation	26 April 2020
28	Diksha Battise	Short Course	Schneider Electric	Participation	14May 2020
29	Sameer R Mhaske	Short Course	Energy Swaraj Foundation.AISSMS COE	Participation	2 July 2020
30	Vaishnavi B Pachpute	Short Course	Energy Swaraj Foundation.AISSMS COE	Participation	3 July 2020
31	Gayatri Lokare	Short Course	TATA STEEL	Participation	1 May 20
32	Shehbaz Khan	Short Course	Abdul Bari	Participation	22 May 2020
33	Vineet A Gadhave	Short Course	TATA STEEL	Participation	12 June 2020
34	Vishrut Karangale	Short Course	TATA STEEL	Participation	25 April 2020
35	Mohammed S Khan	Short Course	UC San Diego Corsera	Participation	4 Apil 2020
36	Mohammed S Khan	Short Course	DTU Corsera	Participation	4 to 7Apil 2020
37	Aditya R Bhise	Short Course	UCI Corsera	Participation	23 Aug. 2020
38	Rituja P Patil	Short Course	UCI Corsera	Participation	15May. 2020
39	Diksha S Battise	Short Course	State Uni. Of New York	Participation	8 Oct. 2020
40	Rituja P Patil	Short Course	State Uni. Of New York	Participation	20May. 2020
41	Aditya R Bhise	Short Course	UCI Corsera	Participation	7 Feb. 2020
42	Vishrut V Karangale	Short Course	Duke Uni.	Participation	22. May 2020
43	Vishrut V Karangale	Short Course	State Uni. Of New York	Participation	19 May 2020
44	Vaishnavi B Pachpute	Short Course	Uni. Of MICHIGAN	Participation	6 March 2020
45	Aditya R Bhise	Short Course	Uni. Of MICHIGAN	Participation	8 Feb.20
46	Mohammed S Khan	Short Course	UCI Corsera	Participation	29 June 20
47	Vaishnavi B Pachpute	Short Course	State Uni. Of New York	Participation	6June. 2020
48	Aishwarya Moghekar	Short Course	State Uni. Of New York	Participation	20 June. 2020
49	Shivani R Choudhar	Short Course	State Uni. Of New York	Participation	8 Sept.. 2020
50	Vishrut V Karangale	Short Course	Uni. Of Colorado	Participation	22 May 2020
51	Carolyne Varghese	Short Course	TATA STEEL	Participation	13 May 2020
52	Shiwani R Chaudhari	Short Course	TATA STEEL	Participation	26 May 2020
53	Shiwani R Chaudhari	Short Course	TATA STEEL	Participation	11 May 2020
54	Shiwani R Chaudhari	Short Course	TATA STEEL	Participation	30 May 2020

CRITERION 5	Faculty Information and Contributions	200

S No.	Name of the Faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/ Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated (Y/N) Date of Leaving (In case Currently Associated is ("No")	Nature of Association (Regular/Contract)
		Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications(number)	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years		
1	DrA.A. Godbole	Ph.D	DIAT, Pune	2012	Since September 2013	Professor	17.09.2013	17.09.2013	Electrical	Control systems	Journal-06, Conference-09	01	----	Y	Regular
2	DrM.H. Dhend	Ph.D	SRNTMU, Nanded	2018	Since August 1992	Assistant Professor	----	1.10.1992	Electrical	Power systems	Journal-21, Conference-27	----	2018-19	Y	Regular
3	S.K.Biradar	M.E	VJTI Mumbai	1997	Since January 1999	Assistant Professor	----	1/1/1999	Electrical	Control systems	Journal-08, Conference-04	----	----	Y	Regular
4	A.A.Apte	Ph.D	University of Pune	2019	Since January 1997	Assistant Professor	----	1.1.1997	Electrical	Control systems	Journal-06 Conference 07	----	2019-20	Y	Regular
5	L.S.Godse	M.E	University of Pune	2004	Since December 1997	Assistant Professor	----	10.08.1998	Electrical	Control systems	Journal-01 Conference 08	----	----	Y	Regular
6	S.R. Lengade	M.E	University of Pune	2009	Since January 2005	Assistant Professor	----	31.01.2005	Electrical	Power Systems		----	----	Y	Regular
7	V.S. Ponkshe	M.E	Shivaji	2004	Since January 2007	Assistant Professor	----	17.01.2007	Electrical	Power Systems		----	----	Y	Regular

8	*P.Sankala*	*M.E*	*Anna University*	*2005*	*Since August 2007*	*Assistant Professor*	----	*1.10.2008*	*Electrical*	*Power Electronics and Drives*	*Journal-03, Conference-03*	----	----	*Y*	*Regular*
9	*V.N. Tarange*	*M.E*	*SPPU*	*2011*	*Since August 2007*	*Assistant Professor*	----	*1.1.2010*	*Electrical*	*Power Systems*	*2*	----	----	*Y*	*Regular*
10	*C.D. Kulkarni*	*M.E*	*SPPU*	*2015*	*Since Oct 2010*	*Assistant Professor*	----	*1.10.2010*	*Electrical*	*Control Systems*	*--*	----	----	*Y*	*Regular*
11	*R S Shinde*	*M.Tech*	*Shivaji university*	*2016*	*Since June 2018*	*Assistant Professor*	----	*11.06.2018*	*Electrical*	*Electrical Power system*	*Conference-2*	----	----	*Y*	*Regular*
12	*Sreerekha Vadi*	*M.E*	*SPPU*	*2015*	*Since 2016*	*Assistant Professor*	----	*08/01/2016*	*Electrical*	*Power Electronics and Drives*	*Conference -1*	----	----	*Y*	*Regular*
13	*S S Mujawar*	*M.E*	*SPPU*	*2014*	*Since June 2015*	*Assistant Professor*	----	*08/06/2015*	*Electrical*	*Power Systems*	*Journal-01, Conference-01*	----	----	*Y*	*Regular*

Faculty Information for AY 2020-21 and 2019-20 is shown in Annexure

5.1 Student-Faculty Ratio (SFR) (20)

Student Teacher Ratio (STR) = S / F

Year	CAY(21-22)	CAYm1(20-21)	CAYm2(2019-20)
u1	66(60+6)	77(60+17)	72(60+12)
u2	60	60	60
u3	60	60	60
UG	**186**	**197**	**192**
p1	18	18	18
p2	18	18	18
PG	**36**	**36**	**36**
Total No. of Students in the Department (S)	**222**	**233**	**228**
No. of Faculty in the Department (F)	13	13	14
Student Faculty Ratio (SFR)	SFR1=17.08	SFR1=17.92	SFR2=16.29
Average SFR	SFR=(SFR1+SFR2+SFR3)/3		**17.34**

Table B.5.1

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	13	0
CAYm1	13	0
CAYm2	14	0

5.2 Faculty Cadre Proportion (25)

Year	**Professors**		**Associate Professors**		**Assistant Professors**	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY(2021-22)	**1**	**1**	**2**	**0**	**7**	**12**
CAY*m*1(2020-21)	**1**	**1**	**2**	**0**	**7**	**12**
CAY*m*2(2019-20)	**1**	**1**	**2**	**0**	**7**	**13**
Average Numbers	**RF1=1**	**1**	**RF2=2**	**0**	**RF3=7**	**12**(12.33)

Table B.5.2

- Cadre Ratio Marks= (AF1/ **RF1**)+(AF2/**RF2**x 0.6) + (AF3/**RF3** x 0.4) x 12.5

  = **21**(21.31)

5.3 Faculty Qualification (25)

FQ =2.5 x [(10X +4Y)/F)] where x is no. of regular faculty with Ph.D., Y is no. of regular faculty with M.Tech. F is no. of regular faculty required to comply 20:1 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)

No.of Students=198 (Program wise)

Year	X	Y	F	FQ=2.5 x [(10X +4Y)/F)]
CAY	3	10	**11**(11.1)	15.9
CAY*m*1	3	10	**11**(11.65)	15.9
CAY*m*2	4	10	**11**(11.4)	18.18
Average Assessment				**16.66**

Table B.5.3

5.4 Faculty Retention (25)

No. of faculty member in the year CAYm2_2019_20:	**14**
No. of retained faculty member in the year CAYm1_2020_21:	**13**
No. of retained faculty member in the current year CAY_2021_22:	**13**
Average No. of faculty member retained during the period of assessment:	**13**
Percentage of faculty retained during the period of assessment :	**92.86**

5.5 Innovations by the Faculty in Teaching and Learning (20)

GOALS:

In order to make the teaching-learning process more attractive to students,teachers are using various innovative tools and techniques to deliver the contents/ knowledge so that students can actively participate and grasp the ideas quickly. Faculty are attending various Faculty development programs for domain knowledge and for new trends in education technology/pedagogy which make their teaching more innovative.

The department will continuously strive to achieve the following goals:

- Enrich student learning by innovative practices.
- Develop students' comprehension and expertise of creative methods and strategies.
- Broaden students' perspective of emerging technologies and tools in academics, contemporary and social issues by innovative strategies.
- Motivate students to innovatively think, formulate and perform through different student Chapters/club activities.

A. Initiatives followed by the department in teaching and learning process:

The Electrical Engineering program is following practice to upload teaching material related to the allotted teaching course on Learning Management systems(LMS) and the same will be verified by the academic monitoring committee at program level and at the institute level for any suggestion and improvement. Feedback received from this committee for the improvement will be incorporated in the course material and further shared to the students. This will help the faculty members to improve the quality of the material.

Following are the various tools and techniques used by faculty to make teaching more innovative:

1) ICT and multimedia based teaching-learning:

Integration of ICT in teaching has very important significance on the learning attitude of students, creativity, knowledge construction, learning environment, teaching strategies, problem solving skills and understanding concepts using various tools. Multimedia will help the faculty to represent the content in a more meaningful way using different ICT tools.This significantly boosts the out-of-class learning experience of students. Following Learning Management Sources are used by faculty:

a. Microsoft Teams: Online teaching conduction**,**Course material like notes, assignments, question bank on all units, reference material (Subject related), quiz, tests, Lab manuals, Lecture videos, animated videos, etc; are shared to students through Microsoft Teams.

b. ERP: Faculty frequently upload material , presentations,assignments and test results on ERP.

c. **Google applications:** Faculty also use Google drive and classrooms to share Course material.

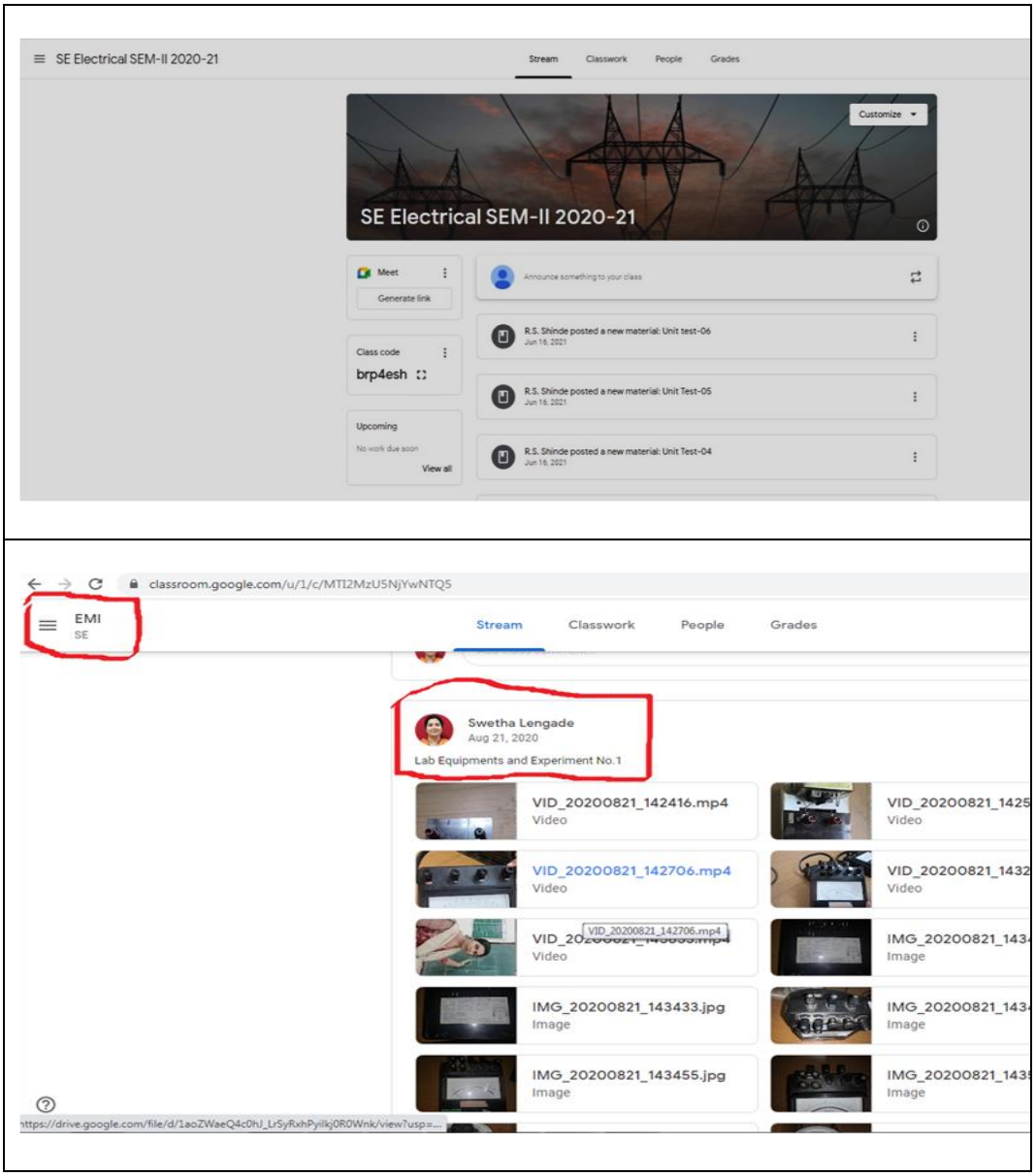


Fig 5.1 Google Classrooms used by Faculty

d. Canvas: Another LMS used by faculty to share course material and conduct class tests and quiz, portofolio activities ,etc.

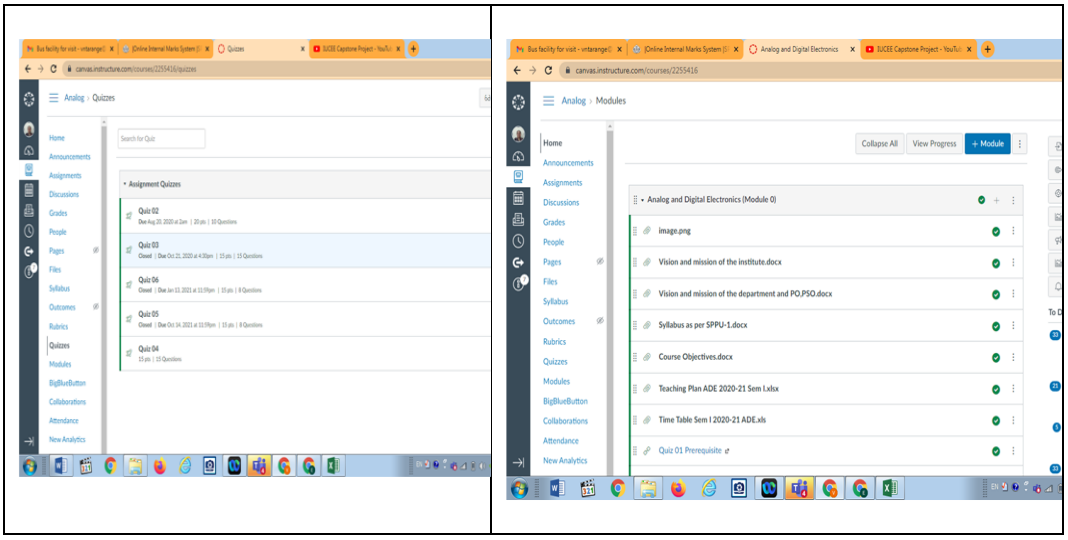


Fig 5.2 Canvas used by Faculty

e. Virtual Labs and simulation software: Along with laboratory experiments prescribed by university syllabus, one or more additional virtual lab experiments (from IIT web portal) are conducted for a few labs. Also different softwares like MATLAB, Proteus, PSim, Mipower , ETAP are used to conduct lab experiments.

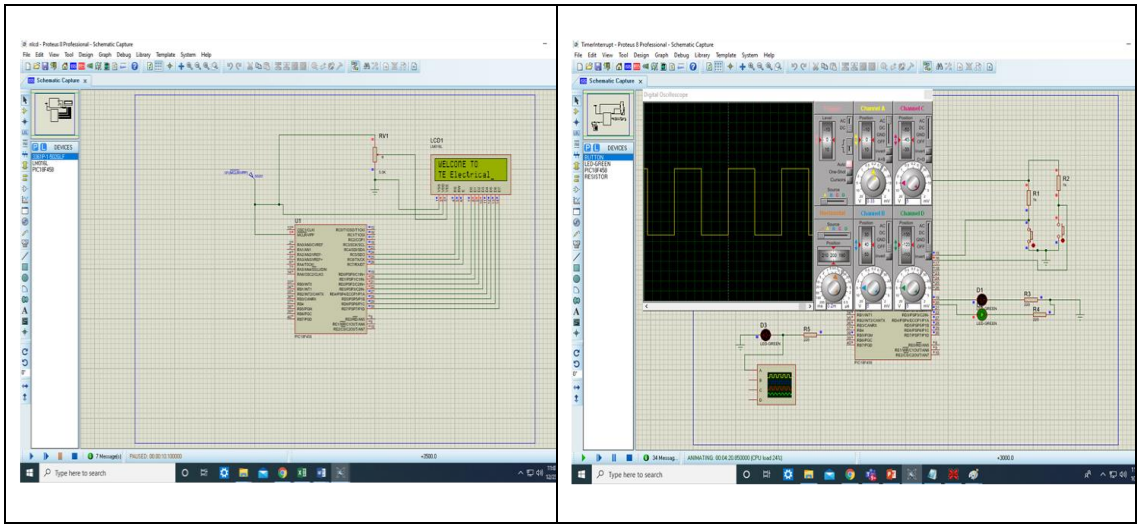


Fig 5.3 Virtual lab conduction and simulation in Proteus

f. Various **multimedia tools** like Powerpoint Presentations, smart boards, demonstration videos, mentimeter, spinning wheels, Tinkercad are used for effective teaching and learning processes.

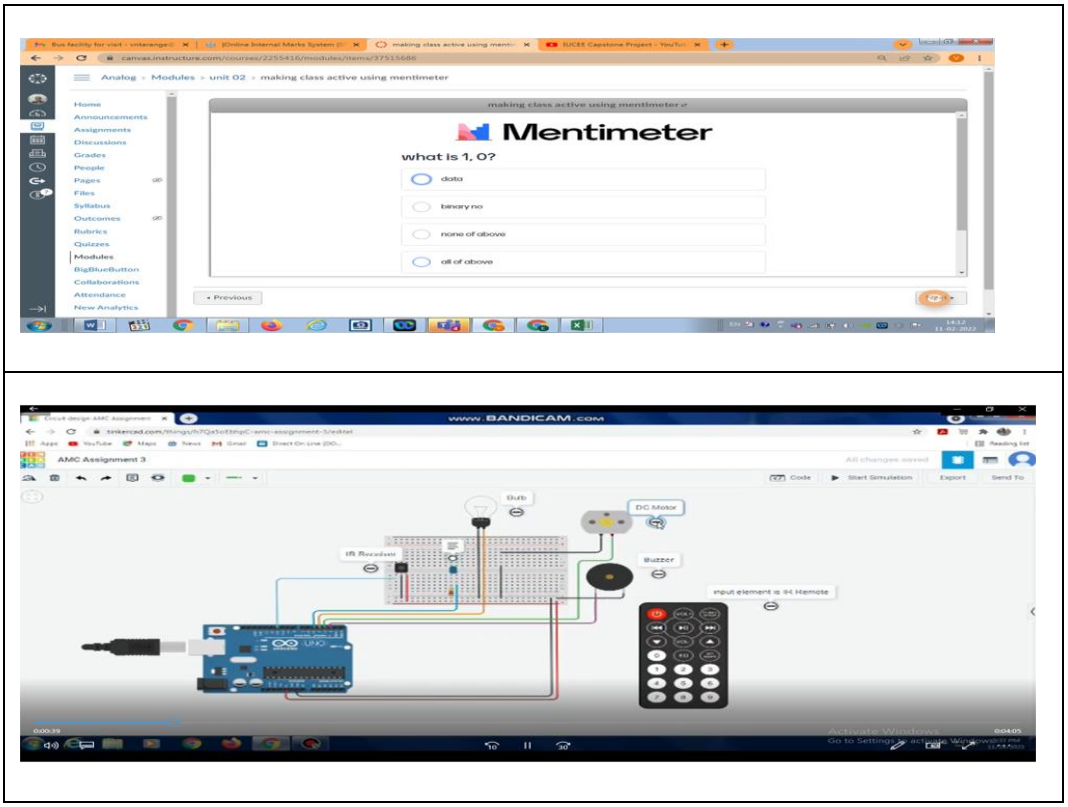


Fig 5.4 Tools like Mentimeter and Tinkercad used by faculty

- **Outcomes :**

- During the pandemic period, this methodology has helped both teachers and students to interact and learn the subjects effectively.

- The platforms helped the students to get the study material, interact with the faculty, solve and submit assignments and enhance their thinking ability through the tests as well as quiz sessions conducted by almost every faculty member.
- Use of virtual labs enthuse students to conduct experiments by arousing their curiosity. This would help them in learning basic and advanced concepts through remote experimentation.
- Remote-access to simulation-based Labs in various disciplines of Science and Engineering

2) Digital Teaching-Learning platforms:

Faculty have also created their own YouTube Channels wherein they upload study material relevant to their own subjects. The links are shared with the students and the contents are openly accessed by all students.

Some sample video lectures can be accessed by using following links:

Link https://www.youtube.com/channel/UCyCJS70_lt-dfugTs1S0ODw

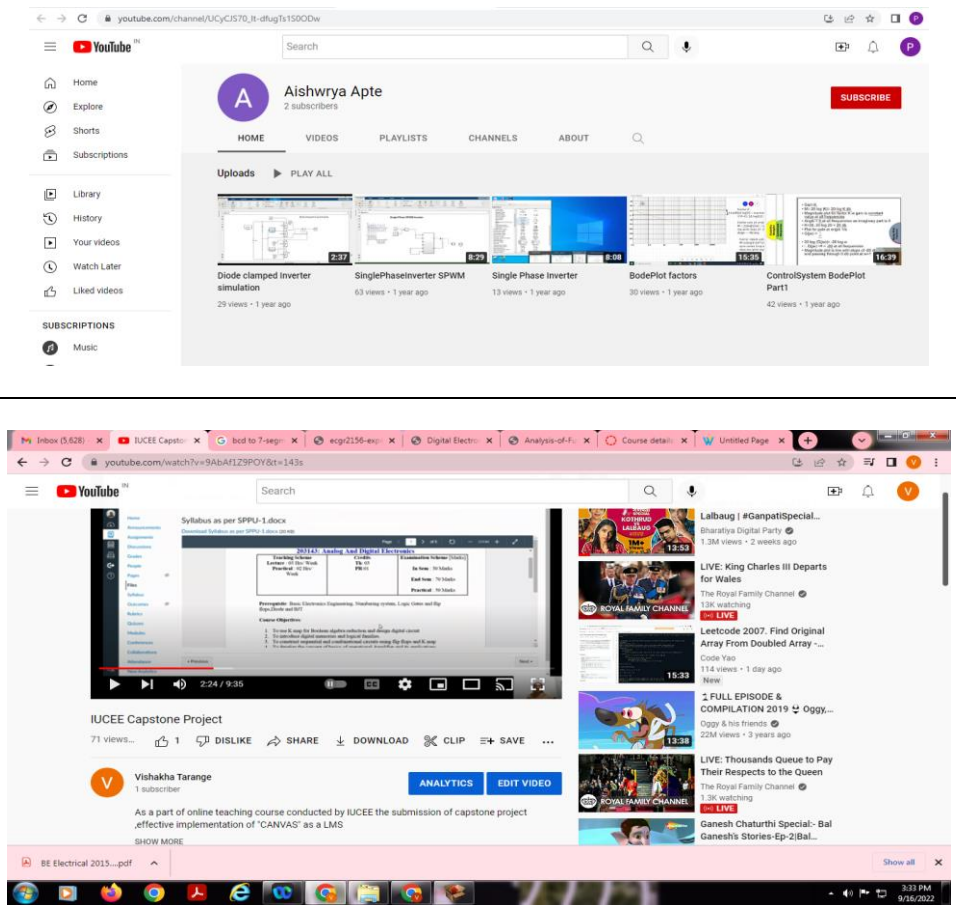


Fig 5.5 Youtube channels of faculty

Outcome :

- The students can learn at their own pace and at their own convenience apart from classroom learning. This provides students, the opportunity for self study.

3) Instructional materials:

Unit wise notes, question bank, assignments, lab manuals are provided to students in due course. Laboratory charts, experiment handouts, instruction manuals etc; are used to explain the working principle of experimental setups in each laboratory. Sometimes, for better understanding of complicated concepts, graphical visual aids, animation videos are used by the faculty during practical sessions.

Outcomes:

- These materials enable both the teachers and students to participate actively and effectively during lesson sessions.
- Instructional materials make teaching and learning interesting and easy. It makes learning more effective

4) Industry- Institute Interaction:

a. Industry visits organized:

Sr No	Year	Name of the company	Date
1	2021-22	Phugewadi Metro, PCMC	06/04/2022
2		Prayog Electricals	12 04/2022
3		Mapro Food plant	07/05/2022
4		HVDC Phadge	07/05/2022
5	2020-21	No Visits conducted due to Pandemic	
6	2019-20	Hydro Power Plant Ghatghar	02/08/2019
7		PARI Automation	29/8/2019
8		Star Electricals	25/07/2019
9		Lonikand 400 KV substation, Pune	30/08/2019
10		Madhav Capacitors Pvt Ltd, Bhosari	11/09/2019
11		Science Park, PimpriChinchwad	11/09/2019
12		SLDC, Kalwa	12/10/2019
13		Mahati Electricals, Yawat	15/01/2020
14		Pune Metro Rail, PimpriChinchwad	21 & 22 /01/2020

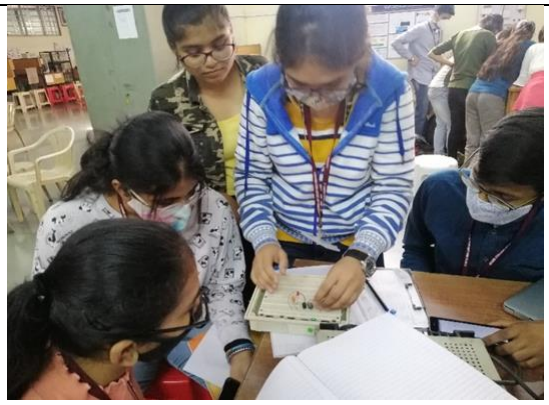
15		Tata Power Plant khopoli	7/02/2020
16		Manisha Transformers	31/01/2020
17		Sakal Press Pune	12/03/2020
18	2018-19	Cahors Industries, Ranjangaon MIDC	04/10/2018
19		220KV Parvati Substation	05/10/2018
20		Mahati Industries, Yewat	30/01/2019
21		Sakal Press Uruli Devachi	1/02/2019
22		Anuraj Sugars Ltd, Yavat	22/02/2019
23		Khadki Locoshed	4/04/2019
24		Rebus Industries LLP, Chakan	10/04/2019
25		Crompton Greaves,Nashik	11/04/2019
26		Pune station Locoshed	11/04/2019

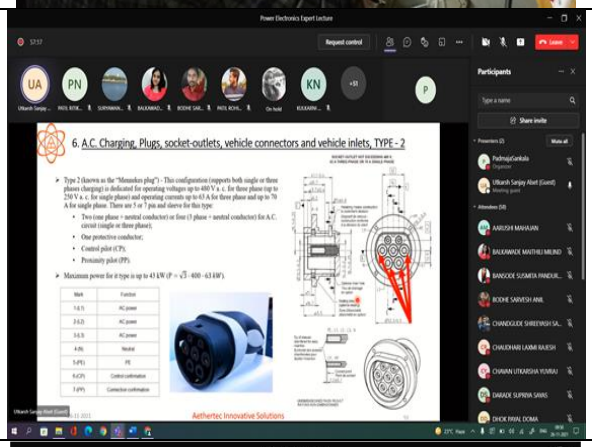
Fig 5.6 Industrial visits of students at various companies

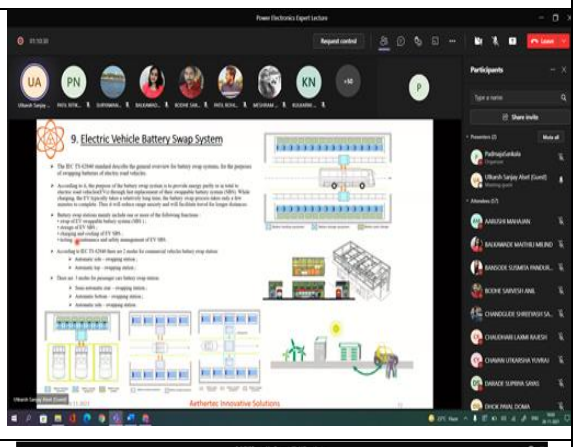
b. Expert lectures/workshops /training sessions organized:

S No	Year	Topic	Details of the Expert	Date
1	2021-22	Expert Lecture on Soft skills needed in Corporate	Ms Priti Kibe, Forbes Marshall	02/9/2021
2		Expert Lecture on What competencies a core company looks for in a graduate engineer trainee	Mrs Kavita Kaushik, Quality Champion Cummins India	16/9/2021
3		Expert Lecture on NanoTechnology and its scope in Research	Dr P B Karandikar,Associate Prof, AIT Pune	22/11/ 2021
4		Workshop on Fabrication of Buck converters	Mr Mohan R Pare & Mr Utkarsh Alset, Design & Development Engineer, R & D , Arthertec Innovative Solutions, Pune	23/11/2021
5		Chargers used for Battery Operated Vehicles	1. Mr Utkarsh Alset, Design & Development Engineer, R & D , Arthertec Innovative Solutions, Pune	26 /11/2021
6	2020-21	Introduction to Power Electronics and its scope in Research Areas	DrKalaiselviJayaraman, IIT Ropar,Punjab	04/8/2020
7		Current trends in Electric Vehicles	Mr Ajay Pradhan	18/8/2020
8		Project Selection and management	Mr Manoj Badave,Senior manager, Plant Engineering, Tata motor, Pune & Mr Prakash Mali,Senior Manager ,John Deere,Pune	29/8/2020
9		PLC applications	MrMilindPundalik, VMS Control	18/9/2020
10		Importance on Healthy Life style	Dr V Lunkad	23/10/2020
11		Self Awareness	MsNeetu Gupta, Life Skill Coach	24/07/2020
12		Selection of motor and batteries used in Electric vehicles	MrHrishikesh Mehta, Athertec Innovative solutions	04/12/2020

13	2019-20	Audit course session II	Mr Aditya Akole	12/7/2019
14		Career in Management studies	Amar Salunke	24/7/2019
15		Project area selection and project management	Mr Ajit Jha	02/8/2019
16		Energy Audit and Conservation, BEE and case studies	Mr Pramod Daspute	28/8/2019
17		Role of PLC in Automation	Ms Nital Sarap, Technocrat	23/9/2019
18		Applications of Control Systems in Defense	Mr Jaywant Kolhe Sc 'D' R & D Engineers, DRDO	15/10/2019
19		Career Counseling	Mr Anuj Mehta, Ms Swapnaja, Global Education Pvt Ltd, Pune	06/1/2020
20		Awareness on innovative projects and Internship	Mr Mayank Arora and Mr Chinmoy Zagade, Elite Techno group	09/1/2020
21		Microcontroller applications	Mr Rajendra Khope, IO care systems	18/2/2020
22		Energy Audit & Conservation	Mr Vinay Gadikar	26/2/2020




Power Electronics Expert Lecture
6. A.C. Charging, Plugs, socket-outlets, vehicle connectors and vehicle inlets, TYPE - 2
Aethertec Innovative Solutions


Power Electronics Expert Lecture
9. Electric Vehicle Battery Swap System
Aethertec Innovative Solutions

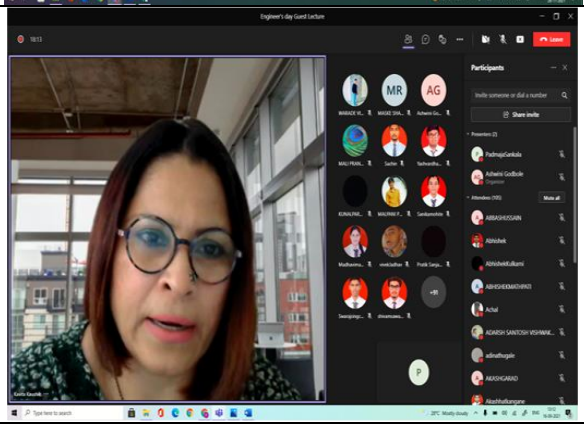

Engineer's day Guest Lecture

Fig 5.7 Expert lectures, workshops and trainings arranged for students

c.Internship to students:

Program motivates students to undergo internships to understand the industrial atmosphere and working culture. Students will undergo internship in the industry either provided by the institute or chosen by themselves. Generally the training period would be 2 weeks to 1 month during winter and summer vacation. Experience gained by students during internship will help students to get jobs in the industry.

Outcomes:

- Industrial visits and Internship training provides the students with an opportunity to learn practically through interaction, working methods and employment practices.
- It gives the students an exposure to current work practices as opposed to theoretical knowledge being taught at their college classrooms
- Expert lectures help the students to explore particular subjects with the interaction of industry experts. Students get the benefit to relate theoretical with practical inputs of the field.

5) **Proactive teaching methods** like group discussions, role play, games in the class like treasure hunt help in creating interest by breaking monotony of regular classes while enhancing the learning experience.

Fig 5.8 Group discussions carried out for TE students

Outcome:

- This helps the students to have a better understanding of the subject/topic and get new innovative ideas
-

6) Use of models/Animations/PPTs/CASE studies :

- The department has cut sections of the machines,models of measuring instruments,switchgear which are used to teach core engineering courses and which helps students to understand the concept in a better way.
- Each faculty has prepared powerpoint presentations which were extensively used in the pandemic period for online teaching and learning.
- The extensive use of charts, animations and Case studies help the students to understand the concepts in an easier way.
- All the classrooms are well-equipped with high quality projectors ready for use any time.

Fig 5.9 Various working models, Charts used by faculty members

· **Outcomes :**

- Working models enhance the thinking abilities of the students.
- Animations, Charts and Case studies help students to understand and grasp the concept easily.

8) Project based teaching-learning:

PBL has been introduced for SE students with the goal of motivating students to learn by working cooperatively in groups to solve a problem. PBL is a student-centered pedagogy that employs a dynamic classroom approach in which students are believed to gain a deeper understanding through active exploration of real-world challenges and problems. Students gain knowledge about a subject by investigating and responding to a complex question, challenge, or problem over time. It is an inquiry-based and activelearning style. Problem-based learning will also alter the role of the teacher as a mentor in the learning process.

Outcome :

- PBL encourages students to develop a balanced, diverse approach to solving real-world problems, both on their own and in a team.

9) Cutting-edge initiative:

Today's education system is rapidly evolving in order to introduce new teaching techniques and strategies that promote a culture of diversity and inclusion. Similarly, each teacher has a distinct teaching style. However, all teachers have the same goal: to instill a love of learning in their students. Department have a few Cutting-edge initiatives as given below that use modern technology

- Avishkar
- Anveshan
- Startup & Innovation cell

Fig 5.10 Achievements of our students in Avishkar, Anveshan

Fig 5.11 Start up: Trash to Cash by our students

Outcomes :

- Students get exposure to discover and develop their entrepreneurial skills, project ideas at national level.
- Students get the opportunity to present their research projects.

B. Various Learning Platforms provided to the students:

The teaching-learning process can be made more novel/attractive to students, if it triggers their innovative instinct and inspires them to find a creative solution to complex problems. The subject knowledge should lead them to use the learning for new concepts and applications and thereby create an environment of problem solving, new designing and critical in- depth thinking. The raw ideas generated from students may initially appear as primitive. These ideas need to be bloomed, matured and experimented on appropriate platforms, so these can be refined into more fruitful end products and feasible applications. Keeping this in mind, the institute/department has provided different opportunities like :

1) Students' chapters and clubs:

The department has following professional chapters and clubs which provide a good platform for the students to take active part in the various competitions,seminars and lectures arranged by the society. These activities help the students to showcase their talents in terms of team building, communications skills, team work, target work and overall development in professional activities. One faculty advisor is associated with each student chapter for mentoring, guidance and overall governance. Students are encouraged to take membership of these professional bodies.

Student chapters of IE(I), IETE, ISTE ,IEEE

Energy Audit Club

eBAJA

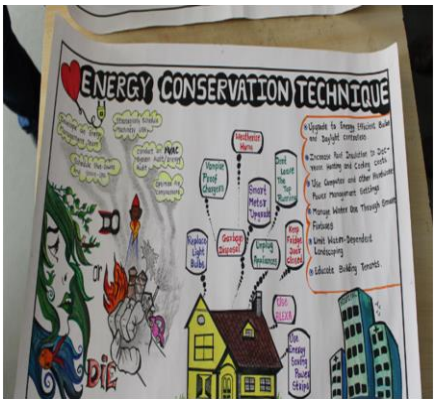


Fig 5.12 Poster competition on Energy Conservation

2) Product design(development) competitions :

Various student centric activities (like BAJA, SUPRA, EFFI-Cycle) are conducted regularly at the institute level. Students from various programs (departments) participate in various technical events organized at state, national and international level. Teams formed for such events generally consist of students from all programs depending on the event. Selection of students for such events depends on the sub-system of the event to be participated in. Electrical students usually contribute in fields such as electrical operation, energy side backup in the project, green energy initiatives, electronic system designing,battery system and braking operation, etc. Following table indicates participation of electrical students in these activities :

Sr. No.	Year	No of students participated	Name of the activity
1.	2021-22	3	EFFI-cycle
2		9	E Baja
3		1	Garudashwa
4		3	M Baja
5		1	REEV
6	2020-21	3	EFFI-cycle
7		6	Project from Kone Cranes
8	2019-20	5	EFFI-cycle

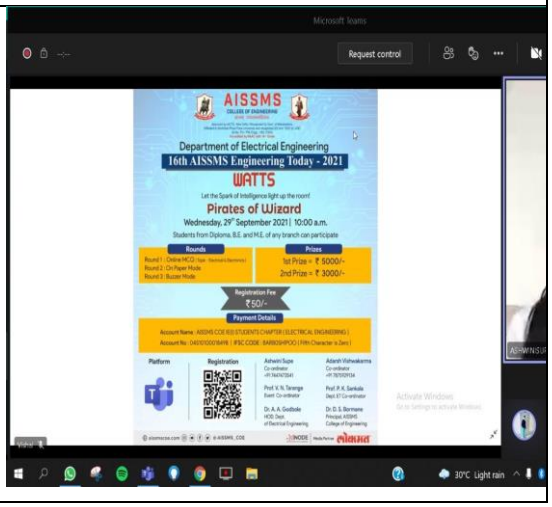
Fig 5.13 Student participation in various SAE competitions

Outcomes:

- Students get exposure to design and build an off-road vehicle that will survive severe punishment of rough terrain and compete at national/internations level under the guidance of faculty advisors.
- As in real work situations, these future engineers **work together as a team** to discover and resolve technical challenges in design, test, and manufacturing, as well as business issues.
- Enhancement of presentation skills and learning by participation in various events organized by student chapters at various levels.

3) **Students' Symposium:**

The department conducts National level Technical Symposium-Engineering Today (WATTS) in the month of september every year to encourage the students, organizing and participating in various events, to enhance their skills. The institute also conducts science exhibition, where different projects/models that are developed by SE,TE and BE students are exhibited to the students invited from nearby schools.



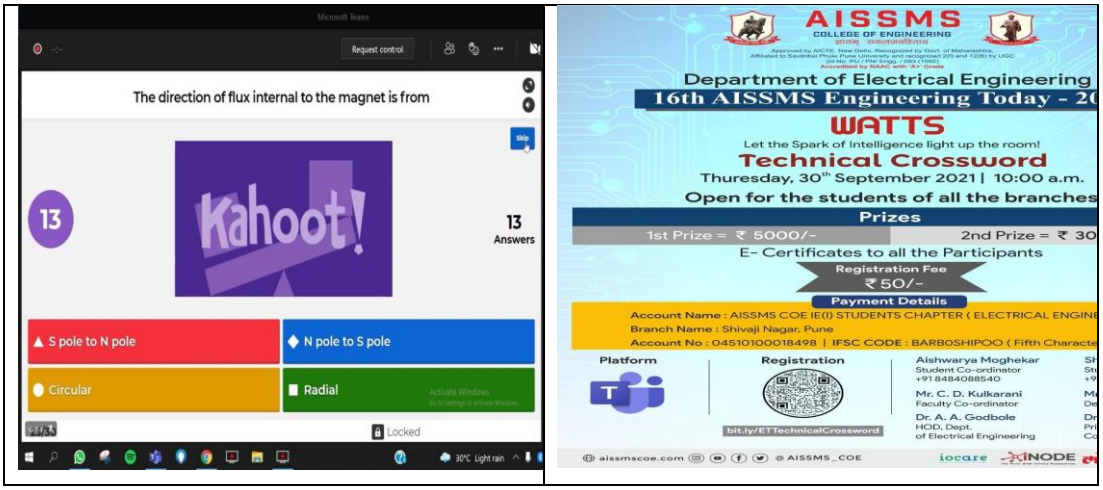


Fig 5.14 Engineering Today- WATTS (Offline & Online)

Fig 5.15 Science Exhibition

Outcome :

Students get opportunity to enhance their technical skills by participating and competing in various technical events

4) Participation at Technical events(Co-Curricular activities) :

Students are encouraged to participate in various technical activities like state level/national level project competitions, paper presentations, poster making events, etc;

Name of Student	**Details of Participation at Various Events (State/University/ National/International Level)**	**Remark (Domain)**
Anurag Lambhor	1. Paper presentation at VishwaParivartan 2020 organized by VIIT,Pune 2. SPPU-I-2-E ,organized by SPPU Incubation center,Pune 3. A competition for young aspiring Entrepreneurs,Bizz hour-organized by VIIT Pune 4. An intercollege technological innovation competition,Pragati 2020 organized by SFIT Mumbai	1. 1st prize 2. 2nd prize 3. 2nd prize 4.1st prize
RutujaPatil	Technical paper presentation	Participation
Onkar Dahiwal	I2 E startup competition SPPU - Team:Trash to Cash	runner Up
Shraddha Pore	1. National Conference on Cyber Security organized by PVG's COET Pune 2. National level Technical event-Paper presentation organized by Universal COE Pune. 3. International level Paper presentation event organized by JSPM COE Wagholi	1.Best paper award and Best presentation appreciation 2. Winner 3. Runner Up
1.Aditya Bhople 2.Aniket Aitawade	Game of Circuits(National levent) organized by AISSMS IOIT	Runner up
1.Gaurav Bhirud 2.Pranay Patil 3.Vaibhav G 4.KoliSayali	State level Project poster competition in Electrical power systems and machine domain organized by PES's Modern COE,Pune	Second Prize

5)Technical Courses(Certified):

Students are encouraged to complete the courses offered by Swayam-NPTEL, Coursera, etc; and also courses offered by various industries like TATA, etc; Faculty acts as mentor and guides the students in solving the assignments of these courses.

All of the above innovations and creativity in the teaching learning process lead to improve not only the academic performance of the students but also their communication, human relations, technical and management skills which makes them industry ready.

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

Name of the Faculty	Max. 5 per Faculty			
	CAY (2021-22)	CAYm1 (2020-21)	CAY*m2* *(2019-20)*	CAYm3 (2018-19)
Dr .A.A.Godbole	5	5	5	5
Dr .M.H.Dhend	5	5	5	5
Mr.S.K.Biradar	5	5	5	5
Dr A A Apte	5	5	5	5
Mr V V Kulkarni		–	–	5
Dr .L.S.Godse	5	5	5	5
Ms.S.R.Lengade	5	5	5	5
Mr.V.S.Ponkshe	5	5	5	5
Mrs P Sankala	5	5	5	5
Mrs V N Tarange	5	5	5	–
Mr.C.D.Kulkarni	5	5	5	5
Mr R S Shinde	5	5	5	–
Mrs Sri RekhaVadi	5	5	5	5
Ms.S.S.Mujawar	5	5	5	–
Dr.Deepika Srivastava	–	–	5	5
Dr Manoj Kumuar Kar	–	–	–	–
Sum	55(11 F)	65 (13 F)	70(14 F)	60(12 F)
***RF*= Number of Faculty required to comply with 20:1 Student-Faculty ratio as per 5.1**	9.9	9.9	9.9	
Assessment = 3 × (Sum/0.5RF) (Marks limited to 15)	15	15	15	
Average assessment over three years (Marks limited to 15) =15				

Table B.5.6

5.7 Research and Development (30)

5.7.1 Academic Research (10)

5.7.1 a. Research Publications:(6)

(a) Research papers publications in referred/ SCI indexed journals :

Sr. No.	Name of the Staff	CAY (2021-22)	CAYm1 (2020-21)	CAY m2 (2019-20)
1	Dr A A Godbole	–	1	3
2	Dr M H Dhend	2	–	3
3	S K Biradar	–	1	2
4	Dr A A Apte	2	4	3
5	Dr L S Godse	1	2	2
6	P Sankala	1	–	1
	Total	6	8	14

S.N	Title of the Paper	Authors	Year	Journal name, issue, Page No.	Indexing and Thomson Reuter's Impact factor
1	Design of robust & Efficient SMPS for charging of lithium ion battery used in Electric Vehicle	Dr A A Apte, Prof V S Ponkshe	2022	IJIRSET	ISSN: 2319-8753
2	Design and implementation of Solar powered mobile phone charging station for public places	Dr A A Apte	2022	IRJIET	ISSN:2581-3048
3	"Wireless Power Charging -A new trend for Electric Vehicle Charging"	Vishal Gaikwad, Dr AA Godbole	2020-21	SPJMR,ISSN2394-288	
4	" Process Based Modeling Nylon Separator Supercapacitor" WILEY-ENERGY STORAGE, Vol.2, Issue-5, September 2020	L.S Godse Dr P.B Karandikar	2020-21	WILEY Energy storage Vol 2 Issue 5 ,Sep 2020	
5	" Process Based Statistical Modeling for Ball Mill Machine to Improve Performance of Nylon Ultracapacitor" Journal of Institution of Engineers: Series-B, April 2021	L.S Godse Dr P.B Karandikar	2020-21	Journal of Institution of Engineers, Series B Apr 2021	
6	Automatic Power Factor Correction:Low cost solution using Arduino	Dr A AApte,Vaibhav Ganorkar,PranavPatil,GauravBhirud,SayaliKoli	2019-20	IJAREEIE impact factor:7.122;e ISSN:2278-8875	7.122
7	1.Disturbance Observer based Sensorless Control of PMSM using Integral State Feedback Controller	Dr A AApte,Dr V A Joshi,HrishikeshMehta.RaheeWalambe	2019-20	IEEE Transaction Power Electronics	8.55

8	Hardware Implementation of Fuzzy Smc based speed control of BLDC motor	Dr A AGodbole,Priyanka More	2019-20	IJERT ISSN:2278-0181	7.87
9	A novel Circuit for DC voltage transformation using transformer	Dr A AApte,MandarKulkarni,Ummai Mulla,Tamanna attar	2019-20	TEST,ISSN:0193-4120	1.55
10	Disturbance observer based speed control of PMSM using fractional order PI controller	AishwaryaApte, UjjwalaThakar, Vrunda Joshi	2019-20	IEEE/CAA Journal of AutomaticaSinica	5.13
11	Hybrid neural network with bat approach for smart grid fault location	MH Dhend, RH Chile	2019-20	IJRIS	1.3
12	FuzzySMC based speed control of BLDC motor	Dr A AGodbole,Priyanka More	2019-20	IJERT ISSN:2278-0181	7.87
13	Disturbance Observer based Higher Order Sliding Mode Control of IMDU Plant	Akshay V. Shebe and Ashwini A. Godbole	2019-20	ISSN NO: 1076-5131, V	
14	Higher Order Sliding Mode Control with Disturbance Observer for Mismatched Uncertain System.	Akshay V. Shebe and Ashwini A. Godbole	2019-20	ICICCS, IEEE conference, Vaigai COE, Madurai	
15	Comparison of Conventional Single Phase 21-level Cascaded H-Bridge Multilevel Inverter and Single Phase 21 Level Multilevel Inverter With Reduced Switches and Sources for Renewable Energy Applications.	Gayatri Kulkarni &PadmajaSankala	2019-20	International Research Journal Engineering & Technology Volume 6 11,Nov 2019	7.34
16	Adaptive approach for reducing the total harmonic distortion of boost converter using PWM switching	Ateef Aleem& V.S. Ponkshe	2019-20	International Research Journal Engineering & Technology Volume 6 07 July 2019	

5.7.1 b. Research Publications:

Name of Faculty	Details of Citations		
	Citation	h-Index	i10-index
Dr A AGodbole	382	6	5
Dr M H Dhend	189	4	4
Mr S K Biradar	23	2	1
Dr A AApte	179	7	5
P Sankala	5		

5.7.1 c. i. (i) Number of Faculty with Ph.D in the department : 04

S No.	Name of Faculty	Year of completion	Name of the University
1	Dr A A Godbole	October 2012	DIAT ,Pune
2	Dr M H Dhend	July 2018	SRT Univ,Nanded
3	Dr A AApte	Dec 2019	SPPU, Pune
4	Dr L S Godse	May 2022	SPPU, Pune

ii. Number of Faculty Completed Ph.D during assessment years:03

S No.	Name of Faculty	Year of completion	Name of the University
1	Dr M H Dhend	July 2018	SRT Univ,Nanded
2	Dr A AApte	Dec 2019	SPPU, Pune
3	Dr L S Godse	May 2022	SPPU, Pune

iii. Number of Faculty pursuing Ph.D: 03

S No.	Name of Faculty	Name of the University
1	Mr R S Shinde	Shivaji University, Kolhapur
2	Mrs S S Mujawar	SPPU, Pune
3	Mr Manoj Kumar Kar	NIT Jamshedpur

5.7.2 Sponsored Research (5)

The department has received an e-Rickshaw from Paramtech Electric motors Pvt Ltd ,Pune. The said e-Rickshaw could be used by the students to carry out projects and verify new concepts.

Fig 5.16 e-Rickshaw sponsored by Paramtech Electric motors Pvt Ltd ,Pune

5.7.3. Development activities (10)

Development activities play an important role in the enhancement of quality of the program. Detailed instructional material such as CO-POs, academic calendar, course material, assignments, lesson plan, lab instruction material, etc. will help the student to understand the course and to plan their activities accordingly. Use of working models, charts, etc; during the teaching learning process helps students to clearly understand complicated construction, working, etc.

5.7.3.1 Product Development:

1. Laser Jackets

Fig 5.17 Laser jackets made by students during Engineering Today

2. Project working models by BE students

5.7.3.2 Research laboratories:

1.Developed Advanced drives lab

5.7.3.3 Instructional Materials:

1. **Lab Manuals :**Faculty members have created Lab Manuals for each subject which help students to perform practicals during Laboratory hours.

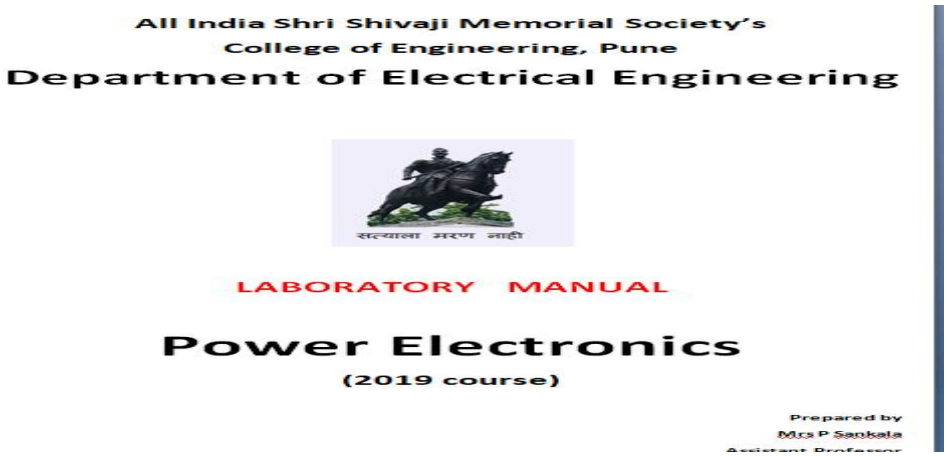


Fig.5.17 Sample Lab Manual

2. Recorded Lecture/Practical Videos – are made available to the students by each course teacher for better learning.

5.7.3.4 Working Models / Charts:

1. **Knowledge wall**, information charts are displayed related to the major equipment, experiments, and component details are displayed in all laboratories.

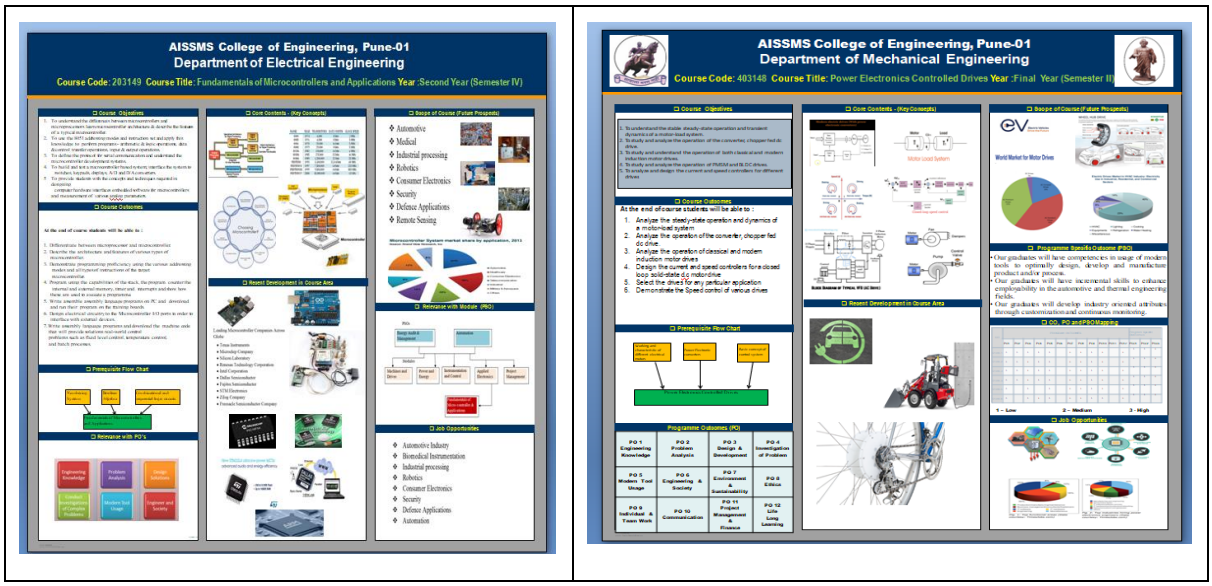


Fig 5.18 Knowledge Wall

2. Charts showing the safety measures (Dos and don’ts and use of fire extinguisher) are also displayed in all laboratories.

3. Charts and cut sections of different machines are available in Electrical Machines Laboratory
4. Charts, cut sections and models of different circuit breakers are available in Switchgear & Protection Laboratory

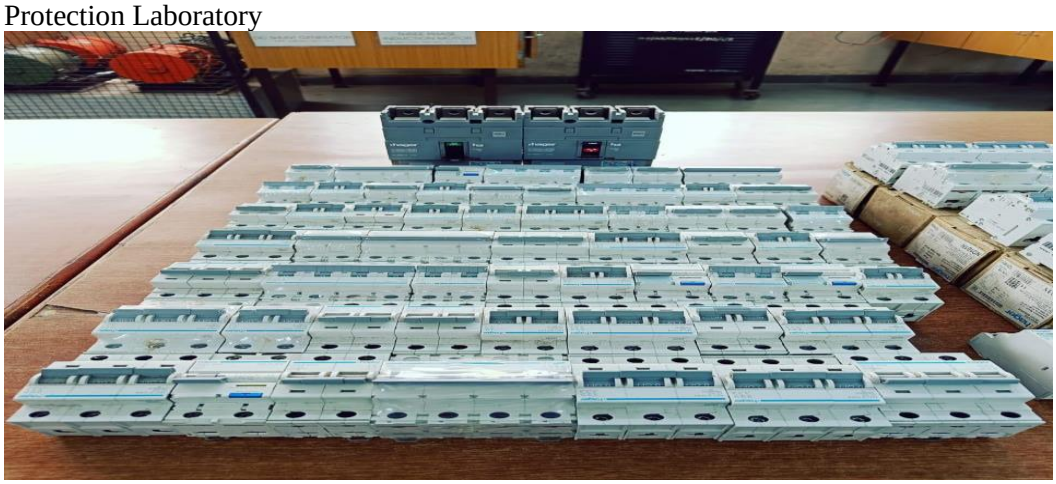


Fig 5.19 Different circuit breakers used in Switchgear & Protection Laboratory

5. All other laboratories are provided with the information charts.

5.7.4 Consultancy (from Industry)

Justification for the above item needs to be drafted as we have no consultancy on

payment basis.But staff interact with industry people concerned with MOUs from which, industry consultancy may be effective.

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

The college has following appraisal and development schemes for faculty:

(1) Performance based appraisal scheme (PBAS) : The college has a well defined faculty appraisal system. The PBAS details are submitted by each faculty at the end of each semester. The performance is assessed by the Head of department as well as Head of the institution. The faculty feedback is also collected from the students at mid and end of the semester. The feedback is assessed by the Head of the department and appropriate feedback/suggestions are given to the faculty for the improvement.

(2) Best Teacher award : The applications are invited from the faculty members by the institute every year. The applications are scrutinized and assessed by the panel of experts/committee on the basis of academic performance, research activities and contribution at institute level. The top scoring faculty is awarded as best teacher with a Cash prize of Rs.50000/- and certificate.

(3) Recognition of Excellence award : The faculty members completing PhD and significant contribution in academics are awarded by the AISSMS Society every year conferring Recognition of excellence award with memento and certificate on the day of ShahuJayanti.

(4) Module co-ordinators : The department has a module coordinator system for improvement in academics. Senior faculty members are assigned as module coordinators. The module coordinator assesses the course file of every faculty member in the module and gives suggestions for improvement.

Following are the modules and module co-ordinators at department level:

Module	**Name of the Module coordinator**
Power and Energy	1. Dr M H Dhend 2. S R Lengade
Applied Electronics	P Sankala
Machines & Drives	S K Biradar
Instrumentation & Control	Dr A AApte
Project Management	V S Ponkshe

(5)Research Promotion Scheme : The institute has a research promotion scheme which encourages the faculty to undertake research projects, consultancy work and training programs. The faculty involved is awarded with an appropriate amount as per the policy decided at the institution level.

(6) Support for Higher Studies: The faculty members pursuing higher studies are awarded with financial assistance of Rs.1 lakh or One month study leave as per the choice of the faculty. The faculty member is permitted to carry out research studies by adjusting the teaching load in the morning slot and rest of the time can be utilized for study.

(7) Financial assistance for attending FDP/QIP/STTP/International Conferences: The faculty member is permitted on duty leave to attend the respective quality improvement program. The financial assistance is provided for payment of registration fees, travel fare and accommodation.

Instructions for Filling up Category –I, II & III of the PBAS Proforma

NOTE: Claim of points to be made only in one place for each activity.

Category I: Teaching, Learning and Evaluation Related Activities
Maximum Scores Allocated: 125

	Nature of Activity		Max. Score
(i) (a)	**Lectures, seminars, tutorials, practical,** contact classes should be based on verifiable records. No score should be assigned if a teacher has taken less than 80% of the assigned classes. Score will be 30 if teacher has taken 100 % assigned classes to particular subject as specified by University. If a teacher has taken classes less than the allotted hours but above 80% limit of total, then 2 points will be deducted from 30 for each less hour of classes. **Maximum score of 30 if there is 100% performance**		30
(b)	If a teacher has taken classes exceeding AICTE norms, then One point to be assigned for each extra hour of classes.		5
(ii)	Imparting of knowledge/instruction as per curriculum with the prescribed material (Text book/Manual etc.), syllabus enrichment by providing additional resources to students. (2 points each , max up to 10)	10	20
	Expert lecture of **related subject** (5 Points) (One coordinator per division/subject)	5	
	Industrial Visit (5 Point) (Coordinators of visit 5 points, others faculties accompanied during visit will get 2 points each)	5	
(iii) a	**Use of participatory and innovative teaching-learning methodologies; updating of subject content, course improvement etc.**		
	Participatory & Innovative T/L Process with material for problem based learning, case studies, Group discussions etc. a) Interactive Courses : 5 points/each b) Participatory Learning modules : 5 points/each c) Case Studies : 5 points/each	5	10
	Use of ICT in T/L process with computer-aided methods like power-point/Multimedia/ Simulation/Software etc., **(Use of anyone of these in addition to Chalk & Board : 5 points per course taught)**	5	
	Developing and imparting Remedial/Bridge Courses (each activity : 5 points/ set of material/course)	5	
	Developing and imparting soft skills/communications skills/personality development course/ modules (each activity 5 points)	5	
(iii) b	**E learning , based on NPTEL/ MOOCS/ Swayam / other similar online recognized tools** Teaching learning , Video lectures, assignment based on E learning (5 points for each activity)		10
(iii) c	**Student Feedback** (Max score: 10) Score will be linearly proportional to feedback. Average score of mid-term and end-term feedback will be considered per semester.		10
(iii) d	**Result Analysis (Max score: 20)** No score should be assigned if a subject result is below 50%. Score will be proportional to % of results, as score = [(result in %) * 2]/10 If faculty is handling more than one subject, then average score of the subjects will be considered.		20

Item	Detail	Max Score
Course file	Quality of notes	2
	Reference books	2
	Research papers	2
	Question bank	2
	Model answers	2

(iv)	**Examination Related Work**		10

SN	Indicators	Type of duty	Max. Score
1	University Examination work as per duties allotted	Senior Supervisor Junior Supervisor Evaluation of answer sheets Coordination Any other	10
2	College Examination	Coordinator Question paper setting Evaluation of answer sheets Any other	5

(v)	**Project (Max score: 10)**		10

Industrial collaboration/ Sponsorship (Max marks 5)	5
Project apart from curriculum (Max marks 5)	5
External funding (Max marks 5)	5
Award (Max 5 marks)	5
Project outcome in terms of Students participation in event / Students publication. (Max 5 marks)	5

Special case For HMCT
No of students guided — 1 mark per 2 students. (max marks 4)
Evaluation of project by external examiner — 6 marks (average of students guided to a percentage score of 6)

Category II: Co-Curricular, Extension and Professional Development Related Activities.
Maximum Scores Allocated: 50

S.No.	Nature of Activity		Max. Score
(i)	**Extension and Co-curricular , Extension and Professional Development Related Activities**		
	Field studies(**1 mark for 2 hours**)/ educational tours/ **Any extra industrial visit not considered in category I - 5 marks to be given**, industrial/ in-plant training (**of minimum 5 hours or 1 day**) and placement activity (**1 mark per activity**)	5	10
	5 points per activity to main coordinator 2 point per activity to sub-coordinators Social / cultural/ sports program	5	
	Campus publications: Departmental level Institutional level	2 5	
(ii)	**Contribution to Corporate Life and Management of the Institution**		
	Governance responsibilities at Institute level (**IQAC, HOD, NBA/NAAC Institute coordinators, GFM, Institute level committee in charges, Class teacher**)	10	20
	Management responsibilities at Institute level (CDC, **Institute level committee members**))	5	
	Management responsibilities at Department level such as laboratory, students' activities, library, services, etc. (**2 marks per portfolio not covered above**).	2	
	If faculty having more than one responsibilities then, score will be awarded per responsibility but max up to 20 score		
(iii)	**Professional Development Related Activities**		

	Students' technical event Students' Chapter (5 points per activity to main coordinator & 2 point per day to sub-coordinators Max score 10)	5 5	10
	Membership in professional bodies International level National level State level	5 3 2	
	Participation in short term training courses in educational technology, curriculum development, examination reforms, institutional governance, etc	2	
	Membership participation in Committees on Education development	5	
	Publication of articles in newspapers, magazines, radio talks, etc	2	

(iv) **OTHER RELEVANT INFORMATION** — 10

SN	Particular	Allotted score
1	Awards received: International, National	10 / award 7 / award
2	Official invitation as guest	5 / invitation
3	Significant contribution	5 / contribution
4	Any other credential*	5 / credential
	Max score	10

*5 points each to be allotted for any extra efforts/activities not covered in all the above categories. The extra efforts/activities will be verified & approved by HOD/Principal

Total Score (i + ii + iii+iv) (Max : 30)

(v) **OFFICIAL CONDUCT** — 20

SN	Subject	Max score
1	Self-motivation • List the activities or initiatives other than regular load/duties.	4
2	Punctuality • Number of late marks – Office report. • Punctuality in lecture/practical – To be observed by HOD. • Timely completion and weekly checking of APR – To be observed by HOD. • Number of absentee without intimation and/or load adjustment – To be observed by HOD/GFM	4
3	Target based work • List the tasks allotted to you. • Timely completion of allotted work – To be observed by HOD	4
4	Effectiveness • Work done without error& least follow-up – To be observed by HOD	4
5	Obedience • To be observed by HOD and Principal	4
	Max score	20

Total Score (i + ii + iii+iv+v) (Max : 50)

CATEGORY –III: RESEARCH AND ACADEMIC CONTRIBUTIONS

Brief Explanation: Based on the teacher's self-assessment, API Scores are proposed for research and academic contributions. The minimum API score required by teachers from this category is different for different levels of promotion and between university and colleges. The self-assessment score will be based on verifiable criteria and will be finalized by the screening/selection committee.

S.N.	APIs	Engineering/Agriculture/ Veterinary Science/Sciences/Medical Sciences	Max. points
III(A)	**Research Papers (Published in Journals)**	Refereed Journals** As listed by UGC	15 / Publication
		Non-refereed but recognized and reputable journals and periodicals, having ISBN/ISSN numbers	10 / Publication
III (B) (i) & (iii)	Articles / Chapters published in Books	Text or Reference Books Published by International Publishers with an established peer review system.	50/book, 10 /chapter in an edited book
		Subjects Books by National level publishers State and Central Govt. Publications with ISBN/ISSN numbers	25/Book, and 5 / chapter in edited book
		Subject Books by Other local publishers with ISBN/ISSN numbers	15 /Book, and 3 / chapter in edited book
		Chapters contributed to edited knowledge based volumes published by International Publisher	10 / Chapter
		Chapters in knowledge based Volumes by Indian/National level publishers with ISBN/ISSN numbers and with numbers of national and international directories	5 / Chapter
III (B) (ii)	Conference proceedings	Conference proceedings as full papers, etc. (Abstracts not to be included)	10 / Publication
III C	**Research Projects**		
III C (i)	Sponsored Projects carried out/ ongoing	a) Major Projects amount mobilized with grants above 30.0 lakhs	20 / each Project
		b) Major Projects amount mobilized with grants above 5.0 lakhs up to 30.0 lakhs	15 / each Project
		c) Minor Projects (Amount mobilized with grants above Rs. 50,000 up to Rs. 5 lakh)	10 / each Project
		Submitted proposals for Research Grant (5 points per proposal)	5 Points Max
III C (ii)	Consultancy / Testing Projects carried out / ongoing	Amount mobilized with minimum of Rs.10,000	10 points per every Rs. 10,000
III C (iii)	**Completed projects : Quality Evaluation**	Completed Project Report (Acceptance from funding agency)	20 / each major project and 10 / each minor project not covered in anywhere else
III C (iv)	**Projects Outcome/Outputs**	Major policy documents of Govt / Patient Technology transfer/ Product/Process/ IPR	30/each national level , 50/each for international level
III D	**Research Guidance**		
III D (i)	**M.E.**	Degree Awarded only	3 Points for each candidate
III D (ii)	**Ph.D**	Degree Awarded only	10 Points for each candidate
		Thesis submitted	7 Points for each candidate
III E	**TRAINING COURSES AND CONFERENCE / SEMINAR / WORKSHOP PAPERS Attended**		
III E(i)	Refresher courses, Methodology workshops, Training, Teaching-Learning-	(a) Attended , Not less than two weeks duration	20 points each
		(b) Attended , One week duration	10 points each
		(c) Attended , others 1 per day	5 points max
	Evaluation Technology Programmes, Soft skills development Programmes, Faculty Development Programmes (Max: 30 points)	(d) Organized , 3 points per day to main coordinator 1 point per day to sub-coordinators	5 points max to main coordinator 3 point max to sub-coordinators
		(e) QIP Grant Received Grants above 30 lakhs = 20 / Grant Grants above 5 lakh upto 20 lakh = 15 / Grant Grants above 50000 upto 5 lakh = 10 / Grant Grants upto 50,000 = 8 /Grant	= 20 / Grant = 15 / Grant = 10 / Grant = 8 /Grant
		(f) Submitted proposals for workshops/seminar/conference 2 points per proposal (Only proposal submitted through Principal will be considers)	2 points max
		(e) Industrial / professional exposure, 2 points per day	10 points max
III E (ii)	Papers in Conference/ Seminars/ workshops etc. **	Participation and Presentation of research papers (oral/poster) in	
		a) International Conference	15 Points each
		b) National	10 Points each
		c) Regional/State level	5 Points each
		d) Local/University/College level	3 Points each
III E (iii)	Invited lectures or presentations for conferences/ symposia or talks in refresher courses	(a) International	10 Points each
		(b) National Level	5 Points each

Note:
1. **Wherever relevant to any specific discipline, the API score for paper in refereed journal would be augmented as follows: (i) indexed journals – by 5 points; (ii) papers with impact factor between 1 and 2 by 10 points; (iii) papers with impact factor between 2 and 5 by 15 points; (iv) papers with impact factor above 5 by 25 points.
Indexing agencies like SCI / Scopus / Web of Science, PUBMED / ICI (Indian Citation Index) Indexed , can be considered in this case.
2. If a paper presented in Conference/Seminar is published in the form of Proceedings, the points would accrue for the publication (III (A)) and not under presentation (III(E)(ii)).
3. The API Score for joint publication will be calculated as per the following manner: Of the total score for relevant category of publication by the concerned teacher, the first/ principal author and the corresponding author/ supervisor/ mentor of the teacher would share equally 60% of the total point and the remaining authors would shared equally 40 % of total points.

MINIMUM APIs required for colleges other than polytechnic

		Assistant Professor AGP 6000	Assistant Professor AGP 7000	Assistant Professor AGP 8000	Associate Professor AGP 9000	Professor AGP 10,000
I	Teaching- learning Evaluation Relate Activities (Category I)	75/Year	75/Year	75/Year	75/Year	75/Year
II	Co-Curricular Extension and Profession related activities (Category II)	15/Year	15/Year	15/Year	15/Year	15/Year
III	Minimum total average annual Score under Categories I and II	**100/Year**	**100/Year**	**100/Year**	**100/Year**	**100/Year**
IV	Research and Academic Contribution (Category III)	**5/Year**	**10/Year**	**15/Year**	**20/Year**	**25/Year**

MINIMUM APIs required for Polytechnic

		Lecturer AGP 5000	Lecturer AGP 6000	Senior Lecturer AGP 7000	Selection Grade Lecturer AGP 8000	HOD AGP 8000
I	Teaching- learning Evaluation Relate Activities (Category I)	75/Year	75/Year	75/Year	75/Year	75/Year
II	Co-Curricular Extension and Profession related activities (Category II)	15/Year	15/Year	15/Year	15/Year	15/Year
III	Minimum total average annual Score under Categories I and II	**100/Year**	**100/Year**	**100/Year**	**100/Year**	**100/Year**
IV	Research and Academic Contribution (Category III)	**5/Year**	**10/Year**	**15/Year**	**20/Year**	**25/Year**

Fig 5.20 Performance Appraisal System and instructions

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

Institute has a policy to invite / appoint visiting faculty, adjunct faculty and Emeritus Professor as and when demanded by the Program for particular academic needs of the program. Such type of appointment is apart from regular faculty members' needs and expert lecture faculty.Following table indicates details of the adjunct faculty appointed by the program:

Sr. No.	Year	Name of the faculty	Course
01	2019-2020	Mr Pranay Upadhyay	Audit course for SE students
02	2019-2020	Mr Aditya Akola	Audit course: Solar thermal systems for SE students
03	2020-2021	Mr Mohan Pare Arthertec Solutions Ltd, Pune	Audit course: Energy storage systems for BE students
04	2020-2021	Mr Utkarsh Alset Arthertec Solutions Ltd, Pune	Audit course: Application of Power Electronics for TE students
05	2021-2022	Mr Rigved Kelkar	Elective Course:Digital Signal Processing
06	2021-2022	Mr Mohan Pare Arthertec Solutions Ltd, Pune	Audit course: Energy storage systems for TE & BE students
07	2021-2022	Mr Vikram Deshpande , Senior Assistant Manager, Emerson Pune	Audit course: Project Management for TE students
08	2021-22	Mr Shashank Mane Associate Professor, SPPU Pune	Audit course: German language for BE students
09	2021-2022	Dr Makarand Thombare	Soft skills Training for SE, TE & BE students

Annexure – II

AY: 2020-21

S No.	*Name of the Faculty Member*	*Qualification*			*Association with the Institution*	*Designation*	*Date on which Designated as Professor/ Associate Professor*	*Date of Joining the Institution*	*Department*	*Specialization*	*Academic Research*			*Currently Associated (Y/N) Date of Leaving (In case Currently Associated is ("No")*	*Nature of Association (Regular/Contract)*
		Degree (highest degree)	*University*	*Year of attaining higher qualification*							*Research Paper Publications(number)*	*Ph.D. Guidance*	*Faculty Receiving Ph.D. during the Assessment Years*		
1	DrA.A.Godbole	Ph.D	DIAT, Pune	2012	Since September 2013	Professor	17.09.2013	17.09.2013	Electrical	Control systems	Journal-06, Conference-09	01	----	Y	Regular
2	DrM.H.Dhend	Ph.D	SRNTMU, Nanded	2018	Since August 1992	Assistant Professor	----	1.10.1992	Electrical	Power systems	Journal-21, Conference-27	----	2018-19	Y	Regular
3	S.K.Biradar	M.E	VJTI Mumbai	1997	Since January 1999	Assistant Professor	----	1/1/1999	Electrical	Control systems	Journal-08, Conference-04	----	----	Y	Regular
4	A.A.Apte	Ph.D	University of Pune	2019	Since January 1997	Assistant Professor	----	1.1.1997	Electrical	Control systems	Journal-06 Conference 07	----	2019-20	Y	Regular
5	L.S.Godse	M.E	University of Pune	2004	Since December1997	Assistant Professor	----	10.08.1998	Electrical	Control systems	Journal-01 Conference 08	----	----	Y	Regular
6	S.R.Lengade	M.E	University of Pune	2009	Since January 2005	Assistant Professor	----	31.01.2005	Electrical	Power Systems		----	----	Y	Regular
7	V.S.Ponkshe	M.E	Shivaji	2004	Since January 2007	Assistant Professor	----	17.01.2007	Electrical	Power Systems		----	----	Y	Regular

8	P.Sankala	M.E	Anna University	2005	Since August 2007	Assistant Professor	----	1.10.2008	Electrical	Power Electronics and Drives	Journal-03, Conference-03	----	----	Y	Regular
9	V.N.Tarange	M.E	SPPU	2011	Since August 2007	Assistant Professor	----	1.1.2010	Electrical	Power Systems	2	----	----	Y	Regular
10	C.D.Kulkarni	M.E	SPPU	2015	Since Oct 2010	Assistant Professor	----	1.10.2010	Electrical	Control Systems	--	----	----	Y	Regular
11	R S Shinde	M.Tech	Shivaji university	2016	Since June 2018	Assistant Professor	----	11.06.2018	Electrical	Electrical Power system	Conference-2	----	----	Y	Regular
12	Sreerekha Vadi	M.E	SPPU	2015	Since 2016	Assistant Professor	----	08/01/2016	Electrical	Power Electronics and Drives	Conference -1	----	----	Y	Regular
13	S S Mujawar	M.E	SPPU	2014	Since June 2015	Assistant Professor	----	08/06/2015	Electrical	Power Systems	Journal-01, Conference-01	----	----	Y	Regular

AY: 2019-20

S No.	*Name of the Faculty Member*	*Qualification*			*Association with the Institution*	*Designation*	*Date on which Designated as Professor/ Associate Professor*	*Date of Joining the Institution*	*Department*	*Specialization*	*Academic Research*			*Currently Associated (Y/N) Date of Leaving (In case Currently Associated is ("No")*	*Nature of Association (Regular/Contract)*
		Degree (highest degree)	*University*	*Year of attaining higher qualification*							*Research Paper Publications(number)*	*Ph.D. Guidance*	*Faculty Receiving Ph.D. during the Assessment Years*		
1	**DrA.A.Godbole**	**Ph.D**	**DIAT, Pune**	**2012**	**Since September 2013**	**Professor**	**17.09.2013**	**17.09.2013**	**Electrical**	**Control systems**	**Journal -06, Conference-09**	**01**	**----**	**Y**	**Regular**
2	**DrM.H.Dhend**	**Ph.D**	**SRNTMU, Nanded**	**2018**	**Since August 1992**	**Assistant Professor**	**----**	**1.10.1992**	**Electrical**	**Power systems**	**Journal -21, Conference-27**	**----**	**2018-19**	**Y**	**Regular**
3	**S.K.Biradar**	**M.E**	**VJTI Mumbai**	**1997**	**Since January 1999**	**Assistant Professor**	**----**	**1/1/1999**	**Electrical**	**Control systems**	**Journal -08, Conference-04**	**----**	**----**	**Y**	**Regular**
4	**A.A.Apte**	**Ph.D**	**University of Pune**	**2019**	**Since January 1997**	**Assistant Professor**	**----**	**1.1.1997**	**Electrical**	**Control systems**	**Journal -06 Conference 07**	**----**	**2019-20**	**Y**	**Regular**
5	**L.S.Godse**	**M.E**	**University of Pune**	**2004**	**Since December1997**	**Assistant Professor**	**----**	**10.08.1998**	**Electrical**	**Control systems**	**Journal -01 Conference 08**	**----**	**----**	**Y**	**Regular**
6	**S.R.Lengade**	**M.E**	**University of Pune**	**2009**	**Since January 2005**	**Assistant Professor**	**----**	**31.01.2005**	**Electrical**	**Power Systems**		**----**	**----**	**Y**	**Regular**
7	**V.S.Ponkshe**	**M.E**	**Shivaji**	**2004**	**Since January 2007**	**Assistant**	**----**	**17.01.2007**	**Electrical**	**Power Systems**		**----**	**----**	**Y**	**Regular**

						Professor									
8	P.Sankala	M.E	Anna University	2005	Since August 2007	Assistant Professor	----	1.10.2008	Electrical	Power Electronics and Drives	Journal-03, Conference-03	----	----	Y	Regular
9	V.N.Tarange	M.E	SPPU	2011	Since August 2007	Assistant Professor	----	1.1.2010	Electrical	Power Systems	2	----	----	Y	Regular
10	C.D.Kulkarni	M.E	SPPU	2015	Since Oct 2010	Assistant Professor	----	1.10.2010	Electrical	Control Systems	--	----	----	Y	Regular
11	R S Shinde	M.Tech	Shivaji university	2016	Since June 2018	Assistant Professor	----	11.06.2018	Electrical	Electrical Power system	Conference-2	----	----	Y	Regular
12	Sreerekha Vadi	M.E	SPPU	2015	Since 2016	Assistant Professor	----	08/01/2016	Electrical	Power Electronics and Drives	Conference -1	----	----	Y	Regular
13	S S Mujawar	M.E	SPPU	2014	Since June 2015	Assistant Professor	----	08/06/2015	Electrical	Power Systems	Journal-01, Conference-01	----	----	Y	Regular
14	Dr Deepika Srivastava	Ph.D	Motilal Nehru NIT,Allahabad	2018	Since January 2019	Assistant Professor		01/1/2019	Electrical	Control Systems	Journal-01, Conference-02		2018	Y	Regular

CRITERION 6	Facilities And Technical Support	80

6.1. Adequate and well equipped laboratories, and technical manpower (30)

Sr.No	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the Important Equipment	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
01	Applied Electronics Lab	3-4(20)	1.Analog and Digital Trainer kit XPO CT (as per our specifications)DC/AC wave shaping ckt – P2 2.Low cost Microprocessor kit Dyna - 85 2.Caddo – 920 model CRO20 MHz CRT readout oscilloscope with cursor measurement, digital pulse rotary switch, CT facility, Adj. HO and HS upto 1 mV 3.MH2 function generator model fg2MD 4.30 Mh2 dual Oscillascope.	57%	Mrs. P V Pathak	Lab Asst.	ITI
02	Computer Centre Lab	1 (20)	1.BENQ Projector With Standard Accesseries 2.D link 24 Port Switch 3.Lenovo Thinkcentre Neo 50t core I58gb RAM.1TB HDDR Window 10 PRO.	90%	Mr. P B Shinde	Lab Asst.	Diploma in Computer Engineering

03	Electrical Measurement, Instrumentation & Control Lab	3-4(20)	1.Phase Shifting transformer 2. Non contact type speed Measurement 3. Programmable Logic Controller 4. Liquid level measurement kit 5. Inductive Load Bank	66%	Mr. P B Shinde	Lab Asst.	Diploma in Computer Engineering
04	Electrical Machines Lab	3-4(20)	1.D.C. Motor shunt 3 KW, 1500 rpm , 230v, 11 Amps with break pulley 2.Coupled set of 5 kVA alternator 440V with D.C.Compound Generator rating alternator 5KVA, 440v, 7 Amp 3.Three Phase Squirrel cage I.M. with Generator 4.Coupled set of Alternator with D.c.Shunt Gnearator Alternator Rating 5 KVA, 440V, 7 Amp , 1500 rpm,Generator 230V, 28 Amp, 1500 Rpm	75%	Mr. G D Dongare	Lab Asst.	ITI
05	High Voltage Engineering Lab	3-4(20)	1.Transformer Oil Tester 2.Horn Gap Arrester 3.10 cm Sphere Gap 4.Rod Gap Assembly Unit.	30%	Mr. Dhobe V S	Lab Asst.	ITI
06	Power Electronics & Drives Lab	3-4(20)	1.BLDC motor drive 2.Vector controlled IM motor 3.Chopper FED DC motor 4.Speed control of 3 ph. Induction M/c. using AC voltage controller	60%	Mr. G D Dongare	Lab Asst.	ITI

07	Power Systems Lab	3-4(20)	1.Switchgear Testing Panel 2.200 KVA,11 KV transformer with power cables 3.Main power Control panel 4.4 pole structure switch yard with HT equipment	60%	Mrs.P V Pathak	Lab Asst.	ITI
08	Project Lab	3-4 (20)	1.ETAP Power Station version-2Digital handed lux meter	65%	Mr. G D Dongare	Lab Asst.	ITI (Electrician)
09	Basic Electrical Engineering	3-4 (20)	1.Tong Tester MECO 4680 BLC Clamp 2. Nvis Make 6514 Transient Analysis of RLC Circuit .(chang other kit AB 80) 3. Nvis Make 6515 Transient Analysis of RLC Circuit .(chang other kit 7009)	100%	Mrs.P V Pathak	Lab Asst.	ITI

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

Sr. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to POs/PSOs
1	DC Motor control using PIC Microcontroller CCP module	PIC Kit, DC Motor, MPLAB IDE	Student were able to learn Concept of PWm, interfacing of peripherals	By TE electrical Students for the course Advance Microcontroller & Embedded systems.	Student were able to learn Concept of PWm, interfacing of peripherals	PO:1, 5,12 PSO:02
2	Measurement of Temperature using PIC Microcontroller	PIC kit, LM35 temp sensor, LCD	Student were able to learn concept of ADC, calibration of sensors	By TE Electrical students for the course Advance Microcontroller & Embedded systems.	Student were able to learn concept of ADC, calibration of sensors	PO:1,5,12 PSO:02
3	Internet Facility	1. Line: 100 Mbps, Contention Ratio: 1:1, Internet Service Provider: Tata Telecom Services, Pune 2.Wi-Fi connectivity	Students and faculty members use the internet facility: 1.To conduct additional practicals by using Virtual Laboratories. 2.To access NPTEL Video Lectures. 3. To access online journals and publications 4. E-Resources: DELNET, Digital Library (E books: 11000 +) 5. To complete NPTEL Online Courses	Utilised by the students and faculty members .	Students get enhanced learning in all the subjects prescribed by the SPPU for Electrical Engineering Discipline including Seminar & Project related activities & Content beyond syllabus	PO:1,4,5,12 PSO: 01,02
4	Reference Section (Departmental)	1.Total Number of 200+ Books available 2.Final year Project Reports 3. Third Year Seminar Reports	Providing text books, project reports, seminar reports to the students and faculty members for reference and study.	Utilised by the students and faculty members.	Students get enhanced learning in all the subjects prescribed by the SPPU for Electrical Engineering Discipline including Seminar and Project related activities & Content beyond syllabus	PO:1,3,12 PSO:01,02

5.	MPLAB, Pro etus software	Proetus simulation of LED, LCD, Stepper motor control with PIC Microcontroller	To make students understand the virtual environment interfacing of various peripherals, coding and validating results.	By TE Electrical students for the course Advance Microcontroller & Embedded systems	Student were able to learn in virtual environment interfacing of various peripherals, coding and validating results	PO: 1, 5,12 PSO:01,02
6.	EDSIM51 Simulator	DC Motor control using 8051 Microcontroller	Students should be able to learn the effect of PWM on stepped variation.	Students of S.E for the course FMA.	Students were able to learn the effect of PWM on speed variation.	PO: 1, 5, 12 PSO: 01, 02
7.	Cut Section of various Machines	1. Nvis Make 7038A cut-section view of 1HP DC Compound. 2. Nvis make 7038B cut section view 3HP 3 Ph AC synchronous 3. Nvis make 7038C Cut sectional view 01HP 03 Ph Ac Squarrel Cage induction 4. Nvis make 7038D Cut sectional view 03HP 03 Ph AC slip ring Induction	Students should learn the inner structure and working principle of Electrical Machines.	Utilized for training and demonstrating the students in the course of Electrical Machines I and II.	In electrical Machines courses.	PO: 1, 5, 12 PSO: 01, 02
8.	DSP trainer kit TMS320F28335	DSP trainer kit	Students can learn DSP working and programming on that..	Utilized by the T.E students in Control Laboratory .	Students can use control loop using DSP	PO: 1, 5, 9, 12 PSO: 02, 03
9.	E-Rickshaw from Paramtech Electric Motors Pvt Ltd.	Electric Motors Pvt Ltd. For demonstrating to the students the working of an EVehicle.	The students will understand structure of electric vehicle.	Utilized for training the students.	E rickshaw demonstrated in elective subject HEV.	PO: 1, 5, 9, 12 PSO: 03
10.	DSO.	1GHz Four Channel colour digital oscilloscope.	Students will learn use of DSO.	Utilized for training the students .	DSO for observing different waveforms, measurement, and storage in various courses.	PO: 1, 5, 9, 12 PSO: 02,03
11.	Virtual Laboratory	Luenberger Observer simulation	Students can understand the effect of gain on state estimation	For the B.E Electrical students	Students can understand the effect of gain on state estimation.	PO: 1, 2,3,4,5, 12 PSO: 01, 02

				course: ACS		
12.	BLDC drive	1.1 HP. BLDC Motor with eddy current load with HALL sensor.	Students will learn its control and operation.	Utilized by the students for training.	Students get enhanced learning in the areas of power electronics & drives, electrical machines and Electric Vehicle	PO: 1, 5, 9, 12 PSO: 02, 03
13.	PMSM drive	1.2 hp, PMSM Motor with eddy current loading arrangement.	Students will learn its control and operation.	Utilized by the students for training.	Students get enhanced learning in the areas of power electronics & drives, electrical machines and Electric Vehicle.	PO: 1, 5, 9, 12 PSO: 02,03

6.3 Laboratories: Maintenance and overall ambiance (10)

Policies of Academic and Support Facilities:
Utilization and Maintenance of Class Rooms:

- Classrooms are allotted as per the student strength.
- Concerned departments are given responsibility for the maintenance of their classrooms.
- The HOD informs the housekeeping regarding maintenance and requirement of repairs/cleanliness.

Utilization and Maintenance of Laboratories:

- Laboratories are allotted for Practical session based on a timetable.
- Standard Operational Procedures for handling various equipment's and instruments are to be strictly followed.
- Stock register is maintained and updated regularly.
- Stock verification and inspection have to be carried out by the departments at the end of the Academic Year also inter-institute stock audit is carried out regularly.
- Write off: Old and outdated equipment, chemicals and instruments are discarded by standard procedure.

Utilization and Maintenance of Computer Laboratories:

- The computer laboratories are allotted to the students as per their curriculum requirement of SPPU; Respective program coordinator prepares the schedules for allocating the computer labs to the students as per the timetables.
- The maintenance of computer laboratories are taken care of by laboratory In-charge and the system administrators take care of the repairs and maintenance of all computers

- All outdated and under configured computers are disposed of.
- Additional requirements, if needed are processed through Governing body as per the proposal raised by the concerned Head of Department during the budget proposal.

Policy for Physical Infrastructure:

- Maintenance head prepares the routine and preventive maintenance schedule for all physical infrastructures and allocates duties to the respective staff.
- The maintenance schedules are executed with the support of both internal and external agencies.
- The consolidated report of the yearly maintenance is recorded by the administrative officer for reference.

Policy for write-off:

- Equipments which are beyond repair or have lost functional significance are intimated to committee through the Heads of Department.
- Committee members personally check the equipments and convey the decision for further action like repair from outside agencies or write-off to higher authority.
- For write-off of equipment records are updated by respective lab In-charge and same is authenticated by Head of Department and Principal.
- Accordingly such equipments are write-off at college level with consent of Administration and Principal.

Maintenance in the Department:

- Each laboratory is maintained by the Laboratory In Charge and Laboratory Assistant.
- The Laboratory In Charge and Laboratory Assistant are well qualified and have the necessary technical experience and skills required for carrying out the maintenance of various hardware and software available within the laboratory.
- Preventive Maintenance of each laboratory is done periodically.
- Breakdown Maintenance of each laboratory is done as and when required.
- All the details regarding maintenance work carried out on major equipment in each laboratory are recorded on Equipment History Card.

Ambience in the Department:

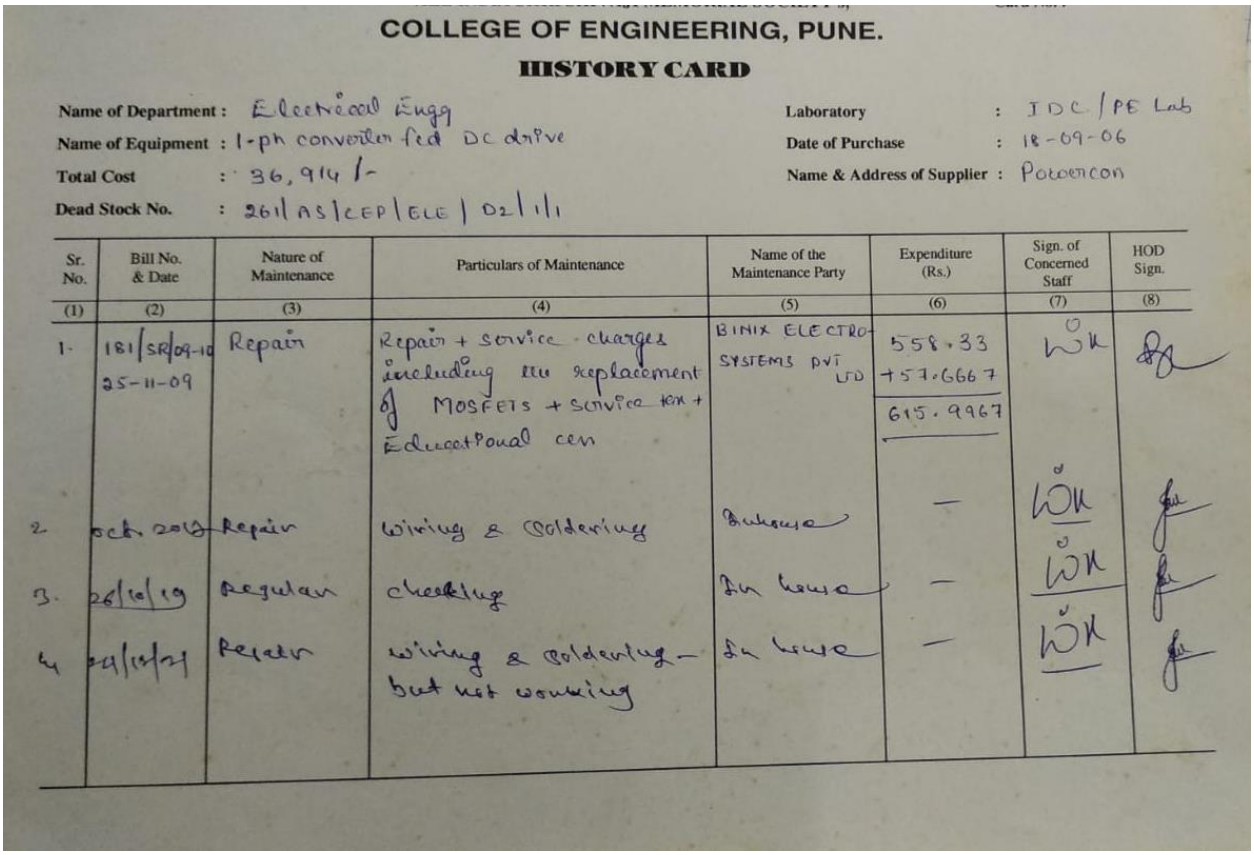
- Each Laboratory is designed to provide the ambience required for implementing the teaching-learning process effectively. The laboratories are spacious, airy and exhibit an ergonomic design, affording an excellent learning experience to students. All the laboratories have a single entry & exit facing on to the central corridor. Boards containing quotes of renowned personalities and technical information are displayed at appropriate locations within the laboratory.

- Necessary working tables, chairs/stools provided for the comfort of students are maintained in good condition.
- Proper ventilation/air circulation is provided in each laboratory. Windows provide excellent air circulation which is supported by several ceiling fans.
- Ambient lighting assisted by fluorescent tubes provides adequate lighting. Curtains are provided in each laboratory for windows to ensure good visibility.
- The labs are always kept clean, neat and tidy. They are cleaned by the housekeeping staff every day.The overall ambience and maintenance of each laboratory is very good.
- Housekeeping time table is provided to the attendant and is maintained in each laboratory.

Fig. 6.3a Electrical Machines Laboratory

Fig. 6.3b High Voltage Engineering Laboratory

Fig. 6.3c PLC SCADA Laboratory



COLLEGE OF ENGINEERING, PUNE.

HISTORY CARD

Name of Department : Electrical Engg
Laboratory : IDC / PE Lab
Name of Equipment : 1-ph converter fed DC drive
Date of Purchase : 18-09-06
Total Cost : 36,914/-
Name & Address of Supplier : Potencon
Dead Stock No. : 261/AS/CEP/ELE/D2/1/1

Sr. No.	Bill No. & Date	Nature of Maintenance	Particulars of Maintenance	Name of the Maintenance Party	Expenditure (Rs.)	Sign. of Concerned Staff	HOD Sign.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	181/SR/09-10 25-11-09	Repair	Repair + service charges including the replacement of MOSFETS + service tax + Educational cess	BINIX ELECTRO-SYSTEMS PVT LTD	558.33 + 57.6667 615.9967	WK	
2.	oct. 2013	Repair	Wiring & Soldering	In house	—	WK	
3.	26/10/19	Regular	checking	In house	—	WK	
4.	29/12/21	Repair	wiring & soldering but not working	In house	—	WK	

Fig. 6.3d Sample of Equipment History Card

6.4 Project laboratories (5)

A laboratory is provided for the students to carry out the project work with basic facilities. These facilities are provided to ensure implementation of different project stages such as design, development, assembling & testing. Facilities are listed in table 6.4a given below.
Table 6.4a List of facilities provided in project laboratory

Sr. No.	Name of the Facility	Utilization
1	Power quality analyzer	For projects based on Energy survey and audit .
2	LCR Meter	Used to measure the inductance (L), capacitance (C), and resistance (R) of an electronic components so that specific component is identified as per requirement.
3	ETAP Power Station version-2	For projects related to simulation, design, monitoring, control, operator training, optimizing, and automating power system.
4	Mi Power software CD no. MiPower 6227-05 Hardware lock 3974-1083 USB network lock Authenticity certificate	For projects in Power systems from steady state analysis to stability and security assessment, including reliability and protection.
5	Battery Tester	For testing the state of an electric battery in EV or hybrid projects.
6	Digital handed lux meter	For projects based on Energy survey and audit.
7	MATLAB Software	For simulating initial ideas of the project in various areas.
8	Desktop PC lenova core 2 duo intel 2.93 Ghz. 2 G.B. DDR2 SD RAM With DVD Rw Drive 17" TFT Monitor, Windows 7	For using the softwares available and access to internet facility.
9	Arduino Uno Atmega328P Board	For microcontroller based project assembly.
10	Three phase dimmerstat	Testing of developed electrical power circuits or prototypes

11	Single phase autotransformer	Testing of electrical circuits or prototypes
12	Rheostats of different ratings	Testing of electrical circuits or prototypes
13	Arbitrary Function Generators	Testing of developed electrical/electronic circuits or prototypes
14	Digital Storage Oscilloscopes	Testing of developed electrical/electronic circuits or prototypes
15	DC Power Supplies	Testing of developed electrical/electronic circuits or prototypes
16	Digital Multi meters	Measurement of electrical parameters like voltage, current, resistance etc.
17	Soldering stations	Assembly of electronic components on PCB
18	Digital Tachometer	For speed measurement

- Technical support is available during working hours (8.00 am - 6:00 pm). If the situation so warrants, when faculty or students require such assistance, support is extended by the technical staff beyond the working hours.
- Curtains are provided for windows. Dos and Don’ts, quotes of renowned personalities, product information are displayed at appropriate locations which add to the ambience of the laboratory.
- The project lab is also equipped with Green Board, work benches/chairs which ensure comfortable working environment for the students.
- Adequate lighting and ventilation is provided in the project lab. The project lab is cleaned every day by the house keeping staff and is kept neat and tidy.
- In addition, the students also make use of the infrastructure facility (hardware and software) available in the other laboratories viz. Computer Laboratory, Power Electronics Laboratory, Electrical Machines Laboratory, High Voltage Engineering and Workshop etc..
- Evaluation of each project is based on nature of project, presentation skills and teamwork exhibited by the students, commitment to professional ethics, ability of the students to answer questions raised by the evaluation committee members and quality of project report. The quality of project work is assessed in terms of consideration to factors including environment, safety, cost,

application, research etc. Accordingly, the course outcomes are prepared. Proper mapping is done with the program outcomes and program specific outcomes. This clearly sets the goals for the students for their overall skill development.

Fig. 6.4a Some Glimpses of project exhibition

6.5 Safety measures in laboratories (10)

Sr. No	Laboratory Name	Safety Measures
1	Applied Electronics	1. Board stating Do's and Don'ts. 2. Electrical circuits protected by MCBs. 3. Earthing of electrical equipments. 4. Periodical maintenance of laboratory equipments. 5. Fire Extinguisher is provided for protection against any fire hazard.. 6. Board mentioning Laboratory practice safety rules.
2	Computer Center	1. Board stating Do's and Don'ts. 2. Board showcasing First Aid Treatment for/against Electric Shock. 3. Electrical circuits protected by MCBs. 4. Earthing of electrical equipments. 5. Periodical Maintenance of laboratory equipments. 6. 2 UPS of 7.5 KVA and 1 UPS of 5 KVA (with 12 V, 26 AH, 51 batteries) is provided for protection of computers. 7. Fire Extinguisher is provided for protection against any fire hazard. 8. Anti virus is provided for data safety. 9. CCTV camera provided for theft/misuse of machines.
3	Electrical Measurement, Instrumentation & Control	1.Board stating Do's and Don'ts 2.Electrical circuits protected by MCBs 3. Earthing of electrical equipments. 4.Periodical Maintenance of laboratory equipments 5. Fire Extinguisher is provided for protection against any fire hazard. 6. Board mentioning Laboratory practice safety rules. 7.Board showcasing First Aid Treatment for Electric Shock
4	Electrical Machines	1.Board stating Do's and Don'ts 2. Board showcasing First Aid Treatment for/against Electric Shock. 3.Electrical circuits protected by MCBs 4. Earthing of electrical equipments. 5.Periodical Maintenance of laboratory equipments 7. Fire Extinguisher is provided for protection against any fire hazard. 8. Board mentioning Laboratory practice safety rules.
5	High Voltage Engineering	1.Board stating Do's and Don'ts 2.Electrical circuits protected by MCBs 3. Earthing of electrical equipments. 4.Rubber Mats 5.Fire Extinguisher 6.Periodical Maintenance of laboratory equipments 7. Fire Extinguisher is provided for protection against any fire hazard. 8.Iron cage for screening and earthing protection. 9. Board mentioning Laboratory practice safety rules. 10.Board showcasing First Aid Treatment for/against Electric Shock.
6	Power Electronics and Drives	1.Board stating Do's and Don'ts 2.Electrical circuits protected by MCBs 3. Earthing of electrical equipments. 4.Periodical Maintenance of laboratory equipments

		5. Fire Extinguisher is provided for protection against any fire hazard. 6. Board mentioning Laboratory practice safety rules. 7. Board showcasing First Aid Treatment for/against Electric Shock.
7	Power System	1. Board stating Do's and Don'ts. 2. Board showcasing First Aid Treatment for/against Electric Shock. 3. Electrical circuits protected by MCBs. 4. Earthing of electrical equipments. 5. Periodical Maintenance of laboratory equipments. 6. Fire Extinguisher is provided for protection against any fire hazard.. 7. Board mentioning Laboratory practice safety rules.
8	Project	1. Board stating Do's and Don'ts. 2. Electrical circuits protected by MCBs 3. Earthing of electrical equipments. 4. Periodical Maintenance of laboratory equipments 5. Fire Extinguisher is provided for protection against any fire hazard. 6. Board mentioning Laboratory practice safety rules. 7. Board showcasing First Aid Treatment for/against Electric Shock.
9	Basic Electrical Engineering	1. Board stating Do's and Don'ts. 2. Board showcasing First Aid Treatment for/against Electric Shock. 3. Electrical circuits protected by MCBs. 4. Earthing of electrical equipments. 5. Periodical maintenance of laboratory equipments. 6. Fire Extinguisher is provided for protection against any fire hazard.. 7. Board mentioning Laboratory practice safety rules.

CRITERION 7	Continuous Improvement	50

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

POs Attainment Levels and Actions for Improvement – (2019-20 Batch)

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge (Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.**)**			
PO1	1.6	1.5	Attainment is 93.75% of target value. The courses which are not attaining target value are Engineering Mathematics III, Analog and Digital Electronics, Electrical Measurements and Instrumentation, Material Science, Electrical Machines I, Network Analysis, Control System I, Design of Electric Machines, Power System II, Control System II, PSOC All these subjects are core subjects and student face difficulty in understanding basic concept.
Action 1: Additional practice of unsolved problems from book and university question papers of previous exams. **Action 2:** Extra classes conducted for lateral entry students. **Action 3:** Revision lectures organized on difficult topics. Personal difficulties of students are solved.			
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.			
PO2	1.6	1.35	Attainment is 84.4% of target value. Subjects need attention are Engineering Mathematics III, Analog and Digital Electronics, Electrical Measurements and Instrumentation, Material Science, Electrical Machines I, Network Analysis, Control System I, Design of Electric Machines, Power System II, EIMT, Control System II, PSOC The problem solving and analyzing skills are to be gained through understanding core fundamentals.
Action 1: Regular students as well as lateral entry students have less orientation towards mathematics. More numerical are solved in class as well as given extra assignment. Tutorials are included in revised University syllabus. **Action 2:** Faculty to guide students to use identified online study material available like MOOCs courses which are self-paced. Students attended NPTEL courses for Power System II, Control System, Power Electronics **Action 3:** Extra problems were given by to improve analyzing ability. **Action 4:** emphasize critical thinking skills in the curriculum to help students develop the ability to analyze complex problems and generate effective solutions.			

PO3: Design/development of Solutions (Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate considerations for the public health and safety, and the cultural, societal, and environmental considerations.)			
PO3	1.4	1.25	Attainment is 89.3% of target value. All core subjects of SE and TE not attained target. These kind of courses need more practice, hands on training
Action 1: Extra classes for weak students and lateral entry student are conducted. **Action 2:** Hands on practice, is provided to students through workshop, virtual lab extra practical to improve their understanding. **Action 3:** Students are provided with question bank, and are asked to solve numerical from reference book.			
PO4: Conduct Investigations of Complex Problems (Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.**)**			
PO4	1.4	1.39	Attainment is 99% of target value. Subjects need attention are Engineering Mathematics III, Network Analysis, ADE, PSI, EMI, Control System I, AMC,PSII, DEM, EIMT
Action 1: More thrust given to laboratories, project work through hands on experience. **Action 2:** Virtual lab experiments and simulation on different open source software's conducted. **Action 3:** In project and seminar students were informed to carry literature survey interpret data and synthesis it.			
PO5: 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.**)**			
PO5	1.4	1.32	Attainment is 94.3% of target value.
Action 1: Students are encouraged to use modern software and tools available online for different courses. **Action2:** Students are encouraged to participate in different MOOC, swayam self-paced courses to understand real time tools used in practice. **Action3:** Expert Lectures organized by Industry Expert for latest tools used in real world.			
PO6 :The Engineer and Society (Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.**)**			
PO6	1.2	1.25	PO is attained. Next cycle target is improved.
Action 1: identify barriers that are preventing the target from being met, such as lack of emphasis on social and ethical considerations, inadequate student engagement with real-world societal issues, limited opportunities for students to engage in community service and outreach activities. **Action2:** Different social activities will be organized with participation of students. This helps them to understand different societal issues related with health, safety, economics, gender bias.			

Action 3: Students are encouraged to participate in events organized by different organizations like NSS.			
PO7: Environment and Sustainability (Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**)**			
PO7	1.2	1.30	Attainment is 100% of target value. Capturing the attainment of the PO is a challenge task as being an affiliated Institute curriculum is not designed accordingly. Reasons are no freedom to set question paper.
Action 1: Students are encouraged to undertake project based on environmental issues. **Action 2:** Expert Lecture organized to sensitize students on environment issues and sustainable development. **Action 3:** Importance of sustainable development is informed during few course conductions.			
PO8: Ethics (Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.**)**			
PO8	1.2	1.38	Attainment is 100% of target value. There is no course on ethics, but it is integral part of all courses, specially seminar, project.
Action 1: Students are informed to use ethical practices for seminars, projects, plagiarism in report writing and professional career in future. **Action 2:** Organizing **e**xpert lecture on different standards, codes, professional ethics.			
PO9 : Individual and Team Work (Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.**)**			
PO9	1.2	1.24	Attainment is 100% of target value. To be observed in laboratory, project, seminar work, group discussion.
Action 1: Organizing Group assignments, group discussion, various activities under student chapters. **Action 2:** Organizing different Industrial visits. **Action 3:** Students are motivated to participate in various student chapter activities, co-curricular and extra-curricular activities. **Action 4:** Students are made well aeare of it for their project work			
PO10 : Communication Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	1.2	1.32	Attainment is 100% of target value. Courses like project, seminar, presentation in class, various activities contribute to this PO.

Action 1: Written and Spoken Communication to be attempted to improve through conduction of Soft skill training meticulously designed and delivered by external experts.

Action 2: Various presentations, group discussion, mock interviews are organized to improve students written and verbal communication.

Action 3: Students are encouraged to participate in paper presentations, poster presentations, various co-curricular activities.

PO11 : Project Management and Finance (Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.**)**

PO11	1.2	1.36	Attainment is 100% of target value.

Action 1: Project Management workshop is organized.

Action 2: Students were asked to give more emphasis on project planning, cost estimation and execution.

PO12 : 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.**)**

PO12	1.2	1.19	Attainment is 99% of target value. Learning never ends.

Action 1: Students are informed about importance of self-learning, and finding resources on their own.

Action 2: Students are encouraged to participate in various self-learning courses through MOOC, NPTEL, Coursera, Udemy etc.

Action3: Students are encouraged to participate different technical and non-technical events competitions.

Similar information is to be provided for PSOs

PSO1: Demonstrate knowledge and competence in solving problems of Electrical machines, Power/ Energy systems, Instrumentation & Control, Power Electronics and Automation

PSO1	1.5	1.42	Attainment is 94.6% of target value. The courses which are not attaining target value are Engineering Mathematics III, Analog and Digital Electronics, Electrical Measurements and Instrumentation, Material Science, Electrical Machines I, Network Analysis, Control System I, Design of Electric Machines, Power System II.

Action 1: Additional practice of unsolved problems from book and university question papers of previous exams.

Action 2: Extra classes conducted for lateral entry students.

Action 3: Revision lectures organized on difficult topics.

PSO2 : Showcase the skills and abilities of applying simulation and software tools for solving engineering problems			
PSO2	1.5	1.35	Attainment is 90% of target value.
Action 1: Students are encouraged to use modern software and tools available online for different courses. **Action2:** Students are encouraged to participate in different MOOC, swayam self-paced courses to understand real time tools used in practice. **Action3:** Expert Lectures organized with Industry Experts for latest tools used in real world.			
PSO3 : Exhibit their abilities of soft skills and self-learning skills through team work emphasizing high human values			
PSO3	1.0	1.05	Attainment is 100% of target value.
Action 1: Students are informed about importance of self-learning, and finding resources on their own. **Action 2:** Students are encouraged to participate in various self-learning courses through MOOC, NPTEL, Coursera Udemy etc. **Action3:** Students are encouraged to participate different technical and non-technical events competitions.			

2020-21 Batch

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge (Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.**)**			
PO1	1.6	1.62	Attainment is 100% of target value. Even though target is attained few core subjects individually are not meeting target. All these subjects are core subjects and student face difficulty in understanding basic concept.
Action 1: In class room thrust is given on concept understanding. **Action 2:** Assignments, test having more practice problems given to students. **Action 3:** Extra classes conducted for lateral entry students. **Action 3:** Personal difficulties of students are solved.			
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.			
PO2	1.6	1.47	Attainment is 84.4% of target value. Subjects need attention are Engineering Mathematics III, Analog and Digital Electronics, Electrical Measurements and Instrumentation, Material Science,

			Electrical Machines I, Network Analysis, Control System I, Design of Electric Machines, Power System II, EIMT The problem solving and analyzing skills are to be gained through understanding core fundamentals.
Action 1: Regular students as well as lateral entry students have less orientation towards mathematics. More numerical are solved in class as well as given extra assignment. Tutorials are included in revised University syllabus. **Action 2:** Faculty encouraged students to use online study material available like MOOCs courses which are self-paced. **Action 3:** To improve ability to identify and formulate problem, additional material is given by faculty like video lectures, animation			
PO3: Design/development of Solutions (Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate considerations for the public health and safety, and the cultural, societal, and environmental considerations.)			
PO3	1.4	1.36	Attainment is 89.3% of target value. All core subjects of SE and TE not attained target. These kind of courses need more practice, hands on training
Action 1: Extra classes for weak students and lateral entry student are conducted. **Action 2:** Workshop, virtual labs, extra practical are conducted to have hands on experience. **Action 3:** Students are provided with question bank, and are asked to solve numerical from reference book.			
PO4: Conduct Investigations of Complex Problems (Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.**)**			
PO4	1.4	1.53	Attainment is 100% of target value. Subjects need attention are Engineering Mathematics III, Network Analysis, ADE, PSI, EMI,Control System I, AMC,PSII, DEM, EIMT
Action 1: More thrust given to laboratories, project work through hands on experience. **Action 2:** Virtual lab experiments and simulation on different open source software's conducted. **Action 3:** In project and seminar students were informed to carry literature survey interpret data and synthesis it.			
PO5: 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.**)**			
PO5	1.4	1.48	Attainment is 94.3% of target value.
Action 1: Students are encouraged to use modern software and tools available online for different courses. **Action2:** Students are encouraged to participate in different MOOC, swayam self-paced courses to understand real time tools used in practice. **Action3:** Expert Lectures organized by Industry Expert for latest tools used in real world.			

PO6 :The Engineer and Society (Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.**)**			
PO6	1.25	1.31	PO is attained. Next cycle target is improved.
Action 1: Different social activities are organized with participation of students. This helps them to understand different societal issues related with health, safety, economics, gender bias. **Action 2:** Students are encouraged to participate in events organized by different organizations like NSS.			
PO7: Environment and Sustainability (Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**)**			
PO7	1.3	1.39	Attainment is 100% of target value. Capturing the attainment of the PO is a challenge as being an affiliated Institute curriculum is not designed accordingly. Reasons are no freedom to set question paper.
Action 1: Students are encouraged to undertake project based on environmental issues. **Action 2:** Expert Lecture organized to sensitize students on environment issues and sustainable development. **Action 3:** Importance of sustainable development is informed during few course conductions.			
PO8: Ethics (Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.**)**			
PO8	1.38	1.54	Attainment is 100% of target value. There is no course on ethics, but it is integral part of all courses, specially seminar, project.
Action 1: Students are informed to use ethical practices for seminars, projects, plagiarism in report writing and professional career in future. **Action 2:** Organizing **e**xpert lecture on different standards, codes, professional ethics.			
PO9 : Individual and Team Work (Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.**)**			
PO9	1.24	1.35	Attainment is 100% of target value. To be observed in laboratory, project, seminar work, group discussion.
Action 1: Organizing Group assignments, group discussion, various activities under student chapters. **Action 2:** Organizing different Industrial visits. **Action 3:** Students are motivated to participate in various student chapter activities, co-curricular and extra-curricular activities.			
PO10 : Communication Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			

PO10	1.32	1.44	Attainment is 100% of target value. Courses like project, seminar, presentation in class, various activities contribute to this PO.
Action 1: Written and Spoken Communication to be attempted to improve through conduction of Soft skill training meticulously designed and delivered by external experts. **Action 2:** Various presentations, group discussion, mock interviews are organized to improve students written and verbal communication. **Action 3:** Students encouraged to participate in paper presentations, poster presentations, various co-curricular activities.			
PO11 : Project Management and Finance (Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.**)**			
PO11	1.36	1.43	Attainment is 100% of target value.
Action 1: Project Management workshop is organized. **Action 2:** Students were asked to give more emphasis on project planning, cost estimation and execution.			
PO12 : 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.**)**			
PO12	1.2	1.29	Attainment is 100% of target value. Learning never ends.
Action 1: Students are informed about importance of self-learning, and finding resources on their own. **Action 2:** Students are encouraged to participate in various self-learning courses through MOOC, NPTEL, Coursera, Udemy etc. **Action3:** Students are encouraged to participate different technical and non-technical events competitions.			
Similar information is to be provided for PSOs			
PSO1: Demonstrate knowledge and competence in solving problems of Electrical machines, Power/ Energy systems, Instrumentation & Control, Power Electronics and Automation			
PSO1	1.5	1.54	Attainment is 100% of target value.
Action 1: Additional practice of unsolved problems from book and university question papers of previous exams. **Action 2:** Extra classes conducted for lateral entry students. **Action 3:** Revision lectures organized on difficult topics.			

PSO2 : Showcase the skills and abilities of applying simulation and software tools for solving engineering problems			
PSO2	1.5	1.51	Attainment is 100% of target value.
Action 1: Students are encouraged to use modern software and tools available online for different courses. **Action2:** Students are encouraged to participate in different MOOC, swayam self-paced courses to understand real time tools used in practice. **Action3:** Expert Lectures organized with Industry Experts for latest tools used in real world.			
PSO3 : Exhibit their abilities of soft skills and self-learning skills through team work emphasizing high human values			
PSO3	1.0	1.05	Attainment is 100% of target value.
Action 1: Students are informed about importance of self-learning, and finding resources on their own. **Action 2:** Students are encouraged to participate in various self-learning courses through MOOC, NPTEL, Coursera Udemy etc. **Action3:** Students are encouraged to participate different technical and non-technical events competitions.			

2021-22 Batch

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge (Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.**)**			
PO1	1.62	1.86	Attainment is 100% of target value. All core subjects contribute to this PO, and student face difficulty in understanding basic concept.
Action 1: Different pedagogical methods, ICT tools are used by faculty which help students in understanding concepts better way. **Action 2:** Extra classes conducted for lateral entry 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.			
PO2	1.6	1.64	Attainment is 100% of target value. The problem solving and analyzing skills are to be gained through understanding core fundamentals.

Action 1: More thrust is given on understanding core fundamentals by various ways like workshop, virtual lab, NPTEL lecture, Industrial visits, expert lectures. **Action 2:** Extra study material is given by faculty like video lectures, animation to improve ability to identify and formulate problem.			
PO3: Design/development of Solutions (Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate considerations for the public health and safety, and the cultural, societal, and environmental considerations.)			
PO3	1.4	1.56	Attainment is 100% of target value. All core subjects of SE and TE not attained target. These kind of courses need more practice, hands on training
Action 1: Extra classes for weak students and lateral entry student are conducted. **Action 2:** Hands on practice, is provided to students through workshop, virtual lab extra practical to improve their understanding. **Action 3:** Industry expert are called to deliver expert lectures and share their experiences case studies.			
PO4: Conduct Investigations of Complex Problems (Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.**)**			
PO4	1.53	1.64	Attainment is 100% of target value.
Action 1: More thrust given to laboratories, project work through hands on experience. **Action 2:** Virtual lab experiments and simulation on different open source software's conducted. **Action 3:** In project and seminar students were informed to carry literature survey interpret data and synthesis it.			
PO5: 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.**)**			
PO5	1.48	1.61	Attainment is 100% of target value.
Action 1: Students are encouraged to use modern software and tools available online for different courses. **Action2:** Students are encouraged to participate in different MOOC, swayam self-paced courses to understand real time tools used in practice. **Action3:** Expert Lectures organized by Industry Expert for latest tools used in real world.			
PO6 :The Engineer and Society (Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.**)**			
PO6	1.31	1.41	PO is attained. Next cycle target is improved.
Action 1: Different social activities are organized with participation of students. This helps them to understand different societal issues related with health, safety, economics, gender bias.			

Action 2: Students are encouraged to participate in events organized by different organizations like NSS.			
PO7: Environment and Sustainability (Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**)**			
PO7	1.39	1.44	Attainment is 100% of target value. Capturing the attainment of the PO is a challenge as being an affiliated Institute curriculum is not designed accordingly. Reasons are no freedom to set question paper.
Action 1: Students are encouraged to undertake project based on environmental issues. **Action 2:** Expert Lecture organized to sensitize students on environment issues and sustainable development. **Action 3:** Importance of sustainable development is informed during few course conductions.			
PO8: Ethics (Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.**)**			
PO8	1.54	1.51	Attainment is 98% of target value. There is no course on ethics, but it is integral part of all courses, specially seminar, project.
Action 1: Students are informed to use ethical practices for seminars, projects, plagiarism in report writing and professional career in future. **Action 2:** Organizing **e**xpert lecture on different standards, codes, professional ethics.			
PO9 : Individual and Team Work (Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.**)**			
PO9	1.35	1.62	Attainment is 100% of target value. To be observed in laboratory, project, seminar work, group discussion.
Action 1: Individual student's performance is observed in laboratory, mock orals. **Action 2:** Organizing Group assignments, group discussion, various activities under student chapters. **Action 3:** Students are motivated to participate in various student chapter activities, co-curricular and extra-curricular activities. Organizing different Industrial visits.			
PO10 : Communication Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	1.44	1.59	Attainment is 100% of target value. Courses like project, seminar, presentation in class, various activities contribute to this PO.

Action 1: Written and Spoken Communication to be attempted to improve through conduction of Soft skill training meticulously designed and delivered by external experts. **Action 2:** Various presentations, group discussion, mock interviews are organized to improve students written and verbal communication. **Action 3:** Students encouraged to participate in paper presentations, poster presentations, various co-curricular activities.			
PO11 : Project Management and Finance (Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.**)**			
PO11	1.43	1.54	Attainment is 100% of target value.
Action 1: Project Management is included as audit course in revised University syllabus. **Action 2:** Students were asked to give more emphasis on project planning, cost estimation and execution.			
PO12 : 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.**)**			
PO12	1.29	1.44	Attainment is 100% of target value. Learning never ends.
Action 1: Students are informed about importance of self-learning, and finding resources on their own. **Action 2:** Students are encouraged to participate in various self-learning courses through MOOC, NPTEL, Coursera, Udemy etc. **Action3:** Students are encouraged to participate different technical and non-technical events competitions.			
Similar information is to be provided for PSOs			
PSO1: Demonstrate knowledge and competence in solving problems of Electrical machines, Power/ Energy systems, Instrumentation & Control, Power Electronics and Automation			
PSO1	1.54	1.71	Attainment is 100% of target value.
Action 1: Different pedagogical methods, ICT tools are used by faculty which help students in understanding concepts better way. **Action 2:** Extra classes conducted for lateral entry students.			
PSO2 : Showcase the skills and abilities of applying simulation and software tools for solving engineering problems			
PSO2	1.51	1.85	Attainment is 100% of target value.

Action 1: Students are encouraged to use modern software and tools available online for different courses. **Action2:** Students are encouraged to participate in different MOOC, swayam self-paced courses to understand real time tools used in practice. **Action3:** Expert Lectures organized with Industry Experts for latest tools used in real world.			
PSO3 : Exhibit their abilities of soft skills and self-learning skills through team work emphasizing high human values			
PSO3	1.0	1.05	Attainment is 100% of target value.
Action 1: Students are informed about importance of self-learning, and finding resources on their own. **Action 2:** Students are encouraged to participate in various self-learning courses through MOOC, NPTEL, Coursera Udemy etc. **Action3:** Students are encouraged to participate different technical and non-technical events competitions.			

7.2 **Academic Audit and actions taken thereof during the period of Assessment (10)**

AISSMS COE has established well defined Internal Quality Assurance System and every effort has been taken to address all the quality attributes of technical education for the overall professional and holistic development of students. Varity of academic, administrative, co-curricular and extra-curricular activities are carried out at institute and department level which helps in improving the quality of education imparted.

For the sustenance and continuous improvement in quality for achieving academic excellence, institute has adopted certain quality management strategies and has developed methodology for auditing different academic and administrative quality aspects.

Academic and administrative audit (AAA) is one of the major quality aspects of internal quality assurance system developed by the institute.

Academic audit is conducted in order to monitor teaching learning process. Department has Program Assessment and Quality Improvement committee (PAQIC). PAQIC at department level carry out academic audit on syllabus coverage, laboratory work completed, students' performance in internal and external exams, exit surveys, conduction of activities planned. PAQIC verifies course files of course coordinators. PAQIC also verifies test papers, assignments of each course.

In addition to this, to evaluate quality of internal test paper and assignments, Department is having Program assessment and quality improvement committee (PAQIC). PAQIC committee consist of Head of Department, Chairman, module coordinator, Industry institute coordinator and exam coordinator. Committee ensures quality of internal test papers, assignments, various activities organized. Module coordinator verifies test papers and assignments of all subjects in that module, to ensure that questions

satisfy the desired learning level as per blooms taxonomy. The committee gives suggestions if needed. PAQIC committee also monitors timely completion of syllabus, conduction of supporting activities like industrial visits, expert lectures, workshops, projects, internships etc.
Institute has academic coordinator; who carries out academic audit every week

Academic Audit each week covers the following points:

A google sheet is shared stating:

1. No. of lectures planned during the week
2. No. of lectures conducted during the week
3. No. of practical's planned during the week
4. No. of practical's conducted during the week

A consolidated report is prepared every week stating the:

1. Name of the Department
2. No. of faculties
3. No. of Faculties filled Google form
4. No. of faculties not submitted Google form

PAQIC meeting details

PAQIC meeting schedule

Sem	Meeting 1	Meeting 2
Sem I (2021-2022)	At the start of semester - Action taken for **Sem I (2020-2021)** analysis - Decide action plan for the **Sem I -2021-2022**	In the mid of Sem I (Current Year) - Monitoring of action suggested and effective implementation at course level. **Sem I /2021-2022**
Sem II (2021-2022)	At the start of semester - Action taken for **Sem II (2020-2021)** analysis - Decide action plan for the **Sem II - 2021-2022**	In the mid of Sem II (Current Year) - Monitoring of action suggested and effective implementation at course level. **Sem II /2021-2022**

AISSMS
COLLEGE OF ENGINEERING

ज्ञानम् सकलजनहिताय

Accredited by NAAC with "A+" Grade

Institute Vision

"Service to Society through Quality Education"

ACADEMIC AUDIT (PAQIC meeting 1)

- **Name of the Department: Electrical Engineering**
- **Academic Year: 2020-2021** **Assessment Report : 2021-2022**
- **Date of Meeting :** (6/7/2021)
- **Agenda :**
  1. **Program wise** CO attainment analysis on the basic of Sem I courses attainment.
  2. **Course (Subject)** wise CO-POs / PSOs attainment analysis of all courses (SE,TE & BE) for the Sem I.
  3. Program- Course wise POs / PSOs attainment **GAP** evaluation.
  4. Identification of **Courses having low/poor** attainment.
  5. PO/PSOs wise actions / planning in the form of activities for the next year Sem I 2021-2022.
  6. **Linking** of Actions at course level.
- Discussion on Co-POs/PSO mapping through module coordinator report.
- Checking of other academic aids: Course file/ personal files/Question paper/Assignments /Exam report/ and other academic initiatives at department level. etc
- Planning for next meeting :

Signature of PAQIC members present

P.T.O.

Following points were discussed in Department PAQIC meeting held on 6/7/2021

PO- PSO Attainment analysis of Sem-I 2020-2021

CO attainment analysis of Sem-I courses 2020-2021

1. CO attainment of different subjects have been discussed in the meeting.
2. It was found that some subject has reached target attainment level and same has less attainment.
3. Feedback from faculty whose attained is low is taken, and they are instructed to solve more numbers of numerical new techniques, revise teaching technique on the weak CO, also found students who needs counselling.
4. Revisiting of Co-Po mapping –Co mapping and CO attainment will decide PO –PSO mapping of subjects whose attainment is poor and are once again reviewed, and discussed.
5. Improvement of PO-PSO attainment for the next year. After going through various CO/PO/PSO attainment and the reasoning by the respective teachers for poor attainment and as per suggestions following activates have been planned, incorporating gap.
   - Mentoring of low performing students in class test.
   - Revision session for problem solving.
   - Emphasis on solving and analysis of complex problem.
   - Increase use of relevant online learning material.
   - Increase use of virtual labs, open source software's.
   - To ensure that available learning material like lectures notes, videos links will be shared by faculty members to students.
   - Expert lectures were identified on topics like safety, ethics, higher studies information and planned in semester.
   - Extracurricular activities, Co-curricular activates planned for online mode.
6. The departmental module coordinator checked course file relevant to their domain and given suggestions.
7. Next meeting is planned 2nd week of October 2022.

PAQIC

Chairman Dr. A.A. Godbole HOD

Coordinator Mr. S. K. Biradar

Exam coordinator Ms. V. N. Tarange

Project coordinator Ms. V. N. Tarange

Industry Institute coordinator Ms. S. V. Vadi

Module Coordinator Dr. M. H. Dhend

Ms. S. R. Lengade

Dr. A. A. Apte

Ms. P. K. Sankala

Mr. V. S. Pankshe

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Institute Vision
"Service to Society through Quality Education"

ACADEMIC AUDIT (PAQIC meeting 2)

- **Name of the Department: Electrical Engineering**
- **Academic Year: 2020-2021** **Assessment Report: 2021-2022**
- **Date of Meeting:** (12/10/2021)
- **Agenda:**
  1. Discussion and checking of **Course wise action suggested by PAQIC meeting 1.**
  2. **Program wise** POs / PSOs attainment analysis on the basis of result of last year courses attainment.
  3. Checking of other academic aids: Course file/ personal files/Question paper/Assignments /Exam report/ and other academic initiatives at department level. etc
  4. Suggestions for the improvement:
  5. Planning for next meeting.

Signature of PAQIC members present

2

P.T.O.

Following points were discussed in Department PAQIC meeting held on 6/7/2021

PO- PSO Attainment analysis of Sem-I 2020-2021

CO attainment analysis of Sem-I courses 2020-2021

1. CO attainment of different subjects have been discussed in the meeting.
2. It was found that some subject has reached target attainment level and same has less attainment.
3. Feedback from faculty whose attained is low is taken, and they are instructed to solve more numbers of numerical new techniques, revise teaching technique on the weak CO, also found students who needs counselling.
4. Revisiting of Co-Po mapping –Co mapping and CO attainment will decide PO –PSO mapping of subjects whose attainment is poor and are once again reviewed, and discussed.
5. Improvement of PO-PSO attainment for the next year. After going through various CO/PO/PSO attainment and the reasoning by the respective teachers for poor attainment and as per suggestions following activates have been planned, incorporating gap.
   - Mentoring of low performing students in class test.
   - Revision session for problem solving.
   - Emphasis on solving and analysis of complex problem.
   - Increase use of relevant online learning material.
   - Increase use of virtual labs, open source software's.
   - To ensure that available learning material like lectures notes, videos links will be shared by faculty members to students.
   - Expert lectures were identified on topics like safety, ethics, higher studies information and planned in semester.
   - Extracurricular activities, Co-curricular activates planned for online mode.
6. The departmental module coordinator checked course file relevant to their domain and given suggestions.
7. Next meeting is planned 2nd week of October 2022.

PAQIC

Chairman Dr. A.A. Godbole

Coordinator Mr. S.K. Biradar

Exam coordinator Ms. V.N. Tarange

Project coordinator Ms. V.N. Tarange

Industry Institute coordinator Ms. S.V. Vadi

Module coordinator Dr. M.H. Dhend

Ms. S.R. Lengade

Dr. A.A. Apte

Ms. P.K. Saukada

Mr. U.S. Pawkekar

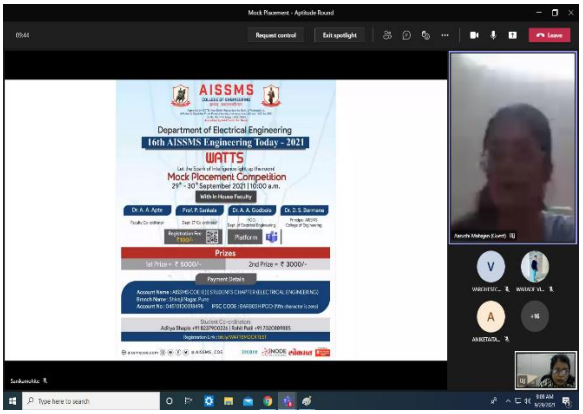
7.3 Improvement in Placement, Higher Studies and Entrepreneurship (10)

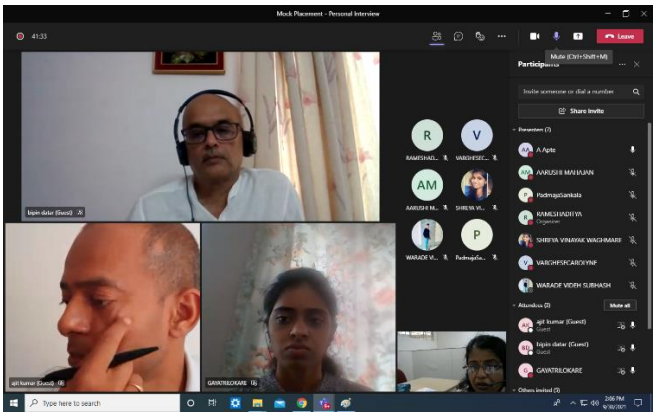
The Institute has separate section, Centre for Information Training and Placement (CITP) cell to cater Trainings, Placements and for Career guidance to students by taking help of Alumni strength and interaction with industry. Pre-placement and industry specific training are conducted at every stage of their undergraduate studies. The companies visiting the campus are divided into IT/Software companies (product, service based) and Core Companies (Non IT/Software) (Manufacturing, service providers). CITP coordinator along with department T&P coordinator, coordinates placement activities. Pre-placement and industry specific training are conducted at every stage of their undergraduate studies. Student's inclination towards a career is identified at first year level. In their second year studies, communication and soft skills are organized. Aptitude required for employment in general is prepared at third year level. Company specific training with contemporary knowledge is enhanced in the final year of their study. The CITP respects "One student one job policy".

Department encourages students for higher studies. Expert lectures are organized for students on preparation of competitive examinations like GATE, GRE, CAT for admissions in premier institutes. Letter of recommendation is given by faculty members to students who wish to pursue M.S. outside India.

The Entrepreneurship & Skill Development Cell at AISSMS College of Engineering has been formed to focus on preparing successful entrepreneurs especially techno-preneurs for the society. The objective is to inculcate Indian cultural values amongst prospective entrepreneurs.

Mock Placement organized for students 29-30 September 2021



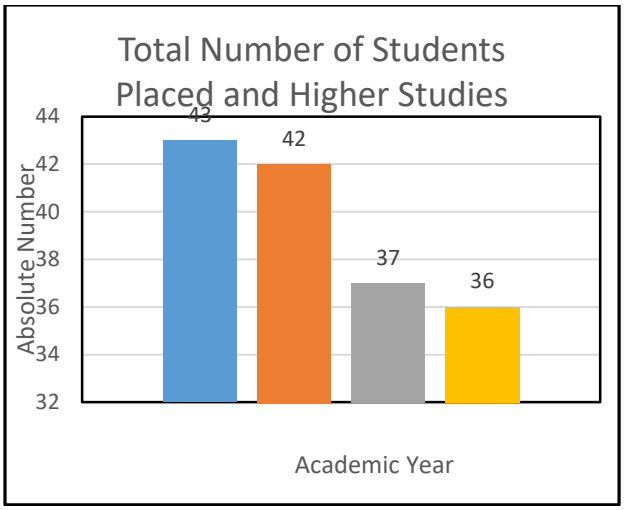


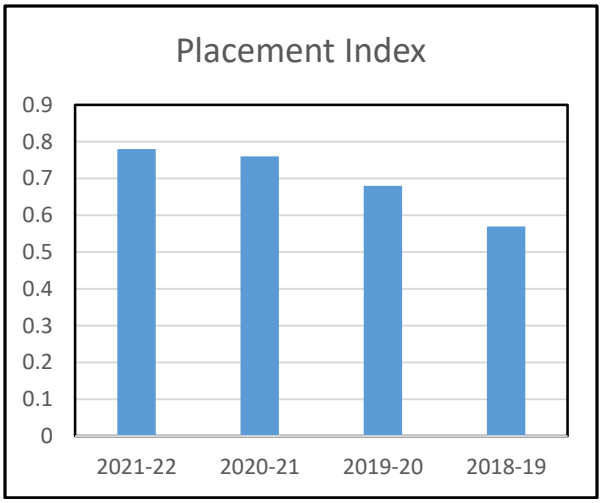
Item	CAY (2021-22)	CAY m1(2020-21)	CAY*m*2 (2019-20)	CAY m3 (2018-19)
Total No. of Final Year Students (N)	57	55	52	60
No. of students placed in companies orGovernment Sector (x)	40	37	27	29
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (y)	2	3	10	7
No. of students turned entrepreneur inengineering/technology (z)	1	2	0	0
x + y + z =	43	42	37	36
Placement Index : (x + y + z)/N	0.754	0.763	0.711	0.6
	0.69			

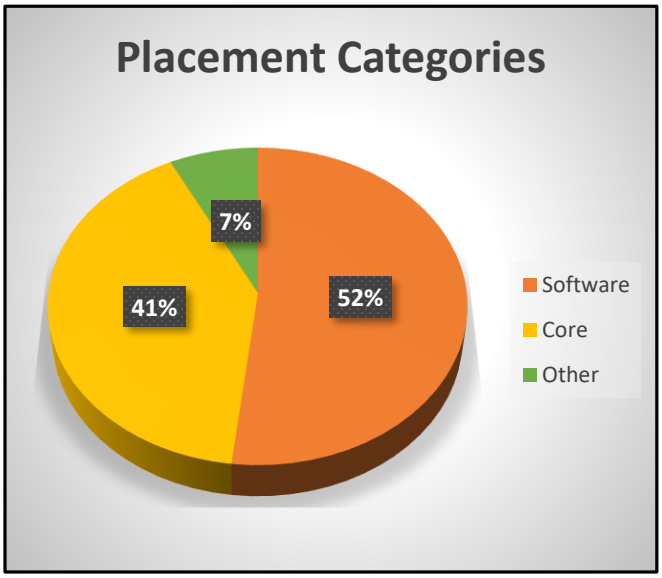
Table 7.3 (A) Placement for Last Four years

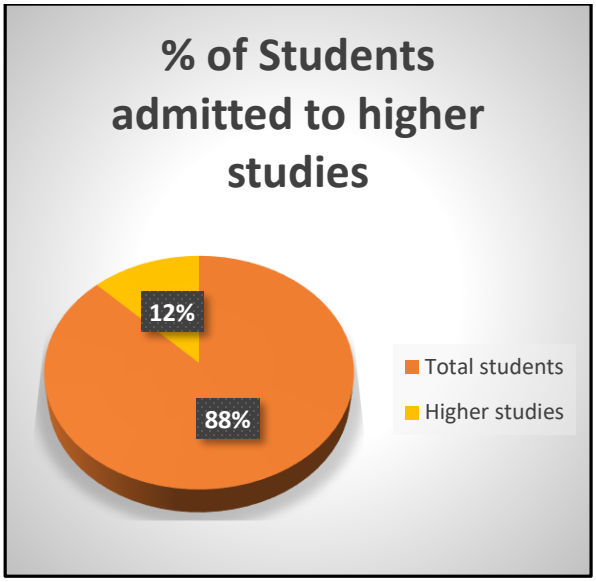
Sr.No.	Academic Year	Highest Pay package	Name of Company
1	2021-22	7.0 Lacs	Wiley
2	2020-21	6.5 lacs	Accenture
3	2019-20	3.90 Lacs	Screen magic mobile
4	2018-19	5.00 Lacs	Godrej Boyce

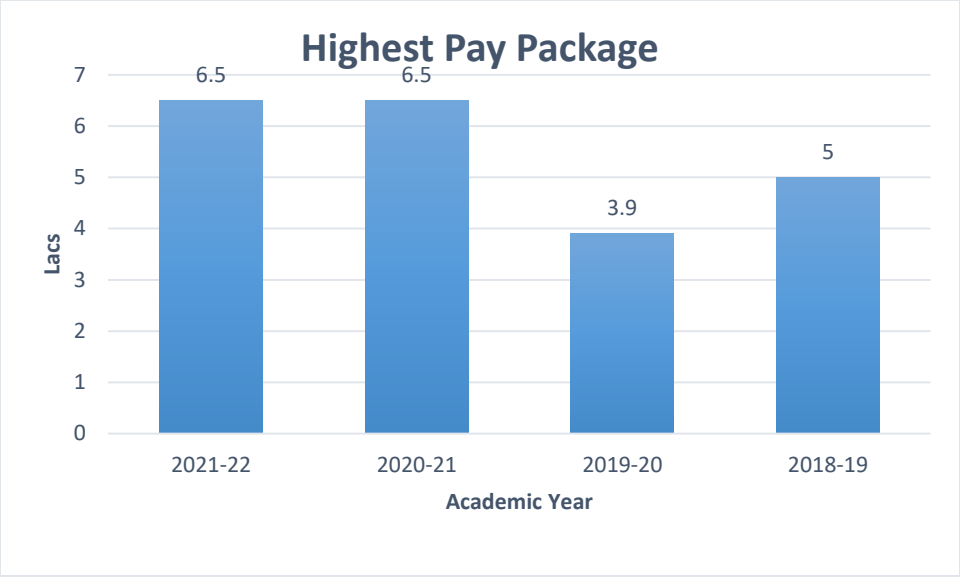
Table 7.3 (B) Placement data with highest pay package


Total Number of Students Placed and Higher Studies
Absolute Number
44
42
40
38
36
34
32
43
42
37
36
Academic Year

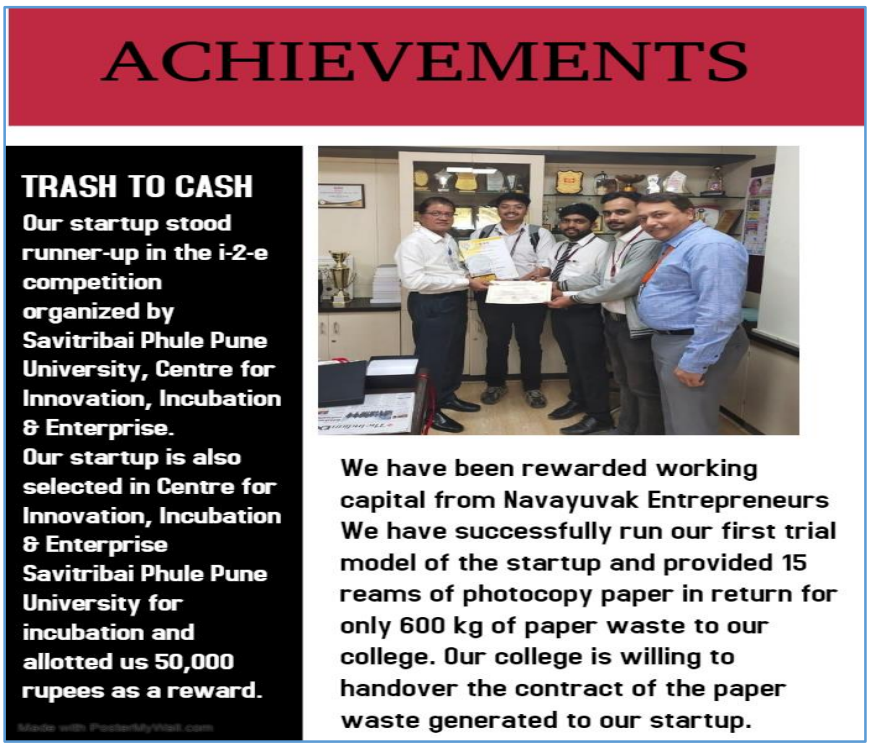

Placement Index
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2021-22
2020-21
2019-20
2018-19


Placement Categories
7%
41%
52%
Software
Core
Other


% of Students admitted to higher studies
12%
88%
Total students
Higher studies



1.Start – Up venture by Mr.Omkar Dahiwal, Anurag Lambhor and Sujit Mangrulkar 2021 Batch Electrical Engineering Students.



Our Major Recruiters

Sr No	Major Recruiters	Area
1	AB Corporation	Core
2	Accenture	Software
3	Amazon	Software
4	Atlas Copco	Core
5	Bharat Forge	Core
6	Bristlecone India Pvt Ltd	Core
7	Capgemini	Software
8	Cognizent	Software
9	E-Clerx	Software
10	GE India	Core
11	Godrej & Boyce	Core
12	HCL	Software
13	Hudl	Software
14	Infosys	Software
15	ISMT	Core
16	Johnson Control	Core
17	LTI	Software
18	M-phasis	Software
19	Neil Soft	Software
20	Pardiso Software	Software
21	Pentagon Space	Software
22	Philips	Core
23	Power Grid India	Core
24	Shell Infotech	Software
25	Siemens	Core
26	TATA Computer Consulatncy	Software
27	TATA Consultancy Engineering	Core
28	TCS	Software
29	Tech Mahindra	Software
30	Vendarland Industries	Core
31	VMS Controls Pune	Core

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

Item		CAY (2021-22)	CAYm1 (2020-21)	CAY*m*2 (2019-20)	CAY*m*3 (2018-19)
National Level Entrance Examination (JEE Main-2019	**No. of Students admitted**	10	09	06	28
	Opening Score/Rank	83.03 9242	85.74 7677	86.46 10327	113 11334
Entrance Examination	***Closing Score/Rank***	4.38 57388	68.71 21425	82.75 13619	66 9426
State/University/Level Entrance Examination/Others (MHT-CET 2019 Examination)	***No. of Students admitted***	52	46	48	20
	Opening Score/Rank	92.42 11534	84.98 21695	91.78 16873	107 13739
	Closing Score/Rank	35.89 45639	69.75 41254	73.7 38181	102 16106
Name of the Entrance Examination for Lateral Entry or lateral entry details	***No. of Students admitted***	06	18	19	28
	Opening Score/Rank	91.3	95.67	92.79	90.18
	Closing Score/Rank	78.5	81.75	73.81	67.94
Average CBSE/Any other Board Result of admitted students (Physics, Chemistry & Maths)		82.0633	68.955	62.33	71.085

CRITERION 8	First Year Academics	50

FIRST YEAR ACADEMICS (50)

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

Data for first year courses to calculate the FYSFR:

Year	Number of Students (Approved Intake Strength)	Number of Faculty Members (Considering Fractional Load)	FYSFR	*Assessment = (5 ×20)/ FYSFR (Limited to Max. 5)
2021-22	**660**	**29**	**23**	**4.35**
2020-21	**660**	**31**	**21**	**5**
2019-20	**660**	**33**	**20**	**5**
Average	**660**	**31**	**21**	**4.78**

Table 8.1

***Note:** If FYSFR is greater than 25, then assessment equal to zero.

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

Assessment of qualification = $(5x + 3y)/RF$, x= Number of Regular Faculty with Ph. D, y = Number of Regular Faculty with Post-graduate qualification RF= Number of faculty members required as per SFR of 20:1, Faculty definition as defined in 5.1

Year	x	Y	RF	Assessment of faculty qualification $(5x + 3y)/RF$
2021-22	8	19	33	2.93
2020-21	7	17	33	2.60
2019-20	6	22	33	2.90
			Average Assessment	**2.81**

Table 8.2

8.3 First Year Academic Performance (10)

Academic Performance = ((Mean of 1st Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks in First Year of all successful students/10)) x (number of successful students/number of students appeared in the examination)= Successful students are those who are permitted to proceed to the second year.

Sr. No	A.Y.	Total No. of Appeared Students	Total No. of Clear Pass Students	Total No. of students in ATKT	Total No. of Fail Students	Total No. of successful Students	Mean SGPA	API
1	2020-21	54	54	0	0	54	8.26	8.26
2	2019-20	61	54	6	1	60	6.88	6.77
3	2018-19	51	26	15	10	41	7.13	5.73
							Average API:	6.92

Table 8.3: Average SGPA of all students clear passed and passed with ATKT student

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)

(Examples of data collection processes may include, but are not limited to, specific exam questions, laboratory tests, internally developed assessment exams, oral exams assignments, presentations, tutorial sheets etc.)

Process Details: Assessment of Course Outcome

Assessing course outcomes is an important part of evaluating the effectiveness of a course and determining whether it has achieved its intended goals. This process is carried out using following steps:

1. Define the Course outcomes: The first step is to clearly define the course outcomes of the course using Bloom's Taxonomy. This includes identifying the specific knowledge, skills, and abilities that students are expected to gain by the end of the course. For each course six Course Outcome statements are defined.
2. Develop assessment tools: Once the course outcomes have been defined, the next step is to develop assessment tools that measure whether students have achieved those outcomes.
3. Collect data: Collect data from students' performance on the assessment tools. This is done by grading exams, quizzes etc.
4. Analyse data: Once data has been collected, it is analysed to determine how well students have achieved the course outcomes.
5. Use data to improve the course: Finally, the data collected is used to identify areas where the course could be improved.

Assessing course outcomes is an iterative process that involves continuous refinement and improvement. By carefully defining course outcomes, developing appropriate assessment tools, and analysing data, course teacher ensure that their courses are effective in achieving their intended goals.

Assessment Tools

Assessment tools are designed to evaluate the attainment of the course outcomes (COs). It is important to select assessment tools that align with the specific COs of the course and to use multiple assessment tools to provide a comprehensive evaluation of student learning. The assessment tools are chosen based on the specific course outcomes being assessed and the teaching methods being used in the course.

The evaluation of the Course Outcome (CO) involves the use of both direct and indirect assessment tools, with greater weightage assigned to the former. Specifically, 80% weightage is given to direct assessment tools, which include both internal assessments (20%) and external assessments (80%). Meanwhile, indirect assessment tools are assigned a weightage of 20%.

The CO is assessed through a combination of direct and indirect methods, with greater emphasis placed on the former. The performance of students in both internal and external assessments is taken into account, with appropriate weightage assigned to each.

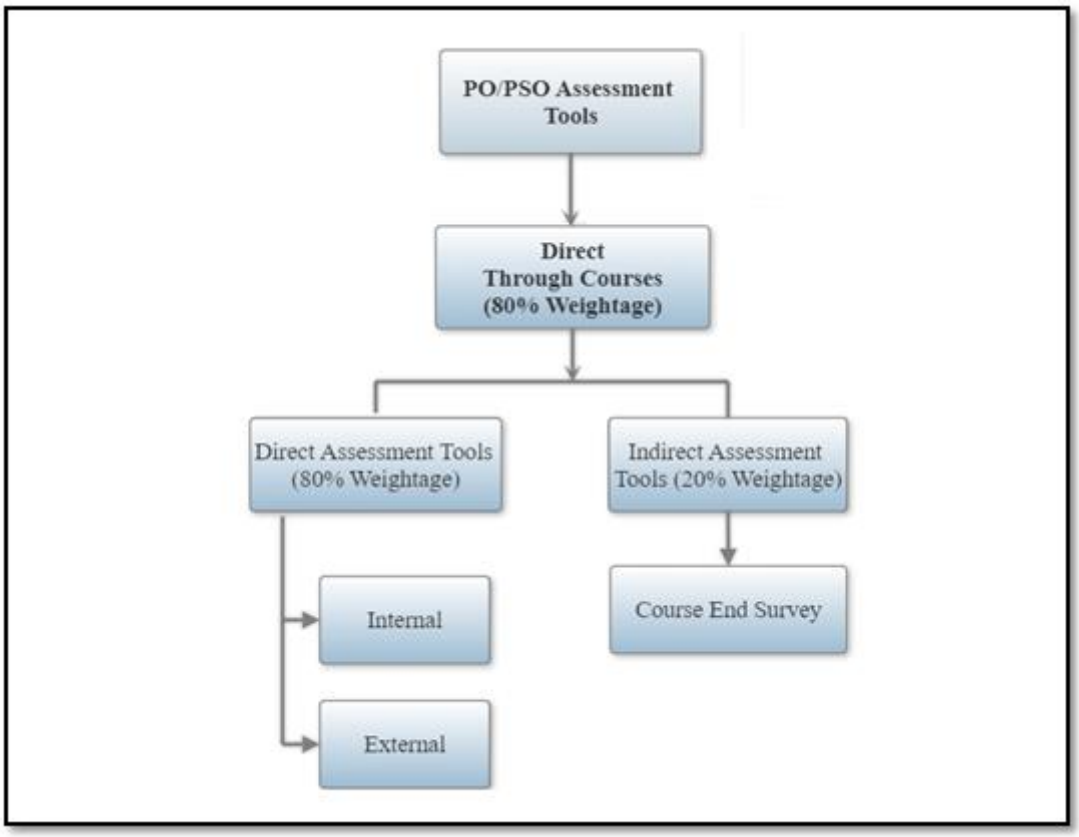


Figure B 8.4.1 a: Assessment tools and its weightage

Direct Assessment Tools:

The assessment of Course Outcomes (COs) is evaluated using direct assessment tools, which include internal and external assessments. Internal assessments contribute 20% and external assessment contributes 80% to the overall assessment of COs.

Theory:

Internal Tests and Assignments: In order to ensure that students are keeping up with the course content, internal tests and assignments are used as effective measures of their progress. The course is divided into six units, each of which is evaluated through a corresponding test. Additionally, three assignments are given, each based on two units of the course. The questions in these assessments are designed in accordance with Bloom's Taxonomy and are mapped to the specific Course Outcomes (COs) of the course. The department sets target level for COs, against which the students' performance is evaluated.

External Assessment:

University Examination: The university conducts both in-semester and end-semester examinations to evaluate students' understanding of the course contents. The in-semester examination covers two units of the course and assesses two specific Course Outcomes (COs), while the end-semester examination covers the next four units and evaluates the remaining four

COs. These examinations are designed to test students' knowledge and comprehension of the course contents, as well as their ability to apply that knowledge to real-world situations.

Practical

Internal Assessment: Lab courses offer students a valuable opportunity to gain hands-on experience in applying the concepts they learn in class and to develop the skills necessary for success in their field of study. To assess students' performance in these practical aspects of the course, a Continuous Assessment Sheet (CAS) is used. This sheet evaluates several parameters, including regularity, quality of experiment write-ups, and overall performance during each experiment. By using the CAS, teachers are able to track students' progress and provide constructive feedback to help them improve their skills and understanding of the lab work.

External Assessment:

Practical courses conclude in an end-semester examination, which are analysed in the form of a term work. Through this examination, students are tested on their ability to apply the knowledge and skills they have acquired throughout the course to practical scenarios. By employing a variety of assessment formats, instructors are able to evaluate students' abilities from multiple perspectives.

To assess the achievement of Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs), a range of assessment tools are used at different intervals throughout the course. Table **B 8.4.1 a** presents a comprehensive overview of these assessment tools, including the frequency at which they are administered. By utilizing a variety of methods to evaluate learning outcomes, course teachers are able to gain a more complete understanding of students' knowledge and skills, and ensure that the curriculum is meeting the desired standards.

Sr. No.	Assessment Tool	Description	Evaluation of Course Outcomes	Related POs/PSOs	Frequency of assessment per term
Internal Assessment Tools					
1.	Test	Written examination	Questions in the test are mapped against CO of respective course.	Corresponding mapped POs/PSOs with the CO	Six (One for each CO)
2.	Assignment	Set of question to solve to home. (Open Book)	Questions in the assignment are mapped against two CO of respective course.	Corresponding mapped POs/PSOs with the COs	Three (one for Two COs)
3	Continues Assessment Sheet (CAS)	Assessment of students during practical	Based on the COs mapped with the experiments / assignments	Corresponding mapped POs/PSOs with the COs	For each experiment/ assignment during practical.
External Assessment Tools					

4	In-Sem Exam	Written examination	Questions in the exam are mapped against COs corresponds to first two units of respective course.	Corresponding mapped POs/PSOs with the COs	One (Mid of the Term)
5	End-Sem Exam	Written examination	Questions in the exam are mapped against Cos corresponds to the next four units of the respective course.	Corresponding mapped POs/PSOs with the remaining four COs	One (End of the Term)
6	Term Work	Based on the continues assessment during practical sessions – CAS is used	Based on the COs mapped with the experiments / Assignments	Corresponding mapped POs/PSOs with the COs	One (End of the Term)

Table – B 8.4.1 a: Mapping of assessment tools to COs, POs/PSOs with frequency

Indirect assessment tool – Course End Survey

A course end survey is a feedback tool used to gather information from students at the conclusion of a course. Its purpose is to assess the effectiveness of the course. Typically administered in the final week of the course, the survey covers course content in the form of CO statements.

To be effective, course end surveys are well-designed and focused on relevant and meaningful questions. Course teacher carefully analyse the results of the survey and make necessary changes to their course design and teaching methods based on the feedback received.

The weightage assigned to the indirect assessment tool in CO attainment highlights its importance in evaluating the effectiveness of the course design and teaching methods. By using this feedback to make informed decisions about course improvements, Course teacher ensure that future iterations of the course are even more effective in helping students achieve their learning goals.

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 university 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 University examination)

Evaluation of CO Attainment by Direct Assessment Tool

The evaluation of course outcome (CO) attainment by assessment tool involves a systematic process of collecting and analysing data to determine the extent to which the course objectives have been met. The following steps are taken for this evaluation:

a) Choose an appropriate assessment tool: There are various internal and external assessment tools that are used. The choice of tool is aligning with the objectives and course outcomes of the course.
b) Determine assessment criteria: The assessment criteria are clearly defined and communicated to students. This will help to ensure that students understand what is expected of them and how their performance will be evaluated.
c) Administer assessment: The assessment tools are administered in a fair and consistent manner.
d) Analyse results: The results of the assessment should be analysed to determine the extent to which the course objectives have been met. This analysis should take into account the strengths and weaknesses of the students and the course. This analysis can be used to inform future instructional strategies and to improve the course content.
e) Evaluate the effectiveness of the assessment: It is important to evaluate the effectiveness of the assessment to determine if it has been successful in achieving its intended purpose. This evaluation may involve soliciting feedback from students or conducting a review of the assessment process.

Internal assessment tools consist of Test, Assignment, Continuous Assessment Sheet for Practical (CAS) to evaluate CO attainment level.

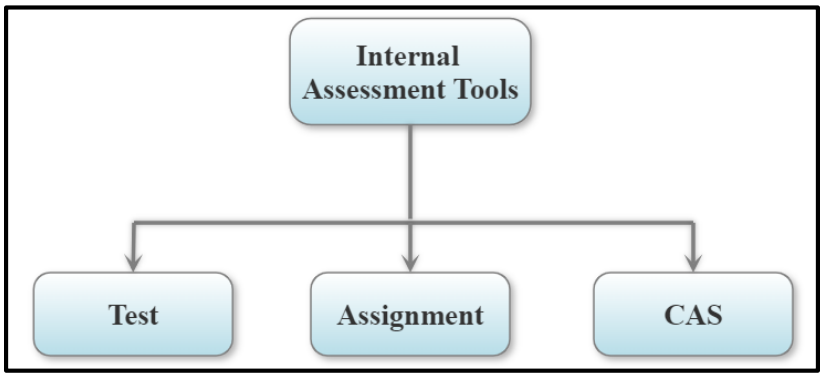


Figure B 8.4.2 a: Internal assessment tools

External assessment tools consist of university examination such as In-Sem Exam, End Semester Exam, Term work.

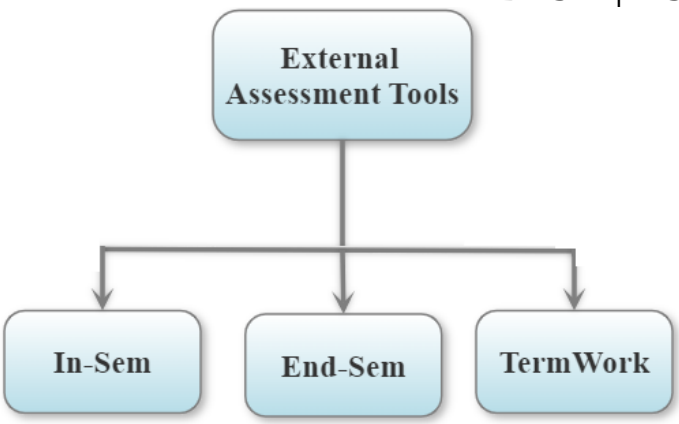


Figure B 8.4.2 b: External assessment tools

Attainment Levels

Attainment levels for Course Outcomes (COs) are a measure of students' achievement in meeting the course objectives. These levels are assessed using a variety of tools, and the attainment level may be stated as a percentage of students expected to achieve a certain threshold of marks. The attainment level is then measured as the actual percentage of students who meet or exceed the set threshold.

The defined attainment levels are;

Attainment Level 1: **20% to less than 60%** students scoring more than **60%** marks out of the relevant maximum marks.

Attainment Level 2: **60% to less than 70%** students scoring more than **60%** marks out of the relevant maximum marks.

Attainment Level 3: More than **70%** students scoring more than **60%** marks out of the relevant maximum marks.

Mapping of Assessment Tools and Cos

Mapping assessment tools and COs is an important part of the assessment process and can help to ensure that student performance is evaluated consistently and effectively.

Mapping of assessment tools and course outcomes (COs) involves identifying which assessment tools are appropriate for evaluating specific COs. This process ensures that the assessment tools align with the intended learning outcomes and measure the desired knowledge, skills, and abilities. This process also helps to ensure that the assessment methods are valid and reliable, and that they provide accurate and meaningful information about student learning.

Weighted average method

The weighted average method is a technique used to calculate the CO attainment from attainment values by tools. To use the weighted average method, weights are assigned to each tool based on maximum marks assigned to it, its relative importance, contribution to the overall attainment.

The steps involved in using the weighted average method to calculate CO attainment are as follows:

i. Decide on the assessment tools to be employed in calculating CO attainment.
ii. Establish the level of attainment for each tool used in the process, which will be measured on a scale of 1 to 3.

iii. Assign weights to each tool based on its Maximum Marks. The weight for each tool will be calculated as the ratio of its Maximum Marks to the total marks assigned to all selected tools for calculating CO attainment.

iv. Multiply each tool's level of attainment by its corresponding weight

v. Sum up the weighted attainment values for all the tools to get CO attainment.

For example, if three tools are used with maximum marks assigned as 20, 30, 40 (Total Maximum Marks = 90), and the CO attainment values for the tools are 2, 1, and 3, weights assigned as (20/90), (30/90) and (40/90), respectively, based on the maximum marks for each tool in measuring the CO attainment.

To calculate the weighted average CO attainment, following formula is used:

Weighted average CO attainment = (Tool 1 attainment * Weight 1) + (Tool 2 attainment * Weight 2) + (Tool 3 attainment * Weight 3) + ...

In the example above, the weighted average CO attainment would be:

Weighted average CO attainment = (2 * 20/90) + (1 * 30/90) + (3 * 40/90) = 2.11

Therefore, the weighted average CO attainment for the three tools is 2.11.

Let's take an another example of a course that has six Course Outcomes (CO.1 to CO.6), and for each CO, specific assessment tools are used along with their corresponding maximum marks (Mi), as shown in the table below. Based on the performance of students and target values, CO attainment levels can be determined for each assessment tool as Ai.

Assessment Tool	Internal				External		
	Test-1	Test-2	Assignment	CAS	In-Sem	End Sem	Term Work
COs Mapped	***CO.1***	*CO.2*	*CO.1 & 2*	*All COs*	*CO.1 & 2*	*All COs*	*All COs*
Maximum Marks	*M1*	*M2*	*M3*	*M4*	*M5*	*M6*	*M7*
CO Attainment Level	*A1*	*A2*	*A3*	*A4*	*A5*	*A6*	*A7*

Table B 8.4.2 a: Mapping of Cos with Assessment Tools

Since different assessment tools are used to evaluate each Course Outcome, the average attainment of each CO will depend on the attainment level obtained from each tool. For instance, the average attainment level of CO.1 will depend on the attainment levels obtained through various internal assessment tools, such as Test 1, Assignment 1, and CAS, as well as external assessment tools, such as In-Sem, End Sem, and Term work. If an assessment tool is used for multiple COs, the maximum marks can be distributed equally among those COs.

For example, if Assignment 1 is used as an assessment tool for CO.1 and CO.2, the maximum mark can be distributed equally between both COs, i.e., M3/2 for each CO. When calculating the attainment levels for external tools, such as End Sem Exam, CO-wise mark distribution should be considered. Additionally, the average CO attainment for internal tools and external tools should be calculated separately.

Average CO Attainment for particular CO using multiple assessment tools can be calculated as $\Sigma\ weightage * CO\ attainment$

Average CO Attainment by Internal Assessment Tools				
CO	**Assessment Tool, Weightage and Attainment Level**			**Total**
CO.1	Test-1	Assig.-1	CAS	
Marks for CO.1	M1/1	M1/2	M4/6	**Mint1**
Weightage	WT1 = M1 / (1*Mint1)	WA1 = M1 / (2*Mint1)	WCS = M4 / (6*Mint1)	**1**
CO Attainment	A1	A3	A4	
Average CO Attainment (Aint)	**= WT1*A1 + WA1*A3 + WCS*A4**			

Table B 8.4.2 b: CO Attainment calculations for Internal Assessment Tools

Average CO Attainment by External Assessment Tools				
CO	**Assessment Tool, Weightage and Attainment Level**			**Total**
CO.1	In-Sem	End Sem	Term Work	
Marks for CO.1	M5/2	M6/6	M7/6	**Mext1**
Weightage	WI1 = M5 / (2*Mext1)	WE1 = M6 / (6*Mext1)	WTW = M7 / (6*Mext1)	**1**
CO Attainment	A5	A6	A7	
Average CO Attainment (Aext)	**= WI1*A5 + WE1*A6 + WTW*A7**			

Table B 8.4.2 c: CO Attainment calculations for External Assessment Tools

The CO attainment level by direct tools is calculated by giving 20% weightage to the average CO attainment level obtained from internal assessment tools and 80% weightage to the average CO attainment level obtained from external assessment tools.

CO attainment for CO1 = 0.2 X Aint + 0.8 X Aext

CO Attainment Level by Indirect Assessment Tool

Mapping the survey questions to the COs enables course teacher to better understand the degree to which students have achieved the desired course outcomes. Standardizing the survey form ensures consistency across different courses, while a rating scale allows for a more nuanced and detailed assessment of student performance.

At the end of each course, a customized survey form is created with questions directly linked to the Course Outcomes (COs). Responses to these questions are collected through forms that typically use a 1-3 scale (with low to high ratings). Average of all the responses to respective CO is consider as CO attainment. The data is then used to compute the indirect CO attainment, which is given a weightage of 20% in the overall CO attainment assessment.

Overall CO Attainment Level for Course

To evaluate and assess COs, multiple tools are used, including direct assessment tools such as internal assessment and external assessment tools (university exams). When calculating CO attainment using direct assessment tools, 20% weightage is given to internal assessment tools, and 80% weightage is given to external assessment tools.

The weightage for CO attainment by direct assessment tools is 80%, while the weightage for the indirect assessment tool (Course End Survey) is 20%.

Thus, CO attainment using all the tools is

Figure B 8.4.2 c: External assessment tools

Target for CO attainment

Target for CO attainment refers to the desired level of achievement or proficiency that a student is expected to reach for a particular course outcome (CO). It is should be set by the department offering the course, and it serves as a benchmark for evaluating the effectiveness of the course in achieving its intended learning outcomes.

By setting clear targets for CO attainment, course teacher and institutions can monitor student progress and make adjustments to the course as needed to ensure that students are meeting the desired learning outcomes.

Action upon CO attainment values

- **All of CO targets are not attained**

Corrective actions are taken based on the CO attainment values in order to improve the quality of education provided. If the attainment value for all COs is consistently low, it indicates that students are not achieving the expected learning outcomes for COs. In this case, the following corrective actions can be taken:

a) Teaching methodology: Teaching methodology can be evaluated and revised to ensure that it is effective and aligns with the COs. This could involve adopting new instructional methods or revising existing ones to better support student learning.

b) Assessment tools: Assessment tools can be reviewed and revised to ensure they accurately measure student learning and achievement of the COs. This could involve creating new assessment tools or revising existing ones to better align with the COs.

c) Faculty development: Faculty can be provided with professional development opportunities to enhance their teaching skills and keep up with the latest pedagogical techniques and strategies.

d) Learning resources: The availability and accessibility of learning resources can be improved to better support student learning and achievement of the COs.

e) Student support services: Student support services can be improved to provide additional assistance to students who may be struggling to achieve the COs.

By taking these corrective actions, the attainment of COs is improved, and the overall quality of education provided can be enhanced. In this case maintain the same CO targets.

- **Some of CO targets are not attained**

When deciding whether to change CO targets for the next academic year based on the attainment values, it is important to consider multiple factors. Here are some suggestions for improving this approach:

a) Analyze the distribution of CO attainment values: It's important to analyze the distribution of CO attainment values to identify any gaps or areas of improvement. For example, if some COs are consistently below the target value while others are above it, it may be more effective to focus on improving the performance in the weaker areas before changing the target value for COs.

b) Consider the difficulty level of COs: The difficulty level of COs can vary, and some COs may be more challenging than others. Therefore, it's important to consider the difficulty level of COs when deciding whether to increase the target value. COs that are already at a high level of attainment may not require an increase in the target level, whereas those that are below the target level and have higher difficulty levels may require more attention.

c) Align CO targets with program and industry standards: CO targets should be aligned with the program and industry standards to ensure that students are adequately prepared for their future careers.

By taking these factors into consideration, course teacher can make informed decisions about whether to increase the CO target values based on attainment values, and if so, how much to increase them. This approach can help ensure that CO targets are tailored to the needs of the learners and the demands of the industry, while also providing students with the necessary skills and competencies.

- **All of CO targets are attained**

When all CO targets are attained, it is important to reassess the CO targets and set new targets for the next academic year. Here are some suggestions to improve this process:

a) Analyze the CO attainment values: Before setting new CO targets, it is important to analyze the CO attainment values to identify areas of strength and areas for improvement. This analysis can help inform the setting of new targets that are challenging and realistic.

b) Consider industry and program standards: CO targets should be aligned with industry and program standards to ensure that students are well-prepared for their future careers. Therefore, it is important to consider these standards when setting new CO targets.

d) Use a data-driven approach: Setting new CO targets based on the average of all CO attainment values may be the one of the approaches. Instead, a data-driven approach that takes into account the distribution of CO attainment values and the difficulty level of each CO can help ensure that new targets are appropriately challenging and achievable.

By following these suggestions, educators can set new CO targets that are tailored to the needs of the learners and the demands of the industry. This can help ensure that students are well-prepared for their future careers and have the necessary skills and competencies to succeed.

- **CO attainment values at Maximum Level (nearly equal to 3.00)**

When CO attainment values are already at the maximum level, further improvements can still be made to the course outcomes by adopting the following strategies:

a) Increase the level of challenge: When the attainment level is already at the maximum, one way to improve the COs is to increase the level of challenge for the students. This can be achieved by adding more complex and advanced course content, assessments, and/or projects. By doing this, students can continue to learn and grow even if they have already reached the maximum attainment level.

b) Update the criteria for attainment level: When the attainment level is already at the maximum, it may be necessary to update the criteria for the attainment level to ensure that it remains challenging and relevant.

For example, new target value and criteria can be,

Attainment Level 1: 20% to 60% students scoring more than **65% marks** out of the relevant maximum marks.

Attainment Level 1: **40% to 70%** students scoring more than 60% marks out of the relevant maximum marks.

By adopting these strategies, course teacher continues to improve the course outcomes even when the attainment level is already at the maximum. It is important to remember that course outcomes should be designed to provide students with the knowledge, skills, and competencies.

Course Outcome of all FE courses are listed in table below:

Attainment of Course Outcomes of all first year courses

ACADEMIC YEAR 2020-21

Course Code	Subjects	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6
107001	Engineering Mathematics - I	2.32	2.3	1.56	1.73	2.92	2.92
107002	Engineering Physics	2.18	2.18	2.82	2.82	2.63	2.63
102003	SME	2.94	2.94	2.94	2.94	2.78	2.94
103004	Basic Electrical Engineering	2.95	2.95	2.95	2.95	2.95	2.95
110005	PPS	2.82	2.7	2.82	2.82	2.78	2.62
111006	Workshop Practices	2.96	2.96	2.96	2.96		
107008	Engineering Mathematics II	2.62	2.94	2.62	2.94	2.62	2.94
107009	Engineering Chemistry	2.39	2.4	2.92	2.92	2.92	2.92
104010	Basic Electronics Engineering	2.47	2.47	2.47	2.47	2.47	0.55
101011	Engineering Mechanics	2.92	2.92	2.92	2.92	1	1
102012	Engineering Graphics	1.67	1.67	1.67	1.67	1.67	1.55
110013	PBL	2.93	2.93	2.93	2.93	2.93	2.93

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

8.5.1 Indicate results of evaluation of each relevant PO and/or PSO, if applicable (15)

The relevant program outcomes that are to be addressed at first year need to be identified by the institution. Program Outcome attainment levels shall be set for all relevant POs and/or PSOs through first year courses.

(Describe the assessment processes that demonstrate the degree to which the Program Outcomes are attained through first year courses and document the attainment levels. Also include information on assessment processes used to gather the data upon which the evaluation of each Program Outcome is based indicating the frequency with which these processes are carried out)

Assessment of program outcomes (POs) and program-specific outcomes (PSOs) is an essential part of the evaluation and improvement of academic programs.

In outcome-based education, program outcomes (POs) serve as a guide for curriculum design, delivery, and assessment of student learning. To ensure alignment, a "design down" process is employed, where outcomes are cascaded from POs to Course Outcomes (COs) and outcomes for individual learning experiences.

To connect high-level learning outcomes (POs) with course content, course outcomes, and assessment, there is a need to bring further clarity and specificity to the program outcomes. This can be achieved through a two-step process of identifying competencies and defining performance indicators (PIs). Competencies are different abilities implied by program outcome statements, while PIs are explicit statements of expectations of student learning.

Once the competencies and PIs are identified, the assessment of COs for all courses is designed by connecting assessment questions to the PIs. By following this process, where examination questions map with PIs, there is better resolution for the assessment of COs and POs. Ultimately, the achievement of POs is crucial for the effectiveness of the program and needs to be proven through accurate and reliable assessments.

Assessing POs and PSOs typically involves gathering evidence of student learning, analysing that evidence, and using it to improve teaching and learning. The key steps involved in the assessment process:

1. Develop assessment criteria: Develop criteria for assessing program outcomes and PSOs. The criteria are measurable, observable, and achievable. This includes developing rubrics or other assessment tools that allow for objective and consistent evaluation.
2. Collect data: Collect data on student performance related to program outcomes and PSOs. This includes assessments of student work, surveys of student.
3. Analyse data: Analyse the data to assess how well the program is meeting its outcomes and PSOs. This include comparing student performance to the established criteria and identifying areas of strength and weakness.
4. Use results for improvement: Use the results of the assessment to identify areas where improvement is needed and develop strategies to address these areas. This involves changes teaching methods, or assessment methods or providing additional resources to students to help them meet the Program Outcomes and PSOs.

PO and PSO Assessment tools

PO (Program Outcomes) and PSO (Program Specific Outcomes) assessment tools are used to evaluate the overall effectiveness of a program and to ensure that it meets the required standards.

There are various tools and techniques that can be used to assess POs and PSOs, some of which include:

a) Direct assessment tools: These tools assess the students' achievement of POs/PSOs through internal and external assessment. Internal assessment tools include assignments, test, CAS, etc. whereas external assessment tools include university theory exams, Project etc. Direct assessment tools are used to measure students' performance against the pre-defined performance indicators.

b) Indirect assessment tools: These tools evaluate the effectiveness of the program in terms of student satisfaction, feedback, and perception. Indirect assessment tools include surveys. Exit surveys are conducted with graduating students to evaluate the overall effectiveness of the program. Exit surveys can provide feedback on areas of strength and areas for improvement.

The tools used for assessment of POs/PSOs are same which are used for assessment of COs. These tools are defined in **Table – B 8.4.1 a**.

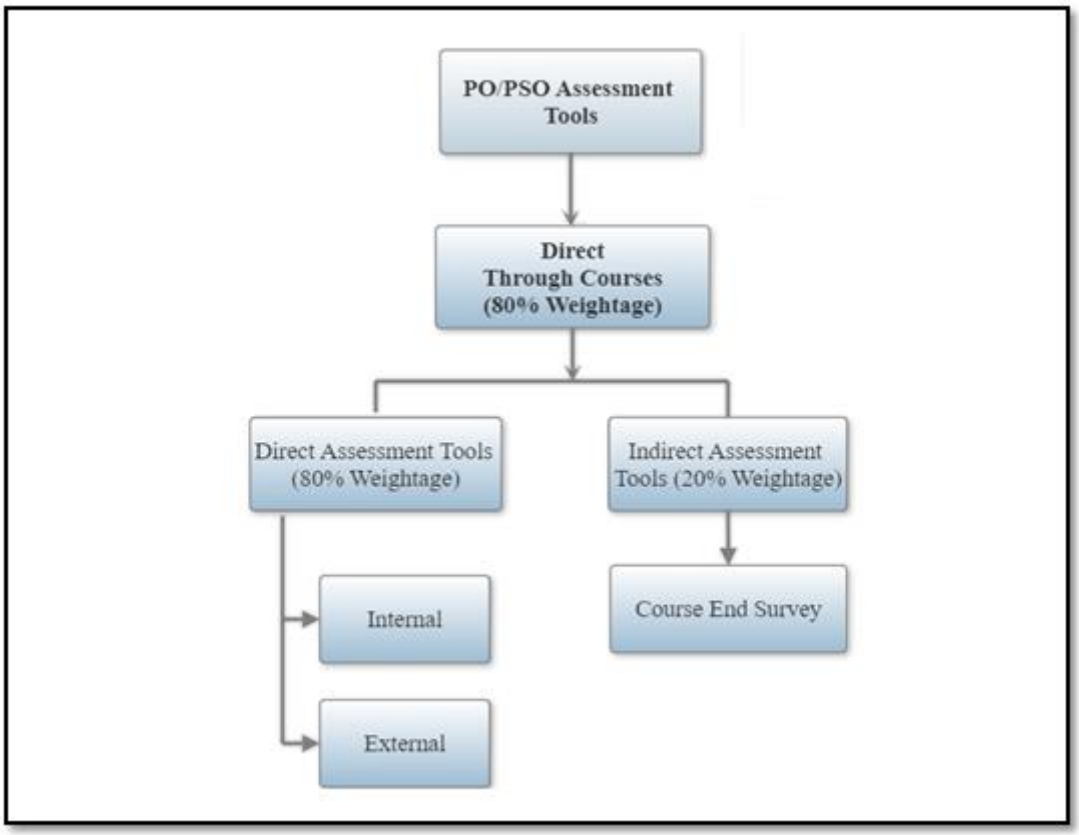


Figure B 8.5.1 a: PO/PSO assessment tools

The steps taken are

a. Weightage Distribution: A balanced distribution of weightage is used for direct and indirect assessment methods. A suggested distribution is 80% weightage for direct assessment and 20% weightage for indirect assessment, as both methods have their own strengths and limitations.

b. Direct Assessment: Direct assessment of POs and PSOs is based on the attainment of COs, where COs are mapped to POs and PSOs.

c. Indirect Assessment: Indirect assessment of POs and PSOs is conducted through surveys targeting different stakeholders. These surveys include graduate exit survey, employer survey, parent survey, and alumni survey. The weightage for each survey is equal.

Attainment Levels of POs/PSOs

The various direct assessment tools used to evaluate COs, PO/PSOs and the frequency with which the assessment processes are carried out are listed in **Table – B 8.4.1 a**.

Tools used to evaluate PO/PSO attainment are same as that of CO attainment. Attainment Levels for internal as well as external assessment tools are also same for PO/PSO attainment and defined as;

Attainment Level 1: 20% to 60 % students scoring more than **60%** marks out of the relevant maximum marks.

Attainment Level 2: 60% to 70 % students scoring more than **60%** marks out of the relevant maximum marks.

Attainment Level 3: More than **70%** students scoring more than **60%** marks out of the relevant maximum marks.

In order to assess attainment levels of program outcomes (POs) and program-specific outcomes (PSOs), the same tools and criteria used to define course outcomes (COs) attainment levels are applied. As a result, the attainment levels of COs are used to calculate the attainment levels of PSOs and POs. Direct assessment of PSOs and POs is based on the attainment levels of COs and the degree of correlation between them.

Sample calculation for PO/PSO attainment is described in following three steps:

Step – 1

CO Attainment and CO – PO/PSO mapping is defined for course by correlation level low to high (1 to 3).

Course Outcomes	CO Attainment	Program Outcomes			
		PO1	PO2	PO3	PSO1
CO207002.1	2.5	3	1		
CO207002.2	2.8	3	2	1	1
CO207002.3	2.3	2	2		2
CO207002.4	1.5	2	1	1	1
CO207002.5	2.0	1	1		
CO207002.6	3.0	3	3		

Table B 8.5.1 a: CO - PO Mapping

Step – 2

The program-specific outcome (PSO) or program outcome (PO) attainment is based on the level of mapping between the POs and course outcomes (COs) and the CO attainment level.

Direct PO/PSO attainment is calculated using following formula:

PO/PSO attainment = (Level of Mapping of PO with CO X CO attainment Level) / 3

Course Outcomes	CO Attainment	Program Outcomes			
		PO1	PO2	PO3	PSO1
CO207002.1	2.5	=2.5x3/3	=2.5x1/3		
CO207002.2	2.8	=2.8x3/3	=2.8x2/3	=2.8x1/3	=2.8x1/3
CO207002.3	2.3	=2.3x2/3	=2.3x2/3		=2.3x2/3
CO207002.4	1.5	=1.5x2/3	=1.5x1/3	=1.5x1/3	=1.5x1/3
CO207002.5	2.0	=2.0x1/3	=2.0x1/3		
CO207002.6	3.0	=3.0x3/3	=3.0x3/3		

Table B 8.5.1 b: PO/PSO Attainment Calculations

Step – 3

Direct PO/PSO attainment is evaluate by taking average of PO/PSO attainment by each CO attainment.

Course Outcomes	CO Attainment	Program Outcomes			
		PO1	PO2	PO3	PSO1
CO207002.1	2.5	2.50	0.83		
CO207002.2	2.8	2.80	1.87	0.93	0.93
CO207002.3	2.3	1.53	1.53		1.53
CO207002.4	1.5	1.00	0.50	0.50	0.50
CO207002.5	2.0	0.67	0.67		
CO207002.6	3.0	3.00	3.00		
Average PO/PSO Attainment		1.92	1.40	0.72	0.99

Table B 8.5.1 c: Average PO/PSO Attainment by Course

Using direct tools to assess PO/PSO attainment provides objective evidence of students' learning outcomes and helps department to identify areas for improvement in the program. Additionally, it allows for a more accurate evaluation of the effectiveness of the program's curriculum, instructional methods, and teaching strategies.

Attainment of POs/PSOs through Indirect Tools

Indirect tools provide valuable information about students' perceptions of their learning experiences and the extent to which they perceive that they have achieved program outcomes.

While indirect tools have limitations, they can provide valuable insights into students' experiences and perceptions of the program, as well as how well it aligns with the needs of employers and the community.

By combining direct and indirect tools, department gain a more comprehensive understanding of the program's effectiveness in achieving its intended learning outcomes.

Graduate Exit Survey, Employer Survey, Parents Feedback and Alumni Survey are conducted at the end of program and equal weightage is given each.

The department conducts surveys using a relevant questionnaire in order to assess the attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs). The questionnaire provides 5 response options, namely Excellent, Very Good, Good, Average, and Poor, which are assigned scores of 5, 4, 3, 2, and 1, respectively. The survey results are then

tabulated, and the average scores for each PO and PSO are calculated. To determine the attainment level for each PO and PSO, the average score is converted to a scale of 0 to 3.

For indirect PO/PSO attainment 20% weightage is given.

Total PO/PSO attainment is calculated as:

Direct Attainment by all courses X 0.8 + Indirect Attainment X 0.2

ACADEMIC YEAR 2020-21 PO Mapping Matrix																	
Sr. No.	**Course**	**Course Title**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO 10**	**PO 11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
1	107001	Engineering Mathematics - I	3	2	1		1								1		
2	107002	Engineering Physics	2	1			1		1			1			1		
3	102003	SME	2	1					1			1					
4	103004	Basic Electrical Engineering	1.25	2	1.6		1			1	1	1		1		1	1
5	110005	PPS	1	1	1	1		1									
6	111006	Workshop Practices	3	2	1		1								1		
7	107008	Engineering Mathematics II	2.33	2	1				1		1	1			1	1	
8	107009	Engineering Chemistry	1.5	1.5	1		1								1		1
9	104010	Basic Electronics Engineering	2	1	1		1								1		1
10	101011	Engineering Mechanics	2	2			1					1					
11	102012	Engineering Graphics	2	1	1		1					1					
12	110013	PBL	2.33	1.33	1		2.5	1	1		2	1	1		1	1	1
Direct Target*			2.03	1.49	1.07	1.00	1.17	1.00	1.00	1.00	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Contributing Subjects			12	12	9	1	9	2	4	1	3	7	1	1	7	3	4

Attainment Matrix

A.Y- 2020--21 CO-PO Attainment Matrix																	
Sr. No.	Course	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO12	PSO1	PSO2	PSO3
1	107001	Engineering Mathematics - I	2.29	1.53	0.76		0.76								0.82		
2	107002	Engineering Physics	1.69	0.73			0.73		0.91			0.78			0.91		
3	102003	SME	1.94	0.98					0.98			0.97					
4	103004	Basic Electrical Engineering	1.16	1.88	1.47		0.93			0.93	0.94	0.93		0.92		0.92	0.92
5	110005	PPS	0.99	0.99	0.99	0.99		0.99									
6	111006	Workshop Practices	2.78	1.85	0.93		0.93								0.91		
7	107008	Engineering Mathematics II	2.15	1.94	0.97				0.91		0.91	0.91			0.91	0.88	
8	107009	Engineering Chemistry	1.48	1.48	0.98		0.98								0.98		0.98
9	104010	Basic Electronics Engineering	1.43	0.82	0.82		0.82								0.82		0.82
10	101011	Engineering Mechanics	1.52	1.52			0.33					0.65					
11	102012	Engineering Graphics	1.1	0.56	0.56		0.55					0.55					
12	110013	PBL	2.28	1.3	0.98		2.44	0.98	0.98		1.95	0.98	0.98		0.98	0.98	0.98
Direct Attainment*			1.73	1.30	0.94	0.99	0.94	0.99	0.95	0.93	1.27	0.82	0.98	0.92	0.90	0.93	0.93
Contributing Subjects			12	12	9	1	9	2	4	1	3	7	1	1	7	3	4

Table 8.5.1

8.5.2 Actions taken based on the results of evaluation of relevant POs (5)

(The attainment levels by direct (student performance) are to be presented through Program level Course-PO matrix as indicated)

PO Attainment Levels and Actions for improvement - CAY – Mention for relevant PO's

ACADEMIC YEAR 2020-21			
PO's	**Target Level**	**Attainment Level**	**Observations**
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.03	1.73	Attainment is 88.25% of target value.
Action 1	To conduct Expert Lecture & Extra Test/Quiz to enhance basic engineering knowledge.		
Action 2	To provide a question bank to improve engineering knowledge.		
Action 3	To gude students to choose interdisciplinary problems in Project Based Learning		
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.			
PO2	1.49	1.30	Attainment is 89.18% of target value.
Action 1	To give more problems to improve understanding of the subject		
PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	1.07	0.94	Attainment is 88.13% of target value.
Action 2	To organize an industrial visit to get familiar with engineering problems		
Action 3	To guide students to take on projects related to societal and environmental considerations.		
PO4: 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.			
PO4	1.0	0.99	Attained 99%
Action 1	To set higher target		
PO5: 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.			
PO5	1.17	0.94	Attainment is 80.67% of target value.
Action 1	Effective utilization of modern tools like Vlab, Google Quiz, PPT, YouTube Videos, google website, NPTEL video lectures, MS Teams		

Action 2	To students to use modern online softwares ,Simulation software		
PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	1	0.99	Attainment is 98.5 % of target value.
Action 1	**Motivate students to take Techno-social Projects for Project Based Learning.**		
PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	1	0.95	Attainment is 94.50% of target value.
Action 1	To create awareness through Lab Activity and Field Visit to explore the knowledge of Environment & Sustainability.		
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	1	0.93	Attainment is 93% of target value.
Action 1	Organize expert lectures/ motivational talk to overcome the above observation.		
PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	1.33	1.27	Attainment is 95% of target value.
Action 1	To conduct more Group activities/presentations to enhance the ability of performing individually and in a team.		
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	1.0	0.82	Attainment is 82.43% of target value.
Action 1	To provide professional training to improve verbal & written communication through practical activities/Group Discussion/Presentations/Reports.		
PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	1.0	0.98	Attainment Level is 98% target level.
Action 1	To create awareness among the students through project management principles while writing project reports.		
PO12: 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.			
PO12	1.0	0.92	Attainment Level is 92% target level.
Action 1	More number of self learning assignments to be given.		
Action 2	To conduct relevant activities under various student professional chapters and NSS.		

Table B.8.5.2

ACADEMIC YEAR 2020-21			
PSO's	**Target Level**	**Attainment Level**	**Observations**
PSO1: : Identify, analyze, design and develop solutions to Chemical Engineering problems of practical importance to industry and society.			
PSO 1	1.00	0.90	Attainment is 90.43% of target value.
Action 1	More numerical problems in the indicated subjects to be undertaken.		
Action 2	Technical quiz is to be conducted to reduce the gap between the target and attainment of PSO1		
PSO2: : Demonstrate sound understanding of Chemical Engineering fundamentals to solve problems through the use of modern experimental methods, computer aided design and simulation software.			
PSO 2	1.00	0.93	Attainment Level is 92.67% target level.
Action 1	Microsoft Excel/ Other software to be used by the students to solve the problem of EM-I		

ANNEXURE I:

PROGRAM OUTCOMES (POs) Engineering Graduates will be able to:

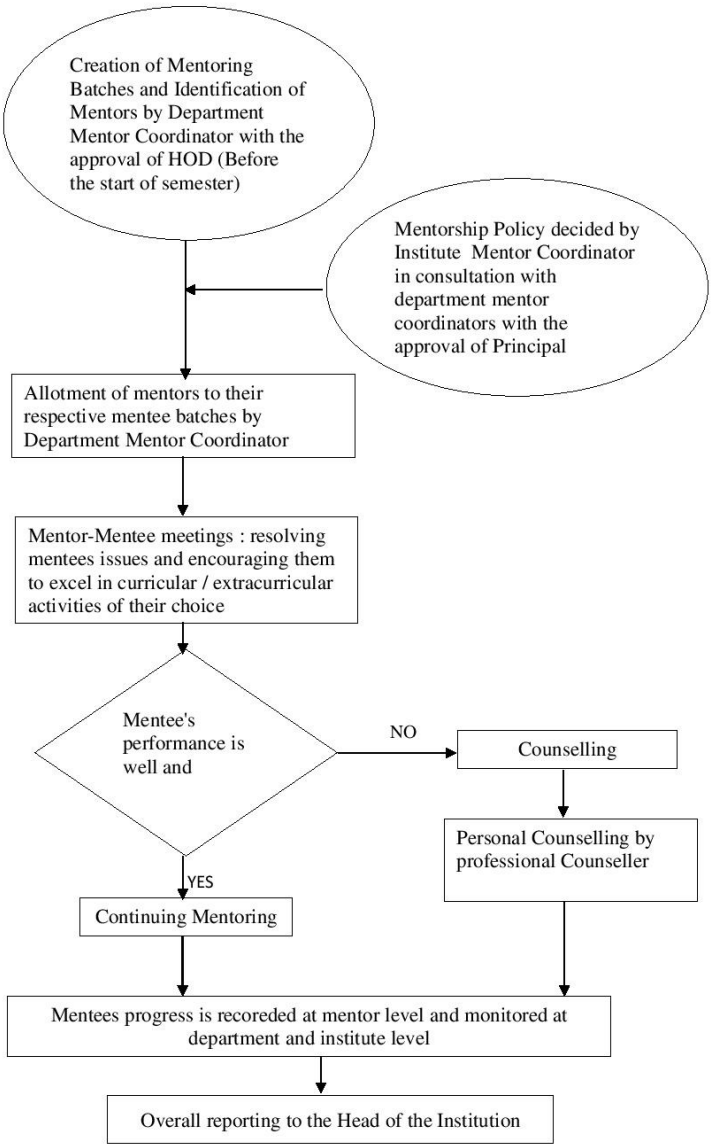
1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

***

CRITERION 9	Student Support Systems	50

9.1 Mentoring system to help at individual level (5)

Counselling and Mentoring encompasses a broad set of skills, approaches and techniques that are essentially aimed at helping students with problem solving, problem management, resolving past issues, working towards developmental aims and goals for the future, which include improving performance and meeting career and personal aspirations.



Mentoring Process

The counselling and mentoring process is developed

1. To help students to overcome emotional challenges,

2. To assist a student to know him/herself better his/her interest, abilities, attitudes and opportunities.

3. To work out a plan (behavioural therapy) for solving his difficulties.

4. To assist students in planning for career choices.

Functioning:

- Each faculty acts as a mentor in the counselling & mentoring process.
- A mentor is responsible for guiding about 20 students of a class.
- The mentor listens to the problems of the mentee, both academic and personal which hinder their learning abilities.
- In the mentoring sessions, students raise their difficulties/problems regarding academics/general facilities/hostel facilities with their respective mentors.
- If the mentor/course coordinator/GFM/HOD observes or finds a student who needs professional counselling, his case is forwarded to the Professional Counselling agency through the Counselling & Mentoring Coordinator.

Post Counselling:

- Feedback and Behavioural improvements are observed from the student seeking professional counselling.
- Record of a case study report is asked from the mentor mentioning the positive changes and improvement observed for the student.

Role of Department Mentor Coordinator:

- To distributes required formats to the department mentors.
- To maintain the list of the students and respective mentors.
- To monitor the records of mentors on regular base and report to the HOD.
- To collect the records from all the mentors at the end of every semester & retain in the department.
- To handover the mentor records of earlier semester to next mentors at the beginning of semester through HOD
- To conduct the meeting once in the month within department and maintain the minutes.

Roles and Responsibilities of Mentors:

- To collect the list of allotted students and formats for updating the students' record.
- To collect the "Student Information" from the respective GFM.
- To establish the contact with the parents through telephonic discussion, appraise them about the development of their ward.
- Conduct meeting with students fortnightly.
- To act as a Counsellor, Guide and Philosopher of the student.
- To encourage the student to have open dialogue.
- To record the observations about student viz. achievements, doubts, fears, grievances, etc.
- To evaluate the student's ability, strengths and weaknesses.

- To help the student to overcome their weaknesses and strengthen the abilities to excel in his/her defined objectives.
- To submit the files complete on all respect to HOD at the end of term.
- To update student's information on ERP.
- To report the weak cases to the Students Counselling Cell, as well as those cases wherever special assistance is required, through HOD.

Mentor-Mentee Allotment
DEPARTMENT OF ELECTRICAL ENGINEERING
Academic Year 2020-2021, TERM-I

Mentor-Mentee ratio = 23.18

Frequency of Meeting: 15 days

Sr No	Class	Batch	Name of faculty	No of students
1	SE	A	Dr.M H Dhend	22
2		B	Mrs. S. Vadi	22
3		C	Mrs. V.N. Tarange	23
4		D	Mrs.S.R.Lengade (Direct SE students) (GFM)	18
5	TE	A	Dr. A.A. Godbole	20
6		B	Dr. A.A. Apte(GFM)	20
7		C	Mrs. P. K. Sankala	20
8		D	Mr. R. S. Shinde	20
9	BE	A	Mr. C.D. Kulkarni(GFM)	20
10		B	Mr. V.S. Ponkshe	20
11		C	Mr.S K Biradar	20
12		D	Mr. L. S. Godse	19

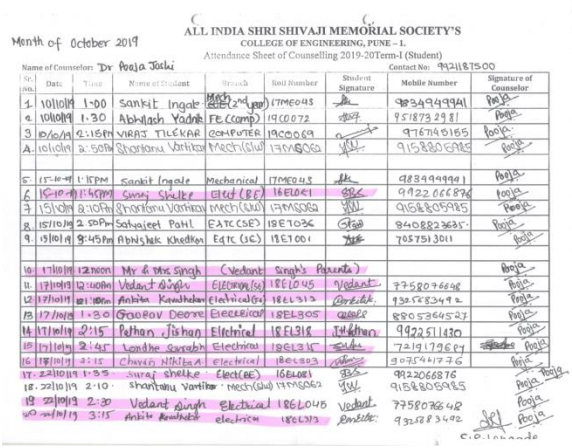
Mentor-Mentee Allotment
DEPARTMENT OF ELECTRICAL ENGINEERING
Academic Year 2020-2021, TERM-II

Mentor-Mentee ratio = 22.27

Frequency of Meeting: 15 days

Sr No	Class	Batch	Name of faculty	No of students
1	SE	A	Mrs. S. Vadi(GFM)	28
2		B	Mr.S K Biradar	28
3		C	Mr. L. S. Godse	29
4	TE	A	Mrs. S R Lengade	20
5		B	Dr. A.A. Apte	20
6		C	Mr. C D Kulkarni	20
7		D	Mr. R. S. Shinde(GFM)	21
8	BE	A	Mr. V.S. Ponkshe	20
9		B	Mrs. P. K. Sankala	20
10		C	Mrs. V.N. Tarange(GFM)	20
11		D	Mrs. S. S. Mujawar	19

Attendance sheet of Counselling sessions

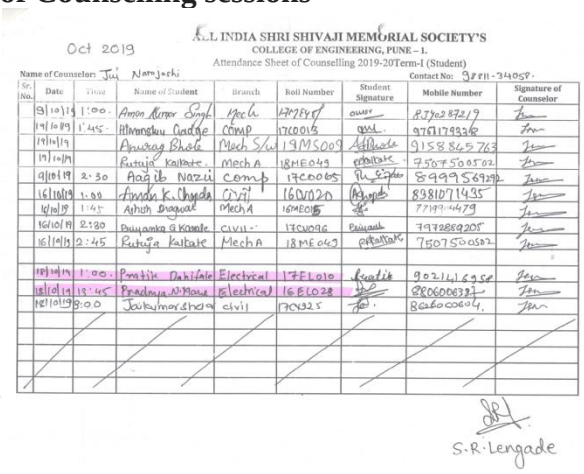


ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY'S
COLLEGE OF ENGINEERING, PUNE – 1.
Attendance Sheet of Counselling 2019-20Term-I (Student)

Month of October 2019
Name of Counselor: Dr Pooja Jochi
Contact No: 9921187500

Sr. No.	Date	Time	Name of Student	Branch	Roll Number	Student Signature	Mobile Number	Signature of Counselor
1.	10/10/19	1:00	Sankit Ingale	Mech SE(2nd year)	17ME043		9834949941	Pooja
2.	10/10/19	1:30	Abhilash Yadnik	FE (Comp)	19C0072		9518732981	Pooja
3.	10/10/19	2:15 PM	VIRAJ TILEKAR	COMPUTER	19C0069		9767490165	Pooja
4.	10/10/19	2:30PM	Shantanu Vatikar	Mech-(SLW)	17ME062		9158805985	Pooja
5.	15-10-19	1:15PM	Sankit Ingale	Mechanical	17ME043		9834949941	Pooja
6.	15-10-19	1:45PM	Suraj Shelke	Elect (BE)	16EL081		9922066876	Pooja
7.	15/10/19	2:10PM	Shantanu Vatikar	Mech (SLW)	17ME062		9158805985	Pooja
8.	15/10/19	2:50Pm	Sohaileet Pathi	EATC (SE)	18ET036		8408823635	Pooja
9.	15/10/19	9:45Pm	Abhishek Khedkar	EATC (SE)	18ET001		7057513011	Pooja
10.	17/10/19	12noon	Mr & Mrs Singh	(Vedant	Singh's	Parents)		Pooja
11.	17/10/19	12:00PM	Vedant Singh	Electrical (SE)	18EL045	Vedant	7758076648	Pooja
12.	17/10/19	12:15PM	Ankita Kawthekar	Electrical (SE)	18EL312	Ankita	9325883492	Pooja
13.	17/10/19	1:30	Gaurav Deore	Electrical	18EL305		8805364527	Pooja
14.	17/10/19	2:15	Pathan Jishan	Electrical	18EL318	Jishan	9922511830	Pooja
15.	17/10/19	2:45	Londhe Saraba	Electrical	18EL315		7219179609	Pooja
16.	18/10/19	2:15	Chavan NIKITA A	Electrical	18EL303		9075417776	Pooja
17.	22/10/19	1:55	Suraj shelke	Elect(BE)	16EL081		9922066876	Pooja
18.	22/10/19	2:10	Shantanu Vatikar	Mech(SLW)	17ME062		9158805985	Pooja
19.	22/10/19	2:30	Vedant Singh	Electrical	18EL045	Vedant	7758076648	Pooja
20.	22/10/19	3:15	Ankita Kawthekar	electrical	18EL313	Ankita	9325883492	Pooja

S.R.Lengade

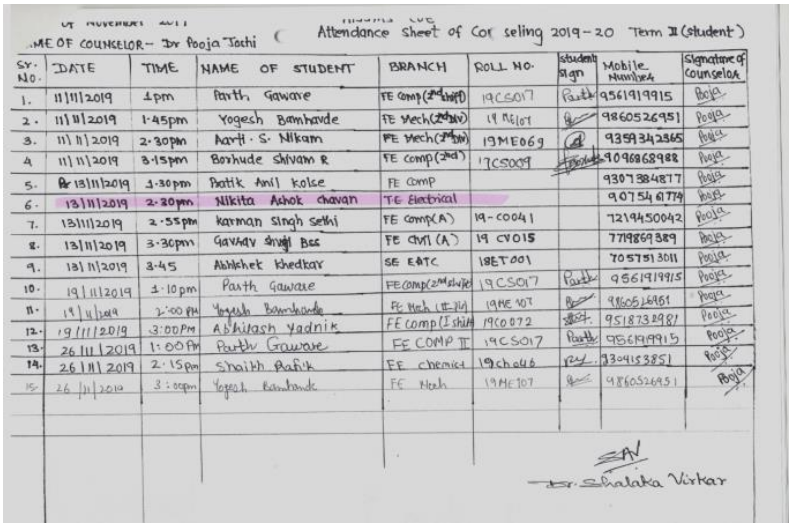


ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY'S
COLLEGE OF ENGINEERING, PUNE – 1.
Attendance Sheet of Counselling 2019-20Term-I (Student)

Oct 2019
Name of Counselor: Jui Namjoshi
Contact No: 9881-74058.

Sr. No.	Date	Time	Name of Student	Branch	Roll Number	Student Signature	Mobile Number	Signature of Counselor
	9/10/19	1:00	Aman Kumar Singh	Mech	17ME057		8319071435	
	9/10/19	1:45	Himanshu Gadge	COMP	17C0013		9767179368	
	9/10/19		Anurag Bhole	Mech S/W	19MS009		9158865763	
	9/10/19		Ruturja Kalkate	Mech A	18ME043		7507550502	
	9/10/19	2:30	Aaqib Nazir	comp	17C0065		8999569292	
	16/10/19	1:00	Amruta K. Chavda	Civil	16CV020		8381071435	
	16/10/19	1:45	Ashish Dhagwal	Mech A	16ME015		7719914479	
	16/10/19	2:30	Priyanka A Kamble	Civil	17CV096		7972889205	
	16/10/19	2:45	Ruturja Kalkate	Mech A	18ME043		7507550502	
	18/10/19	1:00	Pratik Dahifale	Electrical	17EL010		9021461958	
	18/10/19	1:45	Pradnya Nimase	Electrical	16EL028		8806006337	
	18/10/19	2:00	Jaikumar Shinde	civil	17CV025		8626006604	

S.R.Lengade



Attendance Sheet of Counseling 2019-20 Term II (Student)
NAME OF COUNSELOR – Dr Pooja Jochi

Sr. No.	DATE	TIME	NAME OF STUDENT	BRANCH	ROLL NO.	Student Sign	Mobile Number	Signature of Counselor
1.	11/11/2019	1pm	Parth Gaware	FE Comp (2nd shift)	19CS017	Parth	9561919915	Pooja
2.	11/11/2019	1:45pm	Yogesh Bamhavde	FE Mech (2nd div)	19ME07		9860526951	Pooja
3.	11/11/2019	2:30pm	harti S. Nikam	FE Mech (2nd div)	19ME069		9359342365	Pooja
4	11/11/2019	3:15pm	Borhude Shivam R	FE comp (2nd)	19CS009		9096868988	Pooja
5.	13/11/2019	1:30pm	Pratik Anil kolse	FE comp			9307384877	Pooja
6.	13/11/2019	2:20pm	Nikita Ashok chavan	FE Electrical			9075417774	Pooja
7.	13/11/2019	2:55pm	karman Singh sethi	FE comp(A)	19-C0041		7219450042	Pooja
8.	13/11/2019	3:30pm	Gaurav Singh Bee	FE civil (A)	19 CV015		7719869389	Pooja
9.	13/11/2019	3:45	Abhishek khedkar	SE EATC	18ET001		7057513011	Pooja
10.	19/11/2019	1:10pm	Parth Gaware	FE comp (2nd shift)	19CS017	Parth	9561919915	Pooja
11.	19/11/2019	2:00 PM	Yogesh Bamhavde	FE Mech (II div)	19ME 107		9860526951	Pooja
12.	19/11/2019	3:00PM	Abhilash Yadnik	FE comp (I shift)	19C0072		9518732981	Pooja
13.	26/11/2019	1:00PM	Parth Gaware	FE COMP II	19CS017	Parth	9561919915	Pooja
14.	26/11/2019	2:15pm	Shaikh Rafik	FE chemical	19ch046		9304153851	Pooja
15.	26/11/2019	3:00pm	Yogesh Bamhavde	FE Mech	19ME107		9860526951	Pooja

Dr. Shalaka Virkar

Fig:Counselling Session Reports

Dr. Thombare's
IHHI Private Limited
Healing Minds, Transforming Souls

AISSMS COE

Counseling Session report of Student.

Client name: Priyanka Karale.

(Remedial Counseling for emotional issues)

Client showed anxiety symptoms and was reluctant to come for counseling. Counselor tried to help client talk about his issues regarding her studies and expectations related to that from family and self. Relaxation techniques were administered and taught to the client which she was directed to use whenever anxiety was trigger was observed. Client seemed hopeful about handling her problems when she left.

102, Mayur Apartments, 77, MayurColony,Kothrud, Pune, Maharashtra 411029.
Contact: 9623086665, 9405969996
www.holistichealingindia.org, ihhipune@gmail.com

Dr. Thombare's
IHHI Private Limited
Healing Minds, Transforming Souls

AISSMS COE

Counseling Session report of Student.

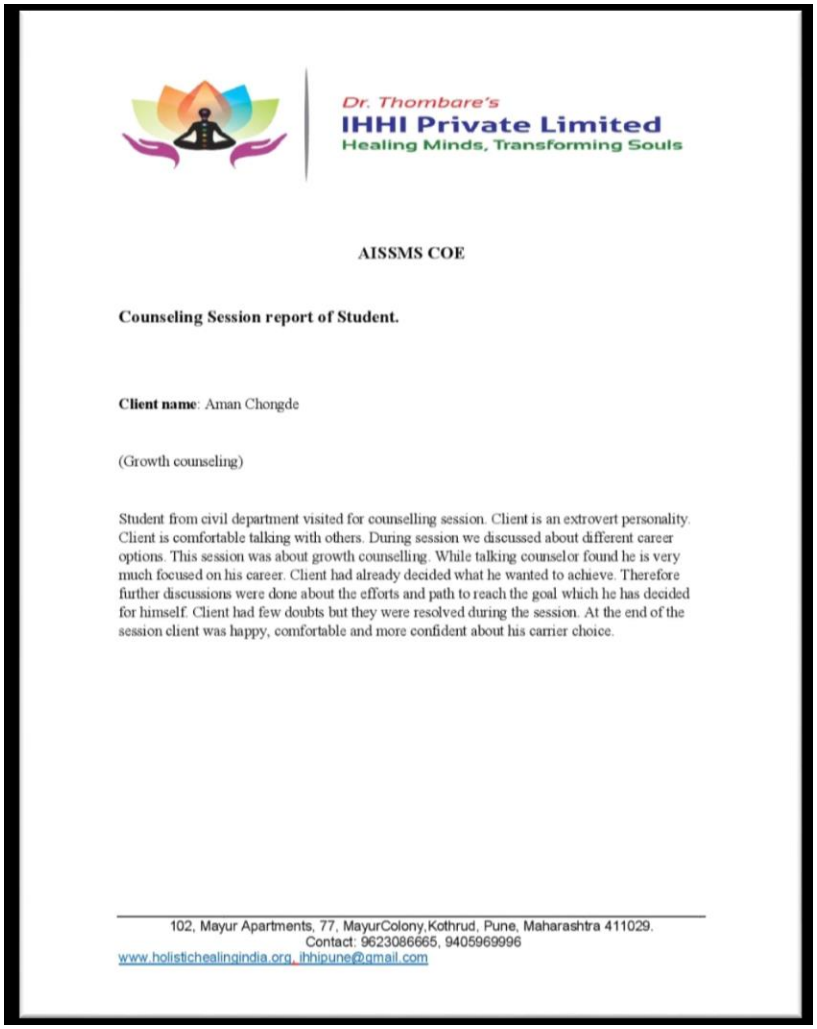
Client name: Jaikumar Shelar

(Preventive counseling)

Client was struggling with time management issues related to academic timetable and counselors helped the client identify the areas where he loses time and priorities his goals.

Importance of goal setting was discussed and administered.

102, Mayur Apartments, 77, MayurColony,Kothrud, Pune, Maharashtra 411029.
Contact: 9623086665, 9405969996
www.holistichealingindia.org, ihhipune@gmail.com



Dr. Thombare's
IHHI Private Limited
Healing Minds, Transforming Souls

AISSMS COE

Counseling Session report of Student.

Client name: Aman Chongde

(Growth counseling)

Student from civil department visited for counselling session. Client is an extrovert personality. Client is comfortable talking with others. During session we discussed about different career options. This session was about growth counselling. While talking counselor found he is very much focused on his career. Client had already decided what he wanted to achieve. Therefore further discussions were done about the efforts and path to reach the goal which he has decided for himself. Client had few doubts but they were resolved during the session. At the end of the session client was happy, comfortable and more confident about his carrier choice.

102, Mayur Apartments, 77, MayurColony,Kothrud, Pune, Maharashtra 411029.
Contact: 9623086665, 9405969996
www.holistichealingindia.org, ihhipune@gmail.com

Various Mentoring formats

All India Shri Shivaji Memorial Society's
College of Engineering, Pune-411001
Approved by AICTE, New Delhi
Affiliated to Savitribai Phule Pune University, Pune

Mentoring Record

Name of Department:

Name of Student	
Year/Class	
Division	
Name of Mentor	

Academic Mentoring (Maintain record for every fortnight)

Academic Issue/Class Attendance	Action Taken	Remark	Sign student

Psychological Mentoring (As per need)

Psychological Issue / Description of Mentoring	Action Taken	Remark	Sign Student

Financial Mentoring (As per need)

Financial Issue / Description of Mentoring	Action Taken	Remark	Sign Student

Overall Mentoring
(Encouragement for co-curricular & extracurricular activities, Overall development of student considering personality skills, carrier related issues and abilities, refer annexure-A)

Overall Issue / Description of Mentoring	Action Taken	Remark	Sign Student

Communication with Parents (Minimum once in a month)

SL	Mother / Father	Date	Issue Discussed

Comment: (Overall progress after every semester by concerned mentor):

Signature
Name of Mentor

Head of Department

AISSMS College of Engineering, Pune- 1
STUDENTS' COUNSELING CELL
ATTENDANCE REPORT

Name of Mentor :_____ Department of _____ Class:_____
Academic Year : 20 - 20 Term: I / II

S N	Name of student	Signature of student									
		1	2	3	4	5	6	7	8	9	10
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
	Mentors' signature										

All India Shri Shivaji Memorial Society's
College of Engineering, Pune – 411 001
Specific Case in Mentoring
Academic Year 20…-20…

1. Department:
2. Name of Mentor:
3. Name of Mentee (Student):
4. Duration of mentoring:
5. Problem/ Issue of student:
6. Methodology adopted to resolve the issue:
7. Observations /findings:
8. Outcome of mentoring efforts:
9. Suggestions:
10. Any other:
11. Record details –Parents call record, visit record, counseling details

Signature of Mentor
Contact no:
Email:

Through: HOD

Fig:-

Successful Mentoring: Sample Case 1

MENTORING SUCCESS STORY

The four years I spent as a student of the AISSMS College of Engineering were truly precious for me and I will cherish them for my entire life. I am extremely indebted to my department and all my teachers for guiding me throughout this journey.

When a student enters a college after the much-pampered stage of school life, it is expected that one has to be on their own, but this wasn't the case with my department. Along with great academic prowess, the teachers were also caring and considerate towards the students and ensured their overall wellbeing. Regular mentoring and counselling sessions were conducted, with the mentors establishing contact with each student of their batch individually.

During one's college days, almost everyone is going through several issues, which might be academic or personal and one needs a safe haven to discuss and resolve these issues and have a clearer view of one's progress. Hence in these mentoring sessions, apart from academics, the mental and emotional aspects of every student were also of utmost concern. All my mentors were like lighthouses, who gave proper advice which came from their own wisdom and experience, hence allowing me to overcome challenges easily.

The mentoring and counselling sessions provided by the department helped me in getting over several academic and personal dilemmas and aided me in becoming a better person. The mentoring system in my opinion, is a much-required concept and every student must utilize this wonderful facility for seeking clarity about the issues they may face. I am truly grateful to HOD ma'am, the teachers and all my mentors who guided, advised and understood me throughout this amazing tenure.

- **VEDANT SINGH**
B.E. 2018-2022

Successful Mentoring: Sample Case 2

Mentoring Success Story

I am Jaydip Gange. In the age of 20, a student needs good and bright direction to create his career and future. In my case of Engineering in AISSMS COE was happening online due to pandemic. In my first three semesters, I had no idea about Engineering. So I was somehow a dull student till second year. But when Offline College started, again I was not taking engineering seriously. But in that period of time all faculties including GFM and HOD madam guided me and told me about the right direction that you must go. During mentoring sessions, they used to suggest me to mingle with other students and focus more on studies. When I started to follow, all that directions and guidance, I have seen lots of improvements and got a good way to build my future and career. Thanks to all faculties, because of them I am now on the right path to chase my dreams. In my twenties I am moving forward and creating opportunities to myself and helping others also to reach to their final destination. Thanks to AISSMS Electrical faculties.

Jaydip Gange
TE Electrical 2022-23

Successful Mentoring: Sample Case 3

It was my immense luck and fortune to be the part of electrical department. The teaching and the non teaching staff have carved out a better individual out of me and my fellow students. The experienced faculty, effective teaching and learning process, well eqipped laboratories and friendly environment makes a perfect place for learning here. The constant support of teaching and non-teaching staff helped to achieve excellence in every aspect and to grow professionally.

I was selected as the General Secretary of the department where I got opportunity to organize technical and non-technical events, industrial visits under the guidance of faculty which help me to learn leadership qualities and strengthen my professional skills which proven beneficial even today.

A huge respect, love and devotion for entire faculty members and department.

Abhishek A Pande

BE 2017-21

Successful Mentoring: Sample Case 3

“Tell something about yourself?” It could be one of the toughest questions when asked impulsively. However, people who like sharing their achievements and personal life with others may find it another opportunity to revel their unique traits. But with me, the case is exactly opposite. Talking about me has never been my thing. Yet I would still try to describe myself in the best way I can. I would like to start with my background and then move to how I have improved myself in the last 3-4 years.

I belong to rural area and have studied up to my 12th in local school and never had a chance to go in a convent. When I first get admitted in AISSMSCOE it was like a dream to me as I never had seen such a huge building and campus. In my first year I used to travel around 60 km by PMT to the college and back home. It was so tiring that I couldn’t study and as a result of that I got my first year flunked. I was nearly depressed because of that as all my friends are a year ahead of me and I can barely see them for a year.

During that time, I had Mrs. A Apte ma’am and Mr Rahul Shind sir as my batch mentors. They have helped me a lot during my darkest period they have encouraged me to be a part of different technical comities after I re-joined the classes and also have kept tracking my

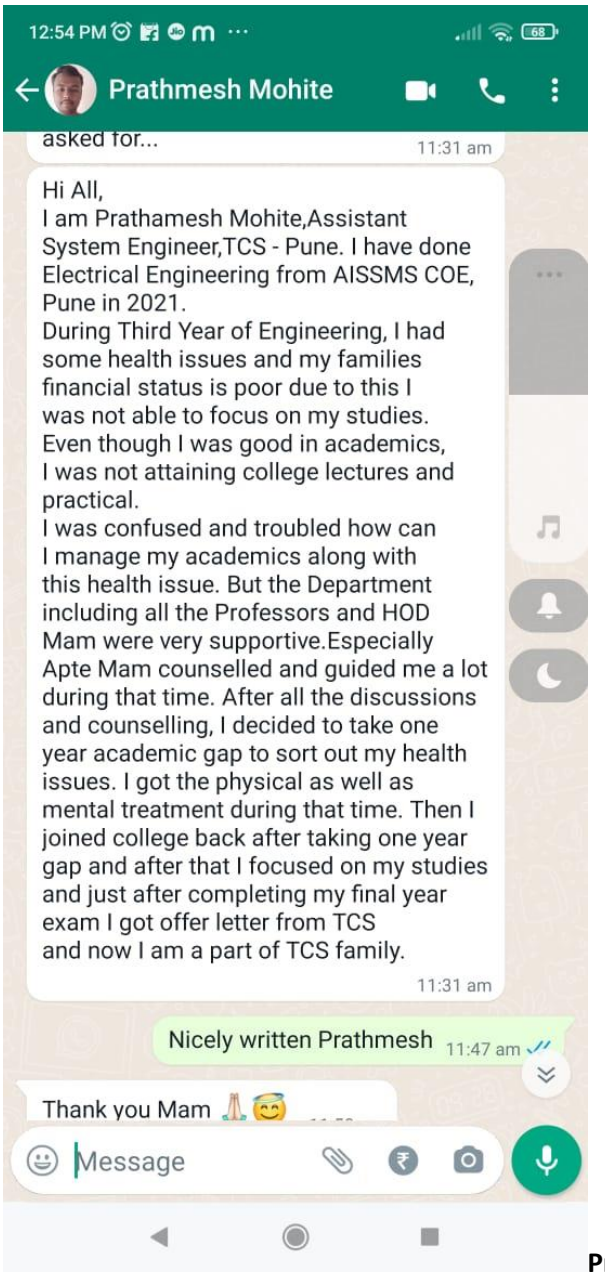
progress and if something goes wrong in that case, they always had a fair advice. No matter what the problem is whether it is personal or academics related they always had played their roles as a mentor perfectly.

I sincerely appreciate your help throughout my graduation.

Thank you.

Suraj Jadhav

BE Electrical (2016-2022)



Prathamesh Mohite (BE 2021)

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

Students feedback about teaching a course is taken twice a semester through the ERP system. Turn-1 feedback is taken after the first 30 to 40 days of teaching. Corrective actions are taken after this feedback. Turn-2 feedback is taken at the end of the semester. Following questionnaire is set for feedback.

Sr.No.	Performance Parameter
1	**Planning & Organization** Subject Organization in Logical Sequence; Syllabus Coverage; Subject is Clearly Prepared
2	**Presentation/Communication** Use of Simple Language Interest generated Solved conceptual problems to illustrate theory Questions to test knowledge, Clarity of Speech
3	**Students Involvement** Questions to promote interaction Encouragement to ask questions Discuss practical applications
4	**Use of Media/Methods** Use of a variety of teaching techniques (e.g., ICT, quiz, MCQ, etc.) Use of Textbooks/ reference books Clarity of writing on Black Board
5	**Class Management** Punctuality , Class Control
6	**Assignment** Provide assignments Timely return of assignment Availability to resolve problems of students after class
7	**Learning Resources** NPTEL, MOOC, Models, Videos

Department of Electrical Engineering
Feedback, 2021-22 Term II

TERM II			FEEDBACK		
Sr. no.	**Name of Faculty**	**Name of subject**	**Mid term**	**end term**	**Average**
1	Dr.A A Godbole	FMA	82	97	89.5
2	Dr M H Dhend	HV	84	89	86.5
		PBL	75	80	77.5
3	Dr.A A Apte	CS I	89	98	93.5
4	Mr. S K Biradar	NA	84	91	87.5
5	Dr. L S Godse	PBL	80	86	83
		Machines I	83	90	86.5
6	Ms.S R Lengade	EAM	92	99	95.5
		PBL	89	93	91
		PS II	93	100	96.5
7	Mr.V S Ponkshe	PS II	91	100	95.5
8	Ms.P K Sankala	PECD	89	92	90.5
9	Ms.V N Tarange	SGP	87	92	89.5
		Machines I	83	86	84.5
10	Mr.C D Kulkarni	Machines I	79	81	80
		DEM	83	98	90.5
11	Mr.R S Shinde	PS I	86	95	90.5
		SG	88	92	90
		FMA	87	94	90.5
12	Ms.S Vadi	NMCP	90	97	93.5
		CS I	91	97	94
13	Ms.S S Mujawar	EM	87	94	90.5

		DEM	89	95	92

Reward/Corrective Measures:

1. Faculty members with more than 75% feedback were motivated to continue their hard work and explore the scope of further improvement.
2. Faculty members with less than 75% feedback were asked to discuss any kind of problem or issue being faced by them in subject content, preparation and delivery of lecture. They were motivated to attend faculty development programs in order to improve modes of teaching. They were also advised to go through video lectures available online on platforms like NPTEL.

FEEDBACK TURN 1

TEACHER - MR. CHARUDATTA DILEEPRAO KULKARNI DEPARTMENT - ELECTRICAL ENGINEERING TOTAL STUDENTS - 60

ACADEMIC YEAR - 2019-2020 SUBJECT - ELECTRICAL MACHINES-I (PRACTICAL) SEMESTER 4 (A)

DATE - 17/02/2020 TERM -

SR NO	QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAGE
1	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	33	12	11	1	3	251	300	84%
2	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	25	19	12	1	3	242	300	81%
3	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL CONTENT COURSE CONTENT, COMMUNICATION SKILLS AND TEACHING AIDS	31	14	10	2	3	248	300	83%
4	PACE ON WHICH CONTENTS WERE COVERED	26	19	12	0	3	245	300	82%
5	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	30	16	10	1	3	249	300	83%
6	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL PRACTICAL DEMONSTRATION	30	16	9	2	3	248	300	83%
7	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL HANDS ON TRAINING	30	15	12	0	3	249	300	83%
8	CLARITY OF EXPECTATIONS OF STUDENTS	30	12	14	1	3	245	300	82%
9	FEEDBACK PROVIDED ON STUDENTS PROGRESS	29	16	12	0	3	248	300	83%
	TOTAL	264	139	102	8	27	2225	2700	82%
	TOTAL(%)	49%	26%	19%	1%	5%	PERFORMACE INDEX - 82		

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलम्शिवाय
Approved by AICTE New Delhi, Recognized by Govt. of Maharashtra,
Affiliated to Savitribai Phule Pune University and recognized 2(f) and 12(B) by UGC(d. No. PU/PN/Engg/093(1992)
Accredited by NAAC with 'A+' Grade
Kennedy Road, Pune 411001, Maharashtra, India. Tel: +91 - 20 - 26058587, 26057680, 26058542 Email: contact@aissmscoe.com, principal@aissmscoe.com
www.aissmscoe.com

Date

Department of Electrical Engineering

To,

Mr. Charudatta Dileeprao Kulkarni

Male

Subject - Letter of Appreciation

Dear Madam/Sir,

It gives me immense pleasure to congratulate you on the behalf of **Electrical Engineering** department based upon the analysis of feedback forms submitted by the students of **SE** for the subject **ELECTRICAL MACHINES** . It has been assumed that you are carrying out a commendable job of teaching . The department highly appreciates your efforts and wishes to see the same kind of enthusiasm from you, towards your work for as long as associated with us. Wishing you all the best !!!

CLASS TEACHER FEEDBACK COORDINATOR HEAD OF DEPARTMENT

FEEDBACK TURN 1

TEACHER - MR. CHARUDATTA DILEEPRAO KULKARNI DEPARTMENT - ELECTRICAL ENGINEERING TOTAL STUDENTS - 60

ACADEMIC YEAR - 2019-2020 SUBJECT - ELECTRICAL MACHINES-I (THEORETICAL) SEMESTER 4 (A)

DATE - 17/02/2020 TERM -

SR NO	QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAGE
1	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	28	24	11	1	4	275	340	81%
2	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	27	22	13	2	4	270	340	79%
3	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL CONTENT COURSE CONTENT, COMMUNICATION SKILLS AND TEACHING AIDS	26	21	17	1	3	270	340	79%
4	PACE ON WHICH CONTENTS WERE COVERED	26	16	19	3	4	261	340	77%
5	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	31	17	14	3	3	274	340	81%
6	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL PRACTICAL DEMONSTRATION	26	18	17	3	4	263	340	77%
7	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL HANDS ON TRAINING	26	18	19	1	4	265	340	78%
8	CLARITY OF EXPECTATIONS OF STUDENTS	28	18	17	2	3	270	340	79%
9	FEEDBACK PROVIDED ON STUDENTS PROGRESS	28	19	15	1	5	268	340	79%
	TOTAL	246	173	142	17	34	2416	3060	79%
	TOTAL(%)	40%	28%	23%	3%	6%	PERFORMACE INDEX - 79		

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलम्शिवाय
Approved by AICTE New Delhi, Recognized by Govt. of Maharashtra,
Affiliated to Savitribai Phule Pune University and recognized 2(f) and 12(B) by UGC(d. No. PU/PN/Engg/093(1992)
Accredited by NAAC with 'A+' Grade
Kennedy Road, Pune 411001, Maharashtra, India. Tel: +91 - 20 - 26058587, 26057680, 26058542 Email: contact@aissmscoe.com, principal@aissmscoe.com
www.aissmscoe.com

Date

Department of Electrical Engineering

To,

Mr. Charudatta Dileeprao Kulkarni

Male

Subject - Letter of Appreciation

Dear Madam/Sir,

It gives me immense pleasure to congratulate you on the behalf of **Electrical Engineering** department based upon the analysis of feedback forms submitted by the students of **SE** for the subject **ELECTRICAL MACHINES** . It has been assumed that you are carrying out a commendable job of teaching . The department highly appreciates your efforts and wishes to see the same kind of enthusiasm from you, towards your work for as long as associated with us. Wishing you all the best !!!

CLASS TEACHER FEEDBACK COORDINATOR HEAD OF DEPARTMENT

Department of Electrical Engineering
Feedback Analysis, 2022-23 Term II

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Analysis of Students' Feedback on Course teaching

(Refer to ERP feedback sheet)

Class B.E Electrical Course Name: SGP name of teacher Mrs. V. N. Tarange

I. **Analysis by Course Teachers**

A. Weakness areas and his/ her opinion

1) Topics beyond syllabus.
2) Motivation to students to learn.

B. Improvements Teaching methodologies suggested

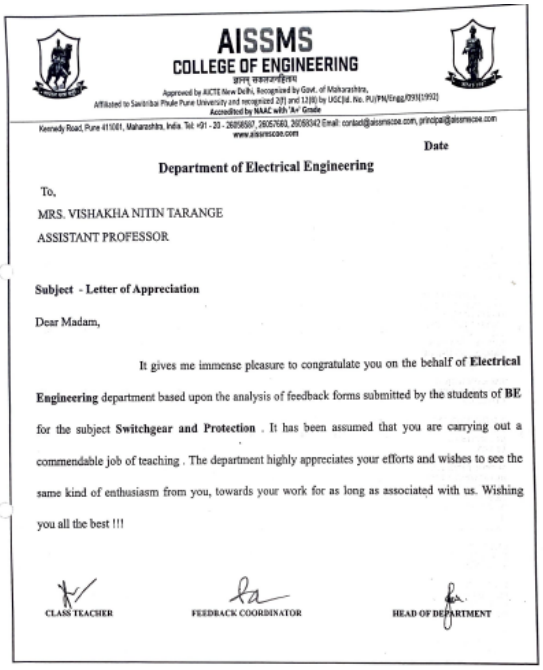
1) The topics are chalked down, need to convey it to students in better way.
2) Some motivational talk will be delivered.

II. **Review by Head of Dept**

Suggest NPTEL courses relevant to the course to the students. Identify switchgear industries around Pune where students can engage in real life experiences/ training

Signature of Teacher

Signature of HOD



AISSMS
COLLEGE OF ENGINEERING

Approved by AICTE New Delhi, Recognized by Govt. of Maharashtra,
Affiliated to Savitribai Phule Pune University and recognized 2(f) and 12(B) by UGC[Id. No. PU/PN/Engg/093(1992)]
Accredited by NAAC with 'A+' Grade

Kennedy Road, Pune 411001, Maharashtra, India. Tel: +91 - 20 - 26058597, 26057680, 26058342 Email: contact@aissmscoe.com, principal@aissmscoe.com
www.aissmscoe.com

Date

Department of Electrical Engineering

To,

MRS. VISHAKHA NITIN TARANGE

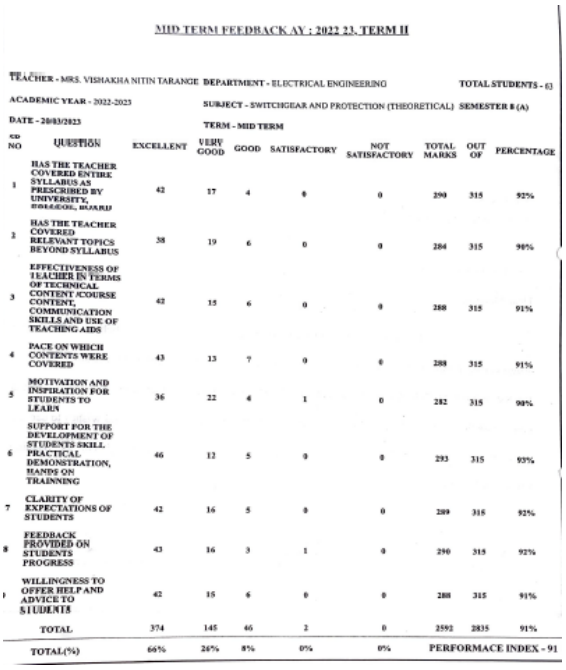
ASSISTANT PROFESSOR

Subject - Letter of Appreciation

Dear Madam,

It gives me immense pleasure to congratulate you on the behalf of **Electrical Engineering** department based upon the analysis of feedback forms submitted by the students of **BE** for the subject **Switchgear and Protection** . It has been assumed that you are carrying out a commendable job of teaching . The department highly appreciates your efforts and wishes to see the same kind of enthusiasm from you, towards your work for as long as associated with us. Wishing you all the best !!!

CLASS TEACHER FEEDBACK COORDINATOR HEAD OF DEPARTMENT



MID TERM FEEDBACK AY : 2022 23, TERM II

TEACHER - MRS. VISHAKHA NITIN TARANGE DEPARTMENT - ELECTRICAL ENGINEERING TOTAL STUDENTS - 63

ACADEMIC YEAR - 2022-2023 SUBJECT - SWITCHGEAR AND PROTECTION (THEORETICAL) SEMESTER II (A)

DATE - 20/03/2023 TERM - MID TERM

SR NO	QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAGE
1	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	42	17	4	0	0	290	315	92%
2	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	38	19	6	0	0	284	315	90%
3	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL CONTENT /COURSE CONTENT, COMMUNICATION SKILLS AND USE OF TEACHING AIDS	42	15	6	0	0	288	315	91%
4	PACE ON WHICH CONTENTS WERE COVERED	43	13	7	0	0	288	315	91%
5	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	36	22	4	1	0	282	315	90%
6	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL PRACTICAL DEMONSTRATION, HANDS ON TRAINNING	46	12	5	0	0	293	315	93%
7	CLARITY OF EXPECTATIONS OF STUDENTS	42	16	5	0	0	289	315	92%
8	FEEDBACK PROVIDED ON STUDENTS PROGRESS	43	16	3	1	0	290	315	92%
9	WILLINGNESS TO OFFER HELP AND ADVICE TO STUDENTS	42	15	6	0	0	288	315	91%
	TOTAL	374	145	46	2	0	2592	2835	91%
	TOTAL(%)	66%	26%	8%	0%	0%	PERFORMACE INDEX - 91		

9.3. Feedback on facilities (5)

Different facilities are provided to the students to enhance their overall development. A few of them are cultural, sports, and technical events consisting of workshops, seminars, etc. Very good infrastructure facilities are also provided to the students. Every year at the end of the second semester, i.e. in the months of March and April, one feedback form is delivered to the students by ERP, and the students fill it out. The feedback form questions are structured in such a way that the institute can receive clear feedback on how to enhance the facilities. Corrective actions are being made to ensure that students have adequate facilities for the coming academic year.

Questions are as follows:

1. Class room infrastructure (boards, internet, LCD projector, etc.) and overall ambience
2. Laboratory facilities (boards, internet, computer, equipment, etc.)
3. Cleanliness and ambience of campus
4. Library, reading room and other library facilities
5. Sports, Cultural and Extra-curricular activities facilities (NSS, Annual functions, etc.)
6. Parking, security and proctorial services in the campus
7. Mentoring, Counselling, Redressal of grievances and support to students for admissions, examinations, etc.)
8. Support to training, placements and internships
9. Overall impression about infrastructure and facilities provided in the institute
10. Canteen facility and availability of drinking water

A Sample Infrastructure and Facility feedback on ERP

Facility Feedback SE Electrical 2020-21

8/31/2021 WEBDESK ERP

AISSMS
COLLEGE OF ENGINEERING

Approved by AICTE New Delhi, Recognized by Govt. of Maharashtra,
Affiliated to Savitribai Phule Pune University and recognized 2(f) and 12(B) by UGC(Id. No. PU/PN/Engg/093C3932)
Accredited by NAAC with 'A+' Grade
Kennedy Road, Pune 411001, Maharashtra, India. Tel: +91 - 20 - 26056667, 26057680, 26058342 Email: contact@aissmscoe.com, principal@aissmscoe.com
www.aissmscoe.com

COURSE : ELECTRICAL ENGINEERING YEAR : SE

ONLINE STUDENTS FEEDBACK ON INFRASTRUCTURE AND FACILITIES FOR A.Y. 2020-2021

SR NO	INFRASTRUCTURE AND FACILITIES	5 (EXCELLENT)	4 (VERY GOOD)	3 (GOOD)	2 (AVERAGE)	1 (POOR)	TOTAL
1	ONLINE TEACHING SUPPORT. (MICROSOFT TEAMS, ZOOM, GOOGLE MEET ETC.)	12	8	4	0	0	24
2	ONLINE LABORATORY FACILITIES. (VIRTUAL LAB, SIMULATIONS, VIDEOS, RECORDED VIDEOS ETC.)	5	9	6	3	1	24
3	ONLINE LIBRARY FACILITIES AND SERVICES. (SUPPORT FOR COURSE THROUGH COURSERA, MOOCS ETC.)	7	7	6	2	2	24
4	ONLINE MENTORING, COUNSELING AND SUPPORT TO STUDENTS.	7	10	5	2	0	24
5	GRIEVANCES/PROBLEMS ARE REDRESSED/ RESOLVED WELL IN TIME. (EXAMINATION, ADMISSION ETC.)	12	8	3	1	0	24
6	SUPPORT FOR CO-CURRICULAR ACTIVITIES. (WEBINARS, WORKSHOPS ETC.)	14	5	4	0	1	24
7	ONLINE FACILITIES PROVIDED FOR SPORTS, CULTURAL AND EXTRA-CURRICULAR ACTIVITIES. (FIT INDIA, UNLOCK 2020,NSS ACTIVITIES ETC.)	7	8	3	5	1	24
8	SUPPORT TO STUDENTS DURING LOCKDOWN PERIOD. (ADMISSION, FEES PAYMENT,FORM SUBMISSION ETC.)	12	6	5	1	0	24
9	SUPPORT FOR INTERNSHIP / PROJECT IN LOCKDOWN PERIOD.	8	7	6	1	2	24

https://aissmscoe.akronsystems.com/INSTITUTEFEEDBACK/pINSTITUTEFEEDBACKCOUNTREPORT.aspx?T=71&Mag=1&KEY=IQM 1/2

8/31/2021 WEBDESK ERP

10	OVERALL IMPRESSION ABOUT THE FACILITIES PROVIDED BY THE INSTITUTE.	10	11	2	1	0	24

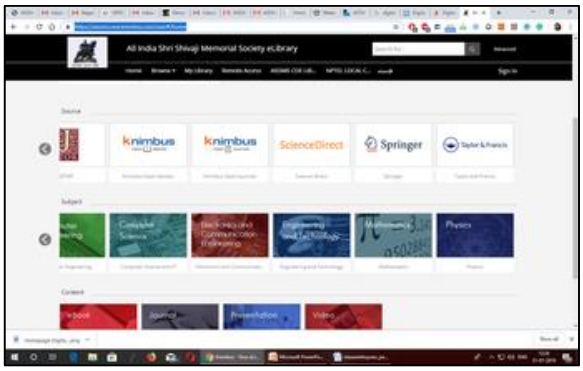
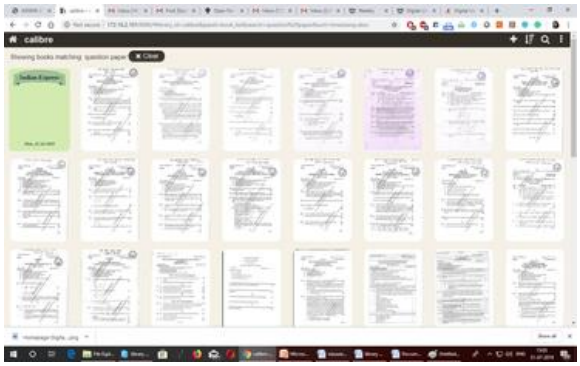
Based on the feedback, various corrective actions have been taken such as improvement in canteen facility, purified water supply, internet bandwidth, cleanliness, stationary availability, facility for co-curricular and extra-curricular facilities.

9.4. Self-Learning (5)

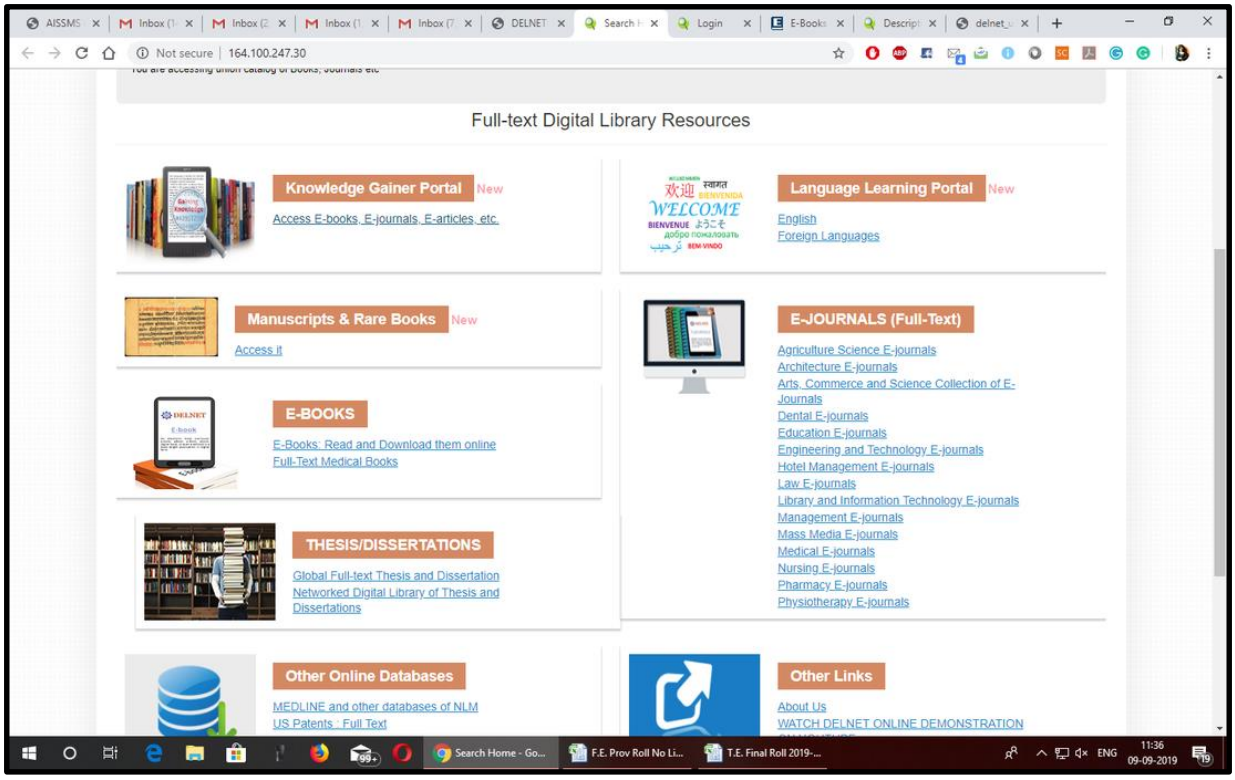
Institute has provided a large scope to students to learn on their own as per their interest. This is in the form of online and offline, on campus and off campus. AICTE's NPTEL platform has attracted students a lot at par with regular courses. Students can register online and learn at

their pace. Online platforms such as Coursera, edX, IIRS are made available to students. Subscribed E-resources are IEEE, ASCE, ASME, J-GATE, McGraw Hill and Science Direct.

Self-Learning facilities: Details of Digital Library/Remote Access

	**Knimbus Digital Library and Remote Access -** https://aissms.new.knimbus.com/user#/home The AISSMS COE Library has subscribed to Digital Library. Remote Access to E resources facility is available under the platform.
Faculty Publications Repository -- http://172.16.0.71:8080/jspui/ Faculty Publications are archived under Dspace Repository. Department wise faculty publications can accessed through this link in College LAN Ki	K 
	**Calibre Digital Library -** http://172.16.2.101:8080/ The Calibre Digital Library has been set up for E books and previous year question papers students.

Link for DELNET Service - http://www.delnet.in/# http://164.100.247.26/
Facilities available: 1 InterLibraryLoan - Required books /Articles can be borrowed from member Library 2 Free access to digital resources ebooks 3 Remote access is available



NPTEL RESULTS

Jan-Dec 2021

CONGRATS! Your college is hereby recognized as an ACTIVE Local Chapter.

Course Run	Present	Gold	Elite	Silver	Successful	Participation	Topper	NPTEL Stars
Jul-Dec 2021	47	3	9	21	8	6	6	Details
Jan-Apr 2021	28	1	13	8	4	2	3	Details
Jan-Dec 2020	102	5	31	24	20	22	7	Details
Jul-Dec 2019	159	8	42	37	29	43	9	Details
Jan-Apr 2019	149	6	11	33	79	20	7	-
Jul-Oct 2018	279	4	82	0	165	28	9	-
Jan-Apr 2018	240	2	50	0	125	63	10	-
Jul-Dec 2017	126	4	42	0	66	14	3	-

NPTEL swayam

DOMAIN CERTIFICATE

This is to certify that

ABHISHEK SANTOSH CHAVAN

has successfully completed all the requirements for SWAYAM-NPTEL Domain Certification in

Product Design

(Mechanical Engineering)

The courses were completed in the period Oct 2021

Prof. Devendra Jalihal
Chairman
Centre for Continuing Education, IITM

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

Roll No: NPTELDS22100000201

To validate and check scores:
https://nptel.ac.in/noc

NPTEL swayam

Course Details

Course Type	Course Name	Duration	Offering Institute	Course Timeline	Marks Obtained (Out of 100)	QR Code
core	Product Design and Development	4 weeks	IIT Roorkee	Sep-Oct 2020	95	
core	Product Design and Manufacturing	12 weeks	IIT Kanpur	Jan-Apr 2021	83	
core	Design Practice	8 weeks	IIT Kanpur	Feb-Apr 2021	79	
core	Production Technology: Theory and Practice	12 weeks	IIT Kanpur	Jul-Oct 2021	58	
Elective	Design Practice - II	8 weeks	IIT Kanpur	Aug-Oct 2021	80	
Elective	Ergonomics Workplace Analysis	4 weeks	IIT Guwahati	Aug-Sep 2021	55	
Elective	Manufacturing Processes - Casting and Joining	4 weeks	IIT Kanpur	Jan-Feb 2021	62	
Total Marks					512	

Criteria for certification in **Product Design Domain:**
The candidate should complete the prescribed 4 core courses and 3 elective courses:

1.Scoring a minimum of >=55 marks in each course and should pass the courses too.
2.Average of all courses in the domain should be >= 60.
3.Sum of the duration of the courses should be >= 50 weeks.

Domain Certificates

NPTEL Certificate: Sample

edX Courses, Jan 2021

Invitation Send	Learners Joined	Enrolled Learners At least one course	Active learners	Course completion
930	535	210	80	22

Coursera E learning Platform- Usage and enrollment record

Invitation Send	Learners Joined	Enrolled Learners	Total learning Hours	Lession Taken	Course Rating
2924	2019	1870	40126	71410	4.7

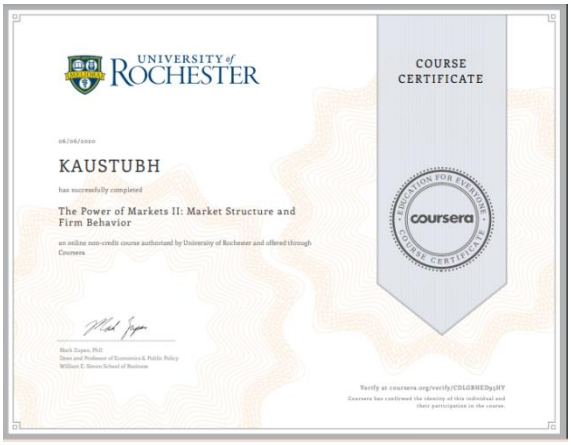
IIRS Training Program

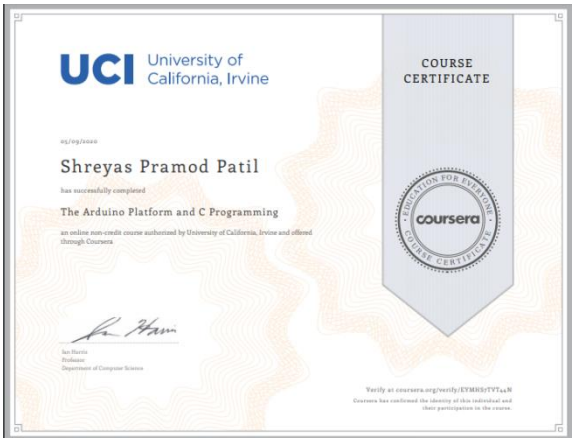
Number of Courses	Total Students Enrolments
15 (Courses in Space application, Geo Informatics, Ecology Studies, Geo processing Remote sensing)	101

2019-20 Term II Electrical:

Sr.No.	Type of Activity	No. of Students Registered	Successfully completed
1	Webinar/Seminar	156	156
2	NPTEL Courses	5	4
3	Swayam Courses	8	05
4	Coursera Courses	35	30
5	Udemy	6	5

Some certificate samples





9.5. Career Guidance, Training, Placement (10)

Centre for Information Training and Placement (CITP), a common section has been formed to cater Trainings, Placements and for Career guidance to students by taking help of Alumni strength and interaction with industry. The CITP has a well-established infrastructure to cater the said services. The career guidance to students is done at well-structured one to one mentoring and through professional counselling. Pre-placement and industry specific trainings are carried out at every stage of their undergraduate studies. Student's inclination towards a career is identified at first year level. In their second year studies, communication and soft skills are honed. Aptitude required for employment in general is prepared at third year level. Company specific training with contemporary knowledge is enhanced in the final year of their study. The CITP respects "One student one job policy".

Innovative TRIZ-based training enables students to improve their performance in terms of understanding the technical concepts (basic as well as advanced) in a deeper and appropriate way. at a higher cognitive level. This prepares them to perform more effectively in interviews (HR and Technical rounds).

Placement policy:

1. The companies visiting the campus are divided into IT/Software companies (product, service based) and Core Companies (Non IT/Software) (Manufacturing, service providers).
2. Companies are invited and scheduled on the basis of following parameters:
    a. Eligibility criteria, opportunities for all.
    b. Job profile and growth prospects.
    c. The package being offered by the company.
    d. Past record of recruitment at AISSMS COE.
    e. Feedback from the students regarding the company.
3. If a company prefers to have a common selection process for our institute students along with nearby Engineering institutes, the selection drive is conducted either by our institute or by the other institute after discussion with participating institutes.
4. If the market situation and job scenario necessitate a revision in the Placement Policy, it will be done in a manner so as to maximize the benefit to the student community as a whole.

Pre-Placement Talks (PPT):

1. Notices of the PPT will be published in the placement website well in advance. Students should be available 15 minutes before the scheduled start of the PPT.
2. Students interested in a particular company, can attend its PPT.
3. Students must go through the complete selection process of a particular company.
4. Any clarification regarding salary break-up, job profile, place of work, bond details, etc. must be sought from the companies during PPT or interview.
5. Students must be formally dressed whenever they participate in any interaction with a company. CITP reserves the right to refuse permission to a student to attend the selection process/PPT, if they do not dress up formally.

Placement Procedure:

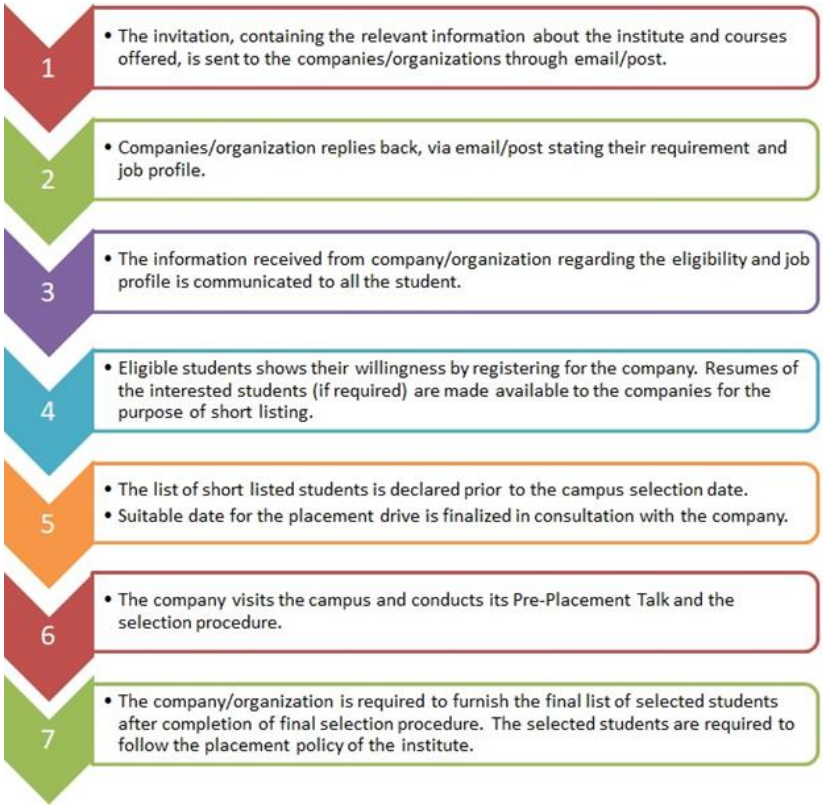


Fig. 9.5.1 Placement Procedure

Job Offers:

1. **Pre-Placement Offers**: The following rules are applicable to companies that make PPO through the CITP Office.
    a. The offer of PPO (by the company) and its acceptance (by the student) shall be through CITP office only.
    b. Once a student accepts a PPO, he / she shall be de-registered from placement process.
2. **Multiple Offers**: Each student is eligible for one CORE and one NON-CORE job offer only.
    a. If a student receives more than one offer in a session/day and if there is a delay in the announcement of results by some companies, the student is bound to accept/reject the job offers of the company whose results are declared in time.
    b. If the results are declared on the same session / day, the student may choose from the offers in hand and inform the CITP office of his/her choice, within 24 hrs of announcement of results.
3. Every student who is selected by a company is out of placement thereafter i.e. deregistered from the placement website.
4. All companies are requested to release the Offer and hand over to CITP office after the completion of the recruitment session.

5. Offer Acceptance: The students should inform the acceptance/rejection of offer within 24 hours (on the day following the release of offer letter/mail). The company shall be intimated of the offer acceptance/rejection within three days of release of offer.
6. In case of those students who are placed and waitlisted by other companies, they will be given 2 days to accept the offer on hand. The Placement Office in the meantime will inform the company where he/she is waitlisted about his present offer.

   The company that has waitlisted the students is required to release the offer within 24 hours, failing which the name of the student will be removed from the waitlist.

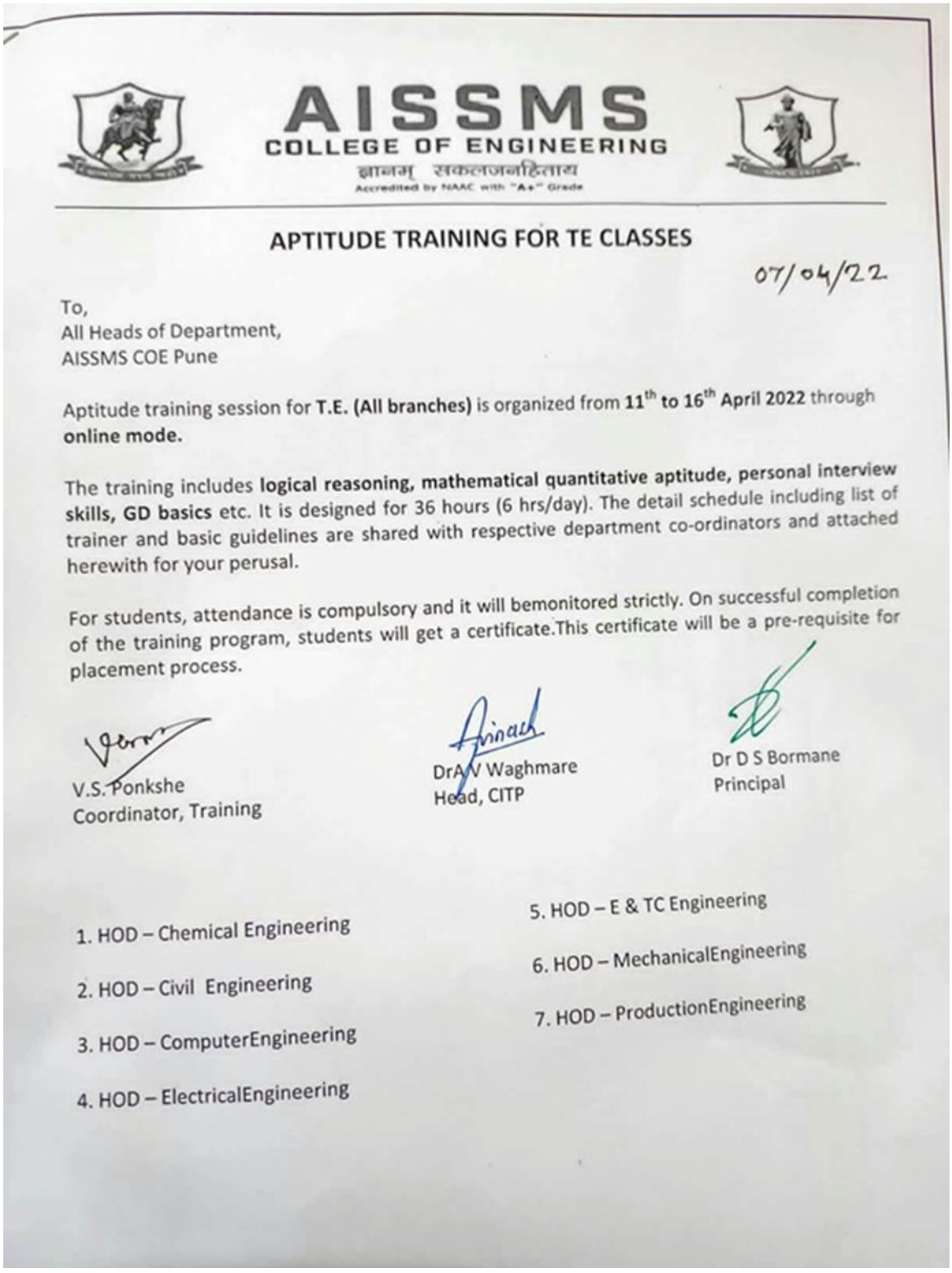
7. Announcement on the website will be considered as firm offer. Offers received from companies must be collected as per timings in circular / notice. The responsibility of going through the offer letter and taking actions therein such as submission of documents lies entirely with the student. All offers (made by the companies) shall be through this office only. This office will not be in a position to resolve problems, if any, that may arise with respect to offers made directly to the student by the company.

8. Second option is given to selected student if forthcoming offer is doubled the existing package or more than 8 LPA.

Program	**Intake**	**2019-20**			**2020-21**			**2021-22**		
		Students	**Placed**	**Offers**	**Students**	**Placed**	**Offers**	**Students**	**Placed**	**Offers**
Chemical Engineering	**60**	75	23	27	75	30	30	67	32	32
Civil Engineering	**120**	130	36	36	140	23	23	153	30	30
Computer Engineering	**120**	133	75	114	150	119	193	141	84	185
Electrical Engineering	**60**	66	19	19	78	27	40	77	31	37
Electronics and Telecommunication Engineering	**60**	51	9	9	64	45	80	62	31	53
Mechanical Engineering	**120**	149	45	57	139	34	45	151	53	70
Mechanical Engineering [Sandwich]	**60**	58	14	16	71	32	37	78	8	8
Production Engineering [Sandwich]	**60**	65	19	19	71	16	19	73	4	4

Table 9.5.1 Summary of Placements

Soft Skill and Aptitude Training: Soft skill and Aptitude trainings are conducted on regular basis. Pre-placement and industry specific trainings are carried out at every stage of their undergraduate studies. Student's inclination towards a career is identified at first year level. In their second year studies, communication and soft skills are honed. Aptitude required for employment in general is prepared at third year level. Company specific training with contemporary knowledge is enhanced in the final year of their study.



AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

APTITUDE TRAINING FOR TE CLASSES

07/04/22

To,
All Heads of Department,
AISSMS COE Pune

Aptitude training session for **T.E. (All branches)** is organized from **11th to 16th April 2022** through **online mode.**

The training includes **logical reasoning, mathematical quantitative aptitude, personal interview skills, GD basics** etc. It is designed for 36 hours (6 hrs/day). The detail schedule including list of trainer and basic guidelines are shared with respective department co-ordinators and attached herewith for your perusal.

For students, attendance is compulsory and it will bemonitored strictly. On successful completion of the training program, students will get a certificate.This certificate will be a pre-requisite for placement process.

V.S. Ponkshe
Coordinator, Training

DrA V Waghmare
Head, CITP

Dr D S Bormane
Principal

1. HOD – Chemical Engineering
2. HOD – Civil Engineering
3. HOD – ComputerEngineering
4. HOD – ElectricalEngineering
5. HOD – E & TC Engineering
6. HOD – MechanicalEngineering
7. HOD – ProductionEngineering

Fig. 9.5.2 Notice for aptitude training classes

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Soft Skill Training Sessions - Online
A.Y. 2021-22 (Term - II)

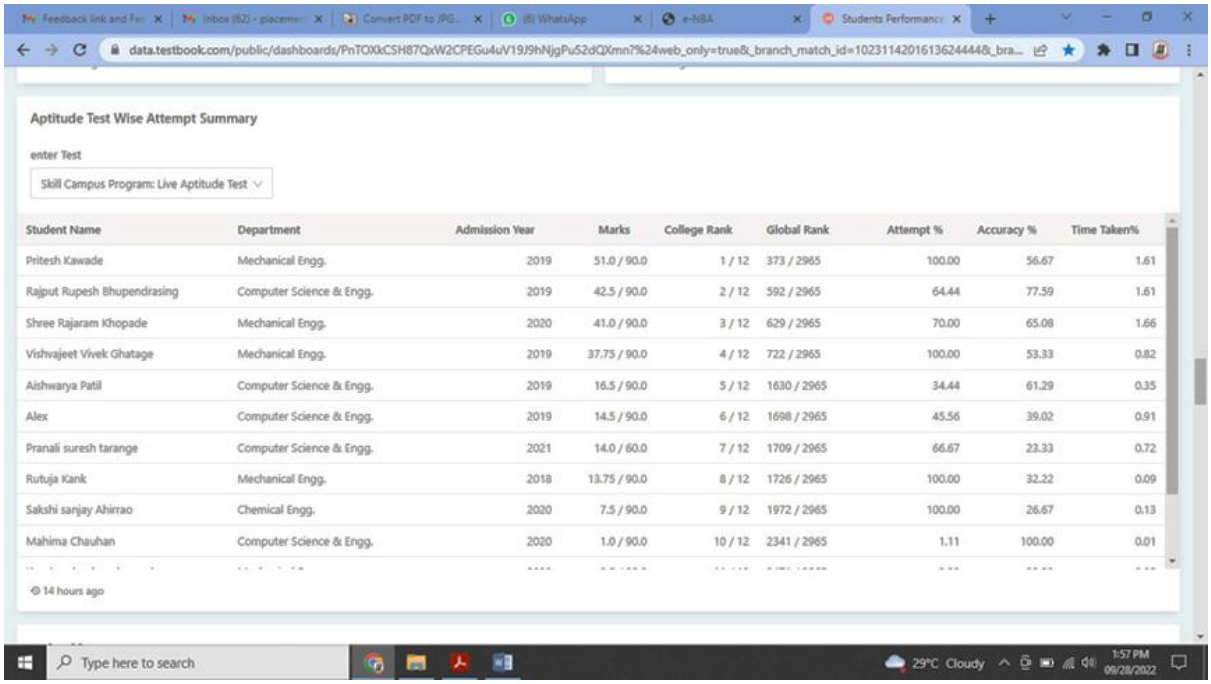
Class: T.E. **From - 11/04/22 to 16/04/22**

	Department	Division	Faculty Co-ordinator (with mobile no)	Name of GFM (with mobile no)	Name of Trainer	Contact No	Email
1	Chemical		Prof P.M. Warke (9823103089)		Pranav Thorat	7977889404	pr.thorat91@gmail.com
2	Civil	A	Prof V.S. Chavan (9767193755)	S A Chavhan (9960430643)	Pratiksha Tilekar	9604433127	pratikshatilekar85@gmail.com
3		B		Dr D V Wadkar(9730020695)	Chetan Manurkar	7773984154	chetanmanurkar92@gmail.com
4	Computer	A	Prof Monali Deshmukh (7030990816)	Mr. A. P. Kadam (94210 89450)	Shruti Purandare	9422616758	shrutip41@gmail.com
5		B		Mrs. Shikha Phachouly (77688 64108)	Jay Prakash	9542956419	vakatijayaprakash@gmail.com
6	Electrical		Prof V.S. Ponkshe (9284519408)	Prof V.S. Ponkshe (9284519408)	Musharraf	8793327574	mushimh@gmail.com
7	E & TC		Prof S. B. Dhekle (9049996452)		Mangesh Rethrekar	9112880561	mangeshretharekar@gmail.com
8	Mechanical	A	Prof Ansari (8983153332)	DSM (9921618501)	Mohit Mundra	9571091011	mail4mohitmundra@gmail.com
9		B		RAM (9822190513)	Anwar Rashid	7385180479	anwar.rashid0102@gmail.com
10	Mech S/W		Prof M.P. Bauskar (9730923304)	completed			
11	Production		Prof S.S. Kallurkar (8007959797)	Prof S.S. Kallurkar (8007959797)	Sandip Bhoyar	9923106220	sandip_bhoyar@yahoo.co.in

Fig. 9.5.3 Soft skills training schedule

Apart from this, various initiatives have been taken to upskill students. NASSCOM, EDUSKILL, SPRINGBOARD training programs are accessible to students.

Fig. 9.5.4 Skill Academys Bootcamp Registration



Aptitude Test Wise Attempt Summary

enter Test

Skill Campus Program: Live Aptitude Test

Student Name	Department	Admission Year	Marks	College Rank	Global Rank	Attempt %	Accuracy %	Time Taken%
Pritesh Kawade	Mechanical Engg.	2019	51.0 / 90.0	1 / 12	373 / 2965	100.00	56.67	1.61
Rajput Rupesh Bhupendrasing	Computer Science & Engg.	2019	42.5 / 90.0	2 / 12	592 / 2965	64.44	77.59	1.61
Shree Rajaram Khopade	Mechanical Engg.	2020	41.0 / 90.0	3 / 12	629 / 2965	70.00	65.08	1.66
Vishvajeet Vivek Ghatage	Mechanical Engg.	2019	37.75 / 90.0	4 / 12	722 / 2965	100.00	53.33	0.82
Aishwarya Patil	Computer Science & Engg.	2019	16.5 / 90.0	5 / 12	1630 / 2965	34.44	61.29	0.35
Alex	Computer Science & Engg.	2019	14.5 / 90.0	6 / 12	1698 / 2965	45.56	39.02	0.91
Pranali suresh tarange	Computer Science & Engg.	2021	14.0 / 60.0	7 / 12	1709 / 2965	66.67	23.33	0.72
Rutuja Kank	Mechanical Engg.	2018	13.75 / 90.0	8 / 12	1726 / 2965	100.00	32.22	0.09
Sakshi sanjay Ahirrao	Chemical Engg.	2020	7.5 / 90.0	9 / 12	1972 / 2965	100.00	26.67	0.13
Mahima Chauhan	Computer Science & Engg.	2020	1.0 / 90.0	10 / 12	2341 / 2965	1.11	100.00	0.01

14 hours ago

Fig. 9.5.5 Skill Academys Aptitude Test Summary

Fig. 9.5.6 DTE Maharashtras Springboard Digital Platform

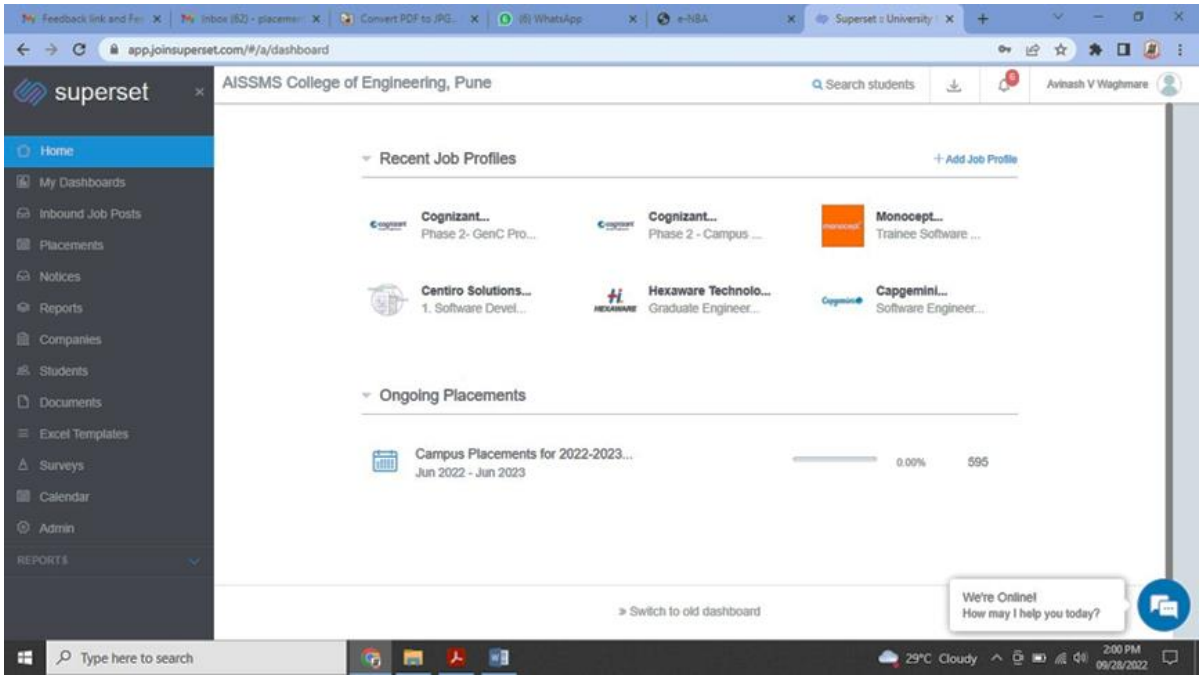


Fig 9.5.7 SUPERSET, Placement Platform

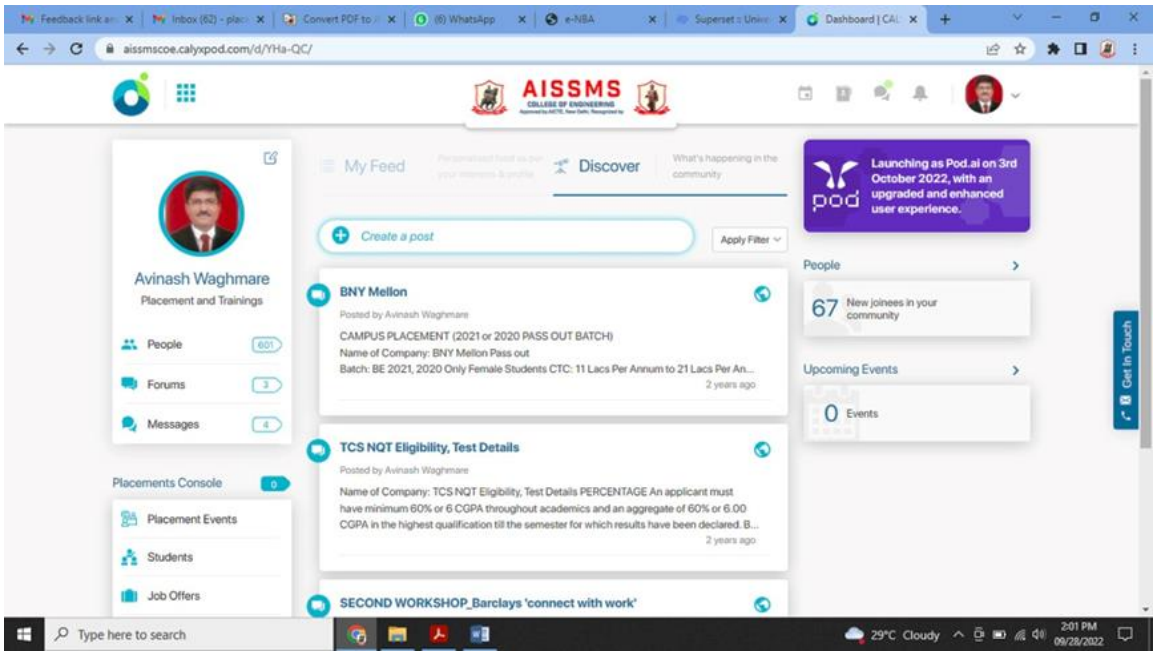


Fig 9.5.8 CALYXPOD, Placement Platform


NASSCOM®

CERTIFICATE

OF MEMBERSHIP

All India Shri Shivaji Memorial Society's College Of Engineering

is a member of NASSCOM

Membership ID : NSCM/2019/36/5500

Valid Till : 31-March-2023

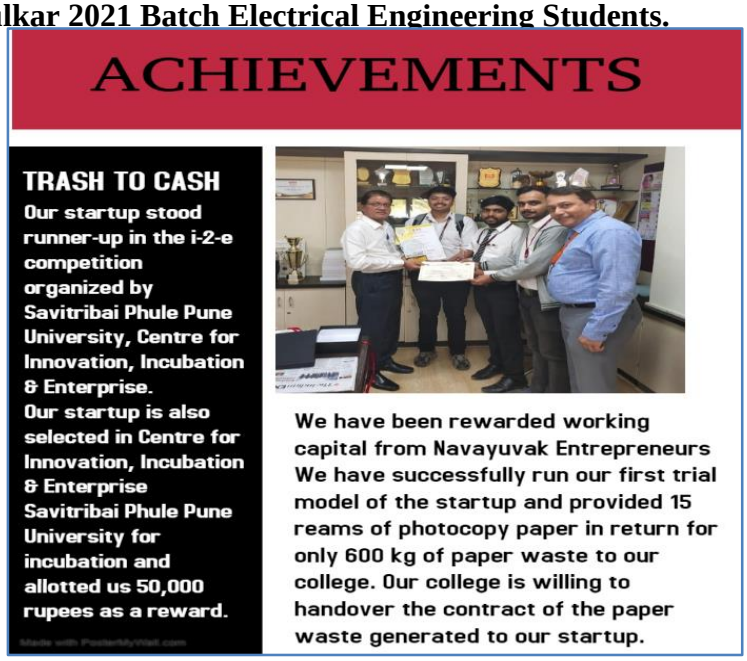
Debjani Ghosh
President, NASSCOM

9.5.9 NASSCOM Certificate of membership for AISSMS COE

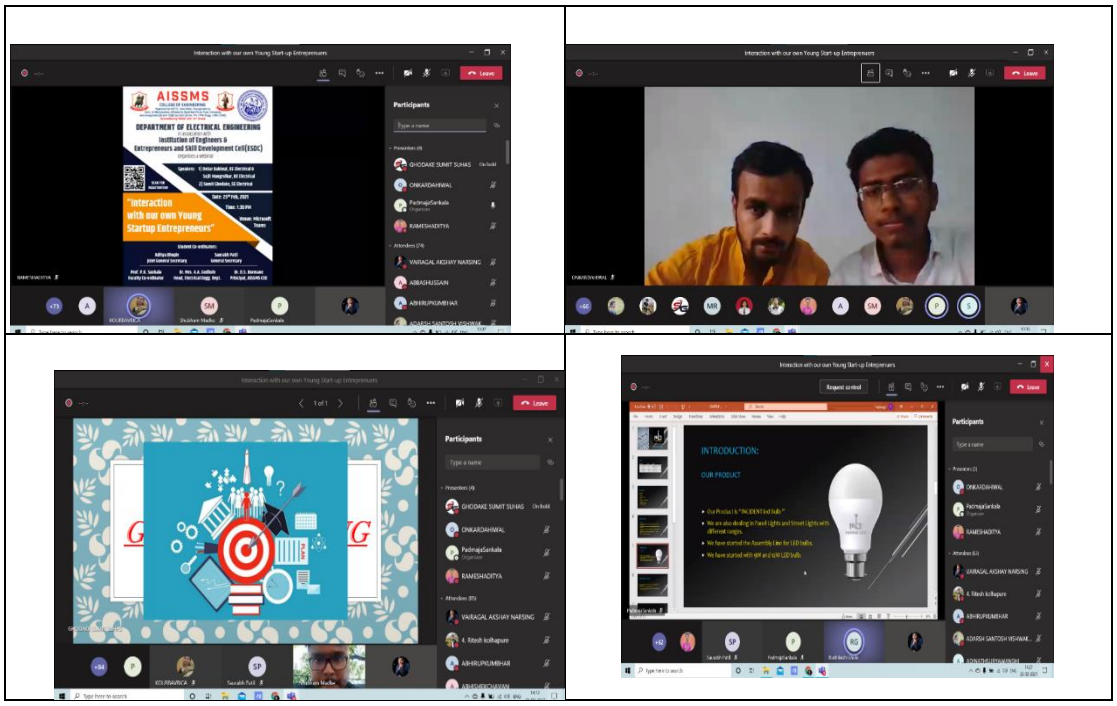
9.6. Entrepreneurship Cell (5)

The Entrepreneurship & Skill Development Cell at AISSMS College of Engineering has been formed to focus on preparing successful entrepreneurs especially techno-preneurs for the society. The objective is to inculcate Indian cultural values amongst prospective entrepreneurs. The activities are carried out to enhance the eternal spirit of entrepreneurship amongst the students in addition to the basic necessity of academics. The entrepreneurial activities aren't new for the Institute. Many Alumni have established their enterprises and have shown sustainability in business and entrepreneurship. The academic departments have carried out entrepreneurial activities for educating and motivating students in respective areas in techno-entrepreneurship. A dedicated cell was formed as a requirement to inculcate current trends in Entrepreneurship Development in the prospective techno-preneurs. The E&SD Cell has been continually taking efforts to motivate the students to start with entrepreneurial thinking.

1.Start – Up venture by Mr.Omkar Dahiwal, Anurag Lambhor and Sujit Mangrulkar 2021 Batch Electrical Engineering Students.



2. An interactive session was organized on 'Startup with our own entrepreneurs' on 25th Feb 2021 with Mr Onkar Dahiwal & Mr S Mangulurkar for all Electrical Engineering students



3. An Entrepreneurship Awareness Camp sponsored by DST.

AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Entrepreneurship and Skill Development Cell
Organises

Entrepreneurship Awareness Camp

Sponsored by

सत्यमेव जयते
Department of Science and Technology
Ministry of Science and Technology
Government of India

Department of Science and Technology, New Delhi
&
Entrepreneurship Development Institute of India, Ahmedabad

4.MoU with Bharatiya Yuva Shakti Trust

Letter of Co-operation (LoC)

Bharatiya Yuva Shakthi Trust (BYST), Pune, and All India Shri Shivaji Memorial Society's (AISSMS) College of Engineering, Pune

Date: 4th December 2020

This Letter of Co-operation is signed among the parties between

All India Shri Shivaji Memorial Society's (AISSMS) College of Engineering, Pune

AND

Bharatiya Yuva Shakti Trust (BYST), C/o Confederation of Indian Industries (CII), 10th Floor, B-Wing, Godrej Eternia –C, 3, off Mumbai – Pune Road, Wakadewadi, Shivajinagar Pune.

At present, **BYST** is on an expansion path to foster a nation-wide mentoring movement through business volunteering, specifically to "turning job seekers into job creators" and to become a role model for "Youth Entrepreneurship Development through Mentoring" both in India and developing countries.

As **All India Shri Shivaji Memorial Society's (AISSMS) College Of Engineering** is institute to cater the needs of the industrial growth and prosperity, emphasized on a qualitative approach in blending a potent mixture of creativity and technology to empower students and training to existing & new entrepreneurs.
We request your co-operation to work together with you as per the following objectives

- To coordinate and cooperate in entrepreneurial development and business guidance.
- Nominate trainer, professor and executive officer for Mentor Development Program of BYST.
- Some of the management people can volunteers to become mentor counselor for doing the counselling of the potential entrepreneur.
- To jointly organize awareness generation events on "Entrepreneurship Development".
- Hosting select Mentors chapter meetings, training program for entrepreneurs and online sessions for Mentors in **AISSMS's College Of Engineering**.
- Recognising **AISSMS's College Of Engineering** as carrier organization in our write ups and as LOC partners.
- Inviting **AISSMS's College Of Engineering** for major and relevant programs organized by BYST and CII (Confederation of Indian industry)
- Exposure to students in various exhibitions, conferences, meetings.
- Networking with BYST mentors.
- Interaction with Alumni – **AISSMS's College Of Engineering**; Motivating the current Students to take up entrepreneurship as carrier option.
- To regularly source mentors and entrepreneurs for BYST.
- To display BYST promotional material.

We can sign a Letter of Cooperation (LoC) mentioning all the points.

In this regard we are pleased to sign the Letter of Co-operation (LoC) between **All India Shri Shivaji Memorial Society's (AISSMS) College Of Engineering, Pune** and **BYST** Pune. For the period of Dec 2020 – Nov 2021 (1 year). The outcome of this cooperation will promote the Entrepreneurship Development within the locality. The outcome of this cooperation will promote the Entrepreneurship Development within the locality.

For AISSMS's College Of Engineering

Principal

Date: 4th December 2020

For Bharatiya Yuva Shakti Trust

Chairman EIG Committee

Date: 4th December 2020

5.MoU with Pune Management Association

MEMORANDUM OF UNDERSTANDING
(MoU)

BETWEEN

PUNE MANAGEMENT ASSOCIATION
(PMA)

&

AISSMS College of Engineering, Pune

This Memorandum of Understanding (MoU) is drawn on the 20th day of September2021, between

Pune Management Association , 1332 Shivajinagar, 1st Floor, JM Road, Institution of Engineers Building, Adjacent to COEP Ground, PUNE – 411005

And

1 | 7

IN WITNESS OF the parties intending this MoU to be executed by their duly authorized representatives as on the date first hereinabove mentioned.

Pune Management Association (PMA) AISSMSCOE, Pune-01

Sign:
Name: R Biman Gandhi
Designation: COE-ED Director, PMA
Date: 20/09/2021

Sign:
Name: SN Chhawande
Designation: Asst Prof
Date: 20/09/2021

SN Chhawande
Asst Prof.
AISSMS. COE

7 | 7

6.Electrical Engineering Department has arranged an interactive session for students with two young entrepreneurs on **"Unfolding the journey of a successful start-up"**

Day: Thursday **Date:** 24th June 2021

Platform: Microsoft Teams **Time:** 3.30 PM

Mr Kartik Wahi and Mr Gaurav Kumar have explained the students about the challenges on their start up mission for "Claro Agro Solutions Pvt Ltd". How an idea can be converted to a business set up and how to overcome the struggles with various factors, has been very well explained by both of them. Students were excited to hear from them and the questions from students have proved that they have also started to think about a start up once they complete their 4 years of Engineering.

Gaurav has explained the students that what should be the prime objective at the initial stage of a start up, how to scale your ideas for a start up, how to take advantage of the experience from your former corporate job and what is the correct time to think about a start up.Mr. Kartik explained the difference between the education from abroad and the education from India, and also at what extent this education helped him to develop his idea. Both of them clearly told the students that to begin and sustain a start-up, one needs to have the right temperament, right people and sufficient capital to run it.

Overall, they have made the students to believe in themselves to become an entrepreneur and also promised to help the students with their start up ideas. The talk ended with a promise from the speakers to interact with a more focussed group who intend to start their own venture.

7. Electrical Engineering Department has arranged an expert talk on "Unraveling the tips for a successful start up" by Dr. Ahsan Rizvi and Dr Kiran Zaidi,on 11th October 2021 in the online platform for our Electrical Engineering and Civil Engineering students. Dr Ahsan Rizvi and Dr Kiran Zaidi are the Directors of the start-up venture Douze Agricultural Research Pvt Ltd. They have explained how to develop the idea, how the challenges faced were converted to new opportunities, how important is to know the Government rules and regulations for any start up and so many other points which has to be taken care of while going for any new venture. Students have actively participated and the speakers answered all their questions related to start up.


AISSMS
COLLEGE OF ENGINEERING
INSTITUTION'S INNOVATION COUNCIL
Department of Electrical Engineering
in association with
Institution of Engineers (India)
Organises an Expert Talk on
'UNRAVELING THE TIPS FOR A SUCCESSFUL START UP'
Dr. Ahsan Rizvi
Director
Douze Agri. Research Pvt. Ltd
Dr. Kiran Zaidi
Director
Douze Agri. Research Pvt. Ltd
Registration QR
Meeting QR
Platform
Microsoft Teams
11 October 2021
11:30 AM
Faculty Coordinators
Dr. Mrs. A. A. Godbole
Mrs. V. N. Tarange
Dr. V. N. Patil
Regards
Dr. D. S. Bormane
Principal
Student Coordinators
Carolyne Varghese
Videh Warade

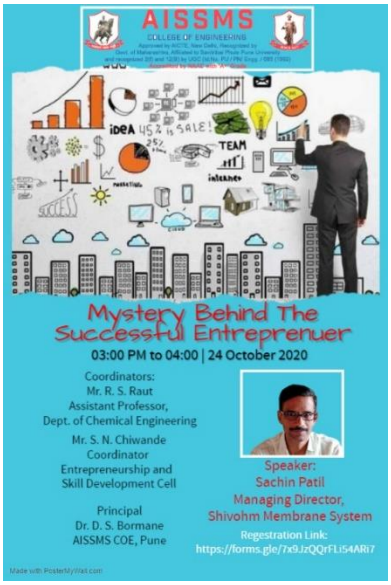
- **Activities organized by Cell**

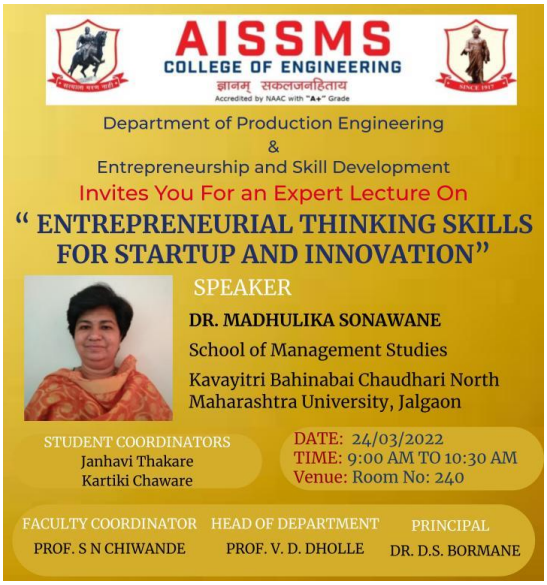
AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
Accredited by NAAC with "A+" Grade

Entrepreneurship and Skill Development Cell

Activities Carried Out With The Cell				
First Half (01 July 2020 to 31 December 2020)				
S N	**Details of Activity conducted**	**Name of Chief guest/ Coordinator**	**Date and duration**	**Total Number of Students and faculty involved**
1	Mystery behind successful entrepreneur	Mr Sachin Patil	24/10/2020	Students involved 65
2	Webinar on Design Thinking for Entrepreneurs	Ms Garima Gurjar	26/10/2020	Students involved 90
3	Webinar on "Presentation Skills"	Dr. Pragya Bajpai	03/11/2020	Students involved 100
4	Interaction with Entrepreneur	Mr. Sharad Tandle	4/11/2020	Faculties involved 20
5	MoU with BYST	Mr Biman Gandhi	5/12/2020	Faculties involved 08
6	Webinar on "Communication Skills	Dr. Pragya Bajpai	05/11/2020	Students involved 100
7	Webinar on "E-tendering"	Mr. Kiran Ghorpade	06/11/2020	Students involved 150
8	Idea Generation and Evaluation	Mr. Biman Gandhi	31/12/2021	Students involved 56

Second Half (01 January 2021 to 30 June 2021)				
Activities Carried Out With The Cell				
S N	Details of Activity conducted	Name of Chief guest/ Coordinator	Date and duration	Total Number of Students and faculty involved
1	Entrepreneur Online Learning (EOL) Program - BYST	BYST Mentors	27/01/2021 to 28/01/2021 Two Days	Students involved 14
2	FE Induction - Introduction to Entrepreneur	Mr S N Chiwande & Mr M S Swami	04/02/2021 to 05/02/2021 Two Hours each	Students involved 556
3	Awareness Generation Program BYST	Mrs Ujwala Gosavi	24/2/2021 2 Hour	Students involved 50
4	Interaction with our own young startup Entrepreneurs	Mr. O Dahiwal Mr S Mangrulkar , Mr. Sumit Ghodke	25/02/2021 Half Day	Students involved 83 Faculties involved 07
5	Expert Talk	Mrs. Sujata Chandra	04/03/2021 Half Day	Students involved 70 Faculties involved 10
6	Webinar on "Preparation for being industry ready"	Mr G Zadge & Mr C Bhutada	20/03/2021	Students involved 80
7	Webinar on "Soft Skill: A must have asset for Engineers"	Dr. Utpal Ganatra	20/03/2021	Students involved 120
8	Awareness Generation Programmes (AGP) and Counselling Session	BYST, Pune Mentors	26/03/2021& 27/03/2021 Two days	Students involved 05
9	Webinar on Career Success Mantra	Mr Rajesh D Kamath	01/05/2021	Students involved 100
10	One week STTP on "2D & 3D Modelling in STAAD Pro"	Mr R. Udhyasankar	10/05/2021 to 14/05/2021 05 days	Students involved 300





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

Institute supports students in co-curricular and extra-curricular activities. Institute runs various clubs such as drone club, robotics club, motorsports club, coding club, aero design club and so on. These students are supported financially and non-financially by the institute. Peer to peer learning, learning from alumni, result oriented activities, modern tool and software usages are the outcomes of these activities.

Students Symposium 'AISSMS Engineering Today': Every Year, the institute organizes technical competitions and symposia. These events provide students an opportunity to prepare technical papers, Quiz, Model Making, Robo-race, Science exhibition. Students also participate as volunteers in the organization of such events.

Cultural Activities: AISSMS COE Conducts a state-level cultural and sports event "Ashwamedh", "Shahu Trophy" every year. The Students of various colleges throughout the state participate in the event. Annual social gathering "Shivanjali" is the most awaited event for students.

AISSMS COE students actively participate at various levels and win prizes continuously in cultural and literary events organized by other organisations. Events are Firodiya Karandak, Purushottam Karandak, Dnyanottam Karandak, Kaware Trophy etc.

A strong unit of **NSS (National Service Scheme)** organises various activities leading toward energy saving, environmental protection, rural development, sanitation, flood relief, conservation of natural resources, womens' health, rural irrigation, youth development etc. The NSS team also works on state/central government schemes. Institution has also adopted a few villages where the NSS team is instrumental.

Electrical Engineering 2020-21 Term I :
Some co-curricular achievements

1. Anurag Lambhor (student of T.E Electrical Engineering):

- Won 2nd prize SPPU I-2-E, organized by SPPU Incubation centre, Pune.
- Won 1st prize at startup-Anveshan organized by GOI.
- Won 1st prize at competition for young aspiring Entrepreneurs, Bizz hour organized by VIIT Pune.

2. Onkar Dahiwal (Student of T.E Electrical Engineering):

- Was declared as runner up at competition SPPU I2 E startup-Team: Trash to Cash.

3. Arya Polas (Student of S.E Electrical Engineering):

- Won 1st prize at Vinodattam Karandak, state-level theatre play competition.
- Was declared 1st (from Pune), at IIT Kharagpur Solo dance competition.

- Won 2nd prize at Inter-department dance competition at AISSMS College of Engineering.

4. Mandar Kulkarni, Tejasvini Gawali, Umail Mulla and **Tamanna Attar** under the guidance of Prof. A. A Apte received the 1st prize in Paper presentation at 2nd IEEE international conference on emerging smart computing and informatics (IEEE-ESCI).

5. Gaurav Bhirud, Pranay Patil, Vaibhav G, Koli Sayali students of B.E Electrical bagged the Second prize at State level Project poster competition in Electrical power systems and machine domain organized by PES's Modern COE, Pune.

6. Students of S.E Electrical **Aditya Bhople, Aniket Aitawade** were declared as Runner Up at Game of Circuits (National Level Event) organized by AISSMS IOIT, Pune.

7. More than **20** students have successfully completed **NPTEL** Courses on Power systems and Control Systems sponsored by **MHRD**.

8. Maithili Balkawade, Adarsh Vishwakarma, RushikeshKajale, Viraj Patil and **Yash Patil** from SE Electrical were a part of SAE INDIA NIS EFFICYCLE and bagged AIR 2 for the Advanced Electric Trike. They also received "Best Project Plan Award".

9.**Sumit Ghodke** from SE Electrical started his own business of handmade LED bulbs.

10.Aniket Aitawade a student of TE Electrical has successfully completed MHRD sponsored NPTEL course on Electrical Machines-1, Power Electronics and Network Analysis in Elite category with 94%, 77% and 75% respectively.

11.**Hussain Bharmal** completed online work from home internship as a 3D Game artist at CBS Games for a period of nine months from 20 Feb to 20 Nov 2020.

12. **Shreyas Patil, Aditya Bhise, YadnyeshBorse**and **Satyam Mundhe** from TE Electrical completed one-month online Internship at RCSS ENERZIES, RCSS GROUP from 24 August to 23 September 2020.

13. **Ninad Gawande, Komal Patil, Ankita Wakchaure** and **SanketDarekar** from BE Electrical completed one-month online Internship at RCSS ENERZIES, RCSS GROUP from 29 June to 28 July 2020.

Cultural Activities

Traditional day celebrations(Online)

Tree Plantation Drive (26th February 2021 to 4th March2021)

Department of Electrical Engineering
2019-20

Sr.No.	Name of Activity	Number of students participated
1	NSS-National Service Scheme	11
2	Engineering Today (Annual Technical Symposium)	67
3	Shivanjali (Annual Cultural Event)	35

NSS Activities

Activities conducted under NSS AY 2019-20

Sr. No.	Activity	Chief Guest
1	Yoga Day	Smt. Kailash Patel
2	Chh. Shahu Maharaj Jayanti	Chh. Malojiraje
3	Tobacco Free Campaign	Dr. D. S. Bormane

4	Tree Plantation (Campus)	Dr. D. S. Bormane
5	Kargil Vijay Divas	Shri. Nandkumar Choure
6	Yuva Mhiti Dut	Dr. D. S. Bormane
7	Energy Saving prog	Madhu Babu
8	Kolhapur Flood (Collection Drive)	Dr. D. S. Bormane
9	Fit India	Dr. D. S. Bormane
10	Disaster Management	Shri V R Patil
11	Blood Donation Camp	Chh. Malojiraje
12	Science Exhibition Program	Dr.Wagmare GMRT
13	NSS Day Celebration	Dr. Shivaji Pacharne
14	Tobacco rally ,Shanivarwada	Dr N Shejwal
15	Tobacco Rally(Kondhanpur)	Shri. P.B. Nangare sir
16	Kondhanpur Oxygen Park	Shri H L Kamble
17	Kalyan Plastic Free Village	Dr N Shejwal
18	Tobacco free Pledge(Kondhanpur)	Dr N Shejwal
19	Kalyan Water Reservoir Survey	Shri. P. B. Nangre
20	Tree Plantation (Kalyan)	Shri Mandhare
21	Women Hygiene (Kondhanpur)	Mrs. H. L. Kamble
22	Energy Saver Award Program (Kondhanpur)	Shri. Mahesh Pawar
23	Energy Saver Award Program (SSPMS)	Sangeeta Jagtap
24	Energy Saver Award Program (R.M.School)	Dr. N. N. Shejwal
25	Energy Saver Award Program (Sangavi, Hujurpaga)	Dr. N. N. Shejwal
27	Dustbin Distribution Prog (Malvandi Dhore)	Mrs. Ranjana Dhore
28	GramsabhaMalvandi Dhore	Mrs. Ranjana Dhore
29	Best College Award (SPPU)	Dr. Nitin Karmalkar
30	Uttkal University (Orissa) Visit At Kasar Sai	Dr.Pareda
31	Maharashtra- Orissa Cultural Program	Chh. Malojiraje
32	Road Safety Program	PSI Deccan
33	Tobacco free India	PSI Deccan
34	Marathi Bhasa Din	Mrs. Rucha Thhate
35	R.O Installation Survey	Mrs. Ranjana Dhore
36	Survey of Soak Pits	Mrs. Jalkute, Gramsevak
37	School Program	Mrs. Ranjana Dhore
38	Installation Of R.O. Plant	Mr. Balu Dhore
39	Poshan Pandharwada	Dr. N. N. Shejwal

Photographs:

International Yoga Day

Blood Donation Camp

Cleaning Drive At Dindi

Kargil Vijay Diwas

Soak Pit at Tulapur

Rakshabandhan

Water conservation and Biodiversity

Abhivyakti Programme

Voter Awareness Drive

Swaccha Bharat Abhiyan At Kalyan

Kerala Flood Donation

Job Fair

Diwali Fara Distribution

Mobile Awareness at Malvandi

Water Testing

Mobile Awareness at Kondhanpur

Swaccha Bharat Abhiyan in Campus

Pune Metro Sanvad

Naturopathy Programme

Self Defense Programme

Pulwama Fund Collection

International Women's Day

CRITERION 10	Organization, Governance and Transparency	40

10. GOVERANCE, INSTITITIONAL SUPPORT & FINANCIAL RESOURCES

10.1.1 State the Vision and Mission of the Institute

AISSMS College of Engineering has vision and mission which are futuristic in nature. They satisfy the needs of society by providing quality education through leading-edge technology.

Vision :

Service to Society through quality education

Mission :

1) Generation of national wealth through education and research.

2) Imparting quality technical education at the cost affordable to all strata of the Society.

3) Enhancing the quality of life through sustainable development.

4) Carrying out high quality intellectual work.

5) Achieving the distinction of highest preferred Engineering College in the eyes of the stake holders.

10.1.2 Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Procedures, Recruitment and Promotional Policies (10)

AISSMS College of Engineering has well established organizational structure to execute out smooth functioning of administrative and academic processes. Various bodies are formulated which constitutes the organization chart. The governing body is the highest decision making body constituting members of the management, Principal and nominated faculty members. College Development Committee (formerly Local Management committee) includes representatives of members of society, Principal, three members elected from teaching faculty and one member of non-teaching staff. The constituents of the organization structure are as

follows: Every department has Department Advisory Board (formerly Department Advisory Committee) to direct policies to excel students in academics and in work environments. It comprises one member each from industry, research establishment, and academic institute of repute, alumni, student, and parents and from management. Principal, Heads of the Departments, sectional heads and co-coordinators of various committees have adequate participation in making decisions in academic and administrative processes under their preview.

Members of Governing body, College development committee, Internal quality assurance cell and institute level committees are shown in the tables below:

Governing Body

Table No. 10.1.1 Constitution of Governing Body

Governing Body of Institute	
Chairman	To be nominated by the society
Member	Two to five members (Industrialist / Technologist / Educationalist) to be nominated by the society
Member	Nominee of the affiliating university
Member	Nominee of AICTE (Ex – Officio)
Member	Nominee of State Government
Member	Industrialist / Technologist / Educationalist from the region to be nominated by State Government.
Member Secretary	Principal of the college.
Member	Two faculty members to be nominated from the regular staff, one at the level of professor and one at the level of Assistant Professor.

Table No. 10.1.2 List of Governing Body Members for the year 2020-21

Sl. No.	Name	Designation
1	Shri Suresh Pratap Shinde	Chairman (Society)
2	Shri Malojiraje Chhatrapati	Honorary Secretary (Society)
3	Shri Sunil Hambirrao Mohite	Member (Society)
4	Shri Rushiraj Balasaheb Tekawade	Member (Society)
5	Shri Rahul Nanasaheb Yadav	Member (Society)

6	Dr AmitDutta	Member (AICTE, Regional Officer) Ex-Officio
7	Dr (Smt) Sharmila Chaudhari	Member (Savitribai Phule Pune University Nominee)
8	Dr D R Nandanwar	Member (Govt. of Maharashtra) Industrialist/Technologist/ Educationalist
9	Shri P N Jumle	Member (Ex-Officio)
10	Dr (Mrs) Ashwini Avinash Godbole	Member (Teaching)
11	Shri Ganesh Chandrakant Chikute	Member (Teaching)
12	Dr Dattatraya Shankar Bormane	Member Secretary (Principal)

Table No. 10.1.3 Number of meetings of Governing Body

S.N.	Academic Year	Number of Meetings
01	2021-22	01
02	2020-21	01
03	2019-20	02

COLLEGE DEVELOPMENT COMMITTEE

Table No. 10.1.4 Constitution of College Development Committee

College Development Committee of Institute	
Chairmen	Chairperson of the management or his nominee ex-officio chairperson
Member	Secretary of the management or his nominee
Member	One head of department to be nominated by theprincipal
Member	Three teachers in the college elected by full time amongst themselves out of whom one shall bewomen
Member	One nonteaching employee, elected by regular nonteaching staff
Member	Four local members nominated by management in consultation with principal from the field of education industry, research and social service ofwhom at least one shall be alumnus
Member	Coordinator, IQAC of the college
Member	President and secretary of college student council
Member Secretary	Principal of the college

Table No. 10.1.5 List of College Development Committee members (2020-21)

Sr No.	Name	Designation
1	Shri Suresh Pratap Shinde	Chairman (Society)
2	Shri Malojiraje Chhatrapati	Honorary Secretary (Society)
3	Dr (Mrs) Ashwini Avinash Godbole	Member (Head of Department-Teaching)
4	Shri Diwakar Haribhau Joshi	Member (Teaching)
5	Shri Laxman Shivaji Godse	Member (Teaching)
6	Ms Vismita Devidas Nagrale	Member (Woman - Teaching)
7	Shri Santosh Prabhakar Pimpale	Member (Non Teaching)
8	Shri Rahul Nanasaheb Yadav	Member (Society)
9	Shri Nikhil Ashok Khanse	Member (Society)
10	Shri Rishiraj Balasaheb Tekawade	Member (Society)
11	Shri Sunil Hambirrao Mohite	Member (Society)
12	Dr Chandrakishor Shrirang Choudhari	Member (Co-ordinator IQAC : Teaching)
13	Ms Anjali Chaudhari	Member (General Secretary of the College Students Council)
14	Dr Dattatraya Shankar Bormane	Member Secretary (Principal)

Table No. 10.1.6 Number of meetings of Governing Body

S.N.	Academic Year	Number of Meetings
01	2019-20	02
02	2020-21	01
03	2021-22	01

Table No. 10.1.7 Members of Internal Quality Assurance Cell (2020-21)

Sr No	Category	Post	Name & Designation of Committee members
1	Chairperson	Head of the Institution	Dr Dattatraya Shankar Bormane, Principal
2	Coordinator	Assistant Professor in Mechanical Engineering	Dr Chandrakishor Shrirang Choudhari, Associate Professor in Mechanical Engineering
3	Administrative officers	Head of Department	Dr Sandeep Haribhau Wankhade, Associate Professor in Production Engineering
		Head of Department	Dr (Mrs) Ashwini Avinash Godbole, Professor in Electrical Engineering
		Co ordinator, NAAC Steering Committee	Dr Daulappa Guranna Bhalke, Professor in E&TC Engineering
		Administrative Officer	Mr Abhijit Bhawanrao Bhonsle, Administrative Officer
		Registrar	Mr Santosh Prabhakar Pimpale Registrar
4	Faculty	Civil Engineering	Dr (Mrs) Vidya Nitin Patil, Associate Professor in Civil Engineering
		Computer Engineering	Dr (Mrs) Shabnam Farook Sayyad, Assistant Professor in Computer Engineering
		Mechanical Engineering	Dr Avinash Vishvanath Waghmare, Associate Professor in Mechanical Engineering
		Chemistry	Dr Deepak Vitthal Nighot, Associate Professor in Chemistry
5	Management member	Joint Secretary, AISSMS	Mr Suresh Pratap Shinde Honorary Joint Secretary, AISSM Society, Pune - 5
6	Industry	Ex. MD, Kirloskar Oil Engines Limited, Pune	Mr R R Deshpande
7	Employer	HR Regional Head, TCS, Pune	Mr Shekhar Kamble
8	Parent	Manager, Quality Assurance, ITW (I), Pvt, Ltd, Pune	Mr Hemant Jadhav
9	Student	General Secretary, General Students Association	

Table No. 10.1.8 Number of meetings of IQAC

S.N.	Academic Year	Number of Meetings
01	2021-22	02
02	2020-21	02
03	2019-20	02

Service rules, Policies and procedures

Institute follows all the defined service rules and policies and code of conduct laid down by AICTE, UGC, Government of Maharashtra and SPPU, for recruitment and promotion of staff. Pay scale, annual increments and other benefits to staff are being given as per the AICTE and Government of Maharashtra norms.

A) For recruitment of faculty, Institute seeks permission from Savitribai Phule Pune University, Pune and reservation cell of Maharashtra State for the advertisement for recruitment of faculty. Interviews are conducted through staff selection committee appointed by University.
B) For the ad-hoc recruitment, Institute advertises the posts through newspapers and website. Local staff selection committee as per SPPU norms is appointed for selection of faculty through interview procedure.
C) Every employee of the institute is aware of the service, recruitment and promotion rules and code of conduct. These rules are available with registrar of the institute and also communicated to staff through HODs and published on staff notice boards.

Recruitment norms link: https://aissmscoe.com/wpcontent/uploads/2022/05/Faculty-Recruitment-Norms-2022-23.pdf

10.1.2 Decentralisation in Working And Grievance Redressal Mechanism (10)

We at AISSMS COE believe in decentralization of activities and delegation of authorities is the key concept in the success achieved by the institute on different platforms. Basically, overall working methodology at institute level is student centric and involvement of each and everyone in the decision-making at their respective levels is ensured through decentralization and delegation of powers. There are various bodies, committees and key administrative positions at institute and department level. In order to ensure transparency in the working of all these committees, code of conduct and process manual is available with all key administrative officers and central library of the institute.

Various portfolio in charges have been delegated powers for taking administrative decisions.

Table No. 10.1.9 Faculties delegated with administrative powers

S.N.	Name of Faculty member	Decision Authority
01	Dr D S Bormane	Principal
02	Dr C S Choudhari	Coordinator, IQAC
03	Dr Naniwadekar M Y	H.O.D. (Chemical Engineering)
04	Dr P B Nangare	H.O.D. (Civil Engineering)
05	Dr Athawale S V	H.O.D. (Computer Engineering)
06	Dr (Mrs) A A Godbole	H.O.D. (Electrical Engineering)
07	Dr S B Dhonde	H.O.D. (Electronics and Telecommunications)
08	Dr S V Chaitanya	H.O.D. (Mechanical Engineering)
09	Dr D V Nighot	H.O.D. (First year Engineering)
10	Dr Shekhapure N G	H.O.D. (Production Engineering)
11	Mr A B Bhonsale	Administrative officer

In addition to this, various Institute Level administrative committees have been formed for effective administration.

Details of coordinator and committee members are published on institute website. (https://aissmscoe.com/wp-content/uploads/2021/01/ILC-for-website-update.pdflink). Also, functions and responsibilities of the committees are also available on the institute website. (https://aissmscoe.com/wp-content/uploads/2022/09/Objectives-and-functions-of-ILCs.pdf) Coordinators of all the institute level committees are delegated with administrative powers for effective functioning of respective committee.

Table No. 10.1.10 Various Institute level administrative committees and coordinators

Academic Development Cell			
1	Academic Monitoring	Coordinator	Dr. S. R. Parekar
2	Faculty Development and Academic Collaborations	Coordinator	Dr. S. V. Chaitanya
3	Management Information System	Coordinator	Mr. V. B. Gawai
4	Library Development	Coordinator	Dr Mrs. V. B Dandawate
5	NBA/NAAC Preparations	Coordinator	Dr. M. R. Phate
6	Students Association	Coordinator	Dr S. J .Navale
7	Students Chapters(Professional Bodies)	Coordinator	Mr. N. P Mawale

Centre for Information, Training and Placements Head: Dr A V Waghmare			
8	Placements	Coordinator	Placement Officer
9	Training	Coordinator	Mr. V. S. Phonkshe
10	Counselling and mentoring	Coordinator	Mrs. S. R. Lengade
11	Industry Institute Interaction (III)	Coordinator	Dr. P. B. Nangare
12	Entrepreneurship and Skill Development	Coordinator	Mr. S. N. Chiwande
13	Alumni Engagement	Coordinator	Dr. D. V. Wadkar
14	Competitive Examinations	Coordinator	Mr. A. Y. Kazi
Infrastructure and Facility			
15	Infrastructure and Facility	Coordinator	Dr. S. R. Patil
Gymkhana			
16	Cultural In charge	Coordinator	Mrs. K. N. Kulkarni
17	Magazine In charge, Media	Coordinator	Mrs. S. J. Pachouly
18	Physical Director, Sports In charge, Media	Coordinator	Dr. M. M. Kondhare
19	National Service Scheme	Coordinator	Dr. N. N. Shejwal
20	Students Welfare and Development	Coordinator	Dr. A. B. Patil
Administration Cell			
21	Budget Preparations (Purchase and maintenance)	Coordinator	Dr D S Bormane Principal
22	Admissions	Coordinator	Mr V R Patil
23	Examinations	Coordinator	Dr. D. V. Nighot
Media Interface and Outreach Cell			
24	Website	Coordinator	Mr. N. R. Talhar
Research, Innovation and Development Cell			
25	Research, Innovation and Development Cell	Coordinator	Dr D G Bhalke

Grievance and Redressal Cell			
26	Internal Grievance Redressal	Coordinator	Dr. M. S. Deshpande
27	Women Grievance, Vishakha (Internal Complaint Committee)	Coordinator	Dr. P. S. Gajjal
28	Anti-Ragging	Coordinator	Mr V R Patil

Other than the above mentioned committees, at department level, committees are formed for the smooth and efficient management of activities at department level. The committees are constituted by the HOD in consultation with faculty.

For effective implementation of various initiatives and for effective decentralisation, committees such as department advisory board and program assessment and quality improvement committees are formed at department level.

Table No. 10.1.11 Department advisory board members

S.N.	Name of member	Representation	Designation and organisation
1	Dr. D S Bormane	Management Reperesentative	Principal
2	Dr A A Godbole	Chairman	Head of the Department
3	Dr M H Dhend	Module coordinators	Senior faculty member in the Department
4	Mr S K Biradar	Module coordinators	Senior faculty member in the Department
5	Dr A A Apte	Module coordinators	Senior faculty member in the Department
6	Mrs S R Lengade	Module coordinators	Senior faculty member in the Department
7	Mr V S Ponkshe	Module coordinators	Senior faculty member in the Department
8	Mrs P Sankala	Module coordinators	Senior faculty member in the Department
9	Mrs Charuta Muley	Experts from Industry	General Manager,ThyssenKrupp
10	Mrs Swati Mehendale	Experts from Industry	Head Regulatory Tata Power
11	Anurag Keskar	Experts from Alumni	MD, Star transformers
12	Mr Mhaske	Parent representative	Chief Engineer, MSETCL
13	Dr P B Karandikar	Experts from Faculty	Professor, Army Institute of Technology
14	Student Representative	General Secretary	GS, AISSMC COE

Table No. 10.1.12 PAQIC members

S.N.	Name of member	Designation
1	Dr A A Godbole	Chairman
2	Mr S K Biradar	Coordinator
3	Dr M H Dhend	Member
4	Dr A A Apte	Member
5	Mrs S R Lengade	Member
6	Mrs V N Tarange	Member
7	Mr V S Ponkshe	Member
8	Mrs P Sankala	Member
9	Mrs S Vadi	Member

Grievance redressal is systematically carried out by various team of faculty members acting as committees under the guidance of Principal of the institution. List of faculty members who are administrators'/ decision makers/committee members for various responsibilities are shown in the tables given below.

A Grievance Redressal Committee (GRC) at the College level is constituted for providing guidance and counselling on the problems related to faculty, staff and students.
The Committee redresses all kinds of grievances, academic or non - academic.

Table No. 10.1.13 Members of Grievance Redressal Committee (GRC)

S. N.	**Faculty Name and Designation**	**Post**
01	**Dr (Mrs) M S Deshpande, Professor in Chemistry**	**Coordinator**
02	Mr P B Nangare, Assistant Professor in Civil Engineering	Member
03	Ms M V Waghmare, Assistant Professor in Civil Engineering	Member
04	Mr S V Chaitanya, Assistant Professor in Mechanical Engineering	Member
05	Ms S S Chauhan, Finance Officer	Member
06	General Secretary (Student Member)	Member

Grievance Redressal committee shall meet within a week from the date of receipt of any petition/complaint from anybody and take necessary action as deem fit and initiate necessary action for solving problem.

Mechanism of Grievance Redressal committee

(a) An aggrieved stakeholder who has the grievance or grievances shall make a written complaint first to the Head of the Department (HOD). The HOD after verifying the facts, will try to redress the grievance within a reasonable time. If the stakeholder is not satisfied with the solution of the HOD, then the written complaint should be forwarded to the Principal through HOD. The Principal then refers the complaint to the Internal Grievance Redressal Committee.

(b) On receiving the complaint from the Principal, Internal Grievance Committee meeting is called by the Chairman. The complaint is studied by the Committee. The Committee at all levels observes the law of natural justice.

(c) The Committee arranges meeting with the aggrieved party first, he/she expresses their views. Similarly meeting with all aggrieved members is scheduled. Thus all the concerned, are given opportunity, one by one to express their viewpoint. Each one is requested to give their say in writing. The committee gives a patient hearing to both sides and counselsthem. The committee also enlightens them based on their SWOC.

(d) After verifying the facts based on factual data and after deliberations, the report of the committee's findings and remedial measures is prepared and submitted to Principal Sir.

(e) Final decision is communicated to the both parties through the Principal.

(f) The Committee, if needed, may recommend to the Principal, necessary corrective action as it may deem fit, to ensure avoidance of recurrence of similar grievance.

Note: The staff / student can lodge their grievance through online link available on Institute's website too (http://aissmscoe.com/academics/online-grievance-redressal/)

Anti-Ragging Committees:

With reference to AICTE (Prevention and Prohibition of ragging in Technical Education, Universities including Deemed to be Universities imparting technical education) Regulations 2009 and as per as per the clause No.6(a) of this AICTE Regulations - 2009, Anti-Ragging Committee is formed comprising of experts, faculty members, parents, students, etc to look into any kind of ragging matter reported to them from time to time. The Committee takes immediate action in the matter reported to them, following all the guidelines given in the referred AICTE Regulation - 2009. The Committee also take review of the activities of Anti-Ragging Squad and suggest measures to effectively monitor the anti-ragging activities.

Anti Ragging Committee for The academic year 2019-20

Table No. 10.1.12 Members of anti ragging committee

Sr No	Name	Designation	Post
1	Dr D S Bormane	Principal	Chairman
2	Shri Suresh P Shinde	Businessman	Civil administration
3	Shri M M Mujawar	P I	Ex Officer Member
4	Shri Harsh Dudhe	Reporter, Maharashtra Times News Papers Ltd,Pune	Media Member
5	Shri V R Patil	Assistant Professor in Mechanical Department	Member
6	Mrs S J Pachouly	Assistant Professor in Computer Engineering Department	Member
7	Mrs Seema Chaudhari	Parent Representative	Member
8	Anjali Chaudhari	Student : GS	Member
9	Shri A B Bhonsle	Administrative Officer	Member

ANTI RAGGING COMMITTEE (SQUAD)

With reference to AICTE (Prevention and Prohibition of ragging in Technical Education, Universities including Deemed to be Universities imparting technical education) Regulations 2009 and as per as per the clause No.6(a) of this AICTE Regulations - 2009, Anti-ragging Squad is formed to look in to the matters of ragging.

The squad will continuously maintain vigil in the College campus and monitor the activities of the students. If any activity of students is found suspicious then immediate action is to be taken. The squad will conduct patrolling of canteen area, parking area, the College building and Ladies hostel. The patrolling of outside area near to College will also be done.

The students can contact Committee members at any time regarding any kind of problem faced by them from any students in the Campus or outside the campus. Also, students can personally meet any of the above members in the College during working hours.

Table No. 10.1.14 Members of anti ragging squad

Sr. No.	Faculty Name and Designation	Post
01	**Mr V R Patil, Assistant Professor & Head, First Year Engineering**	**Coordinator**
02	Dr M K Nikam, Associate Professor in Engineering Mathematics	Member
03	Dr S K Upasani, Associate Professor in Chemistry	Member
04	Mr A J Kadam, Assistant Professor in Computer Engineering	Member
05	Mr A B Bhonsle, Administrative Officer	Member
06	Dr M M Kondhare, Physical Director	Member

Vishakha (Sexual Harassment Committee)

Table No. 10.1.15 Members of Vishakha

Sr. No.	Faculty Name and Designation	Post
01	**Dr (Mrs) P S Gajjal,** Associate Professor in Mechanical Engineering	**Coordinator**
02	Ms S J Pachouly, Assistant Professor in Computer Engineering	Member
03	Ms V S Dandawate, Librarian	Member
04	Mr S S Pimpale, Registrar	Member
05	Mr M D Bhalerao, Senior Clerk	Member
06	Mr D S Kulkarni, Technical Assistant	Member

The complaint received by Principal office from any ladies' staff members or student will be forwarded to the above committee. The said committee will look into the complaint and call the concerned complainant personally for hearing the grievance. The Chairman of the committee will forward their report in the sealed envelope to the Principal within one week from the date of receipt of complaint.

10.1.4 Delegation of financial powers (10)

Financial powers are delegated to the Principal of the institute and principal is the one of the signing authorities for financial transactions. Provision of petty cash of Rs. 20,000 is also made

with the Principal and head of departments also can make expenses using petty cash with the approval of the principal.

Table No. 10.1.16 Utilisation of petty cash in Rs.

Petty cash utilisation					
2019-2020		**2020-2021**		**2021-2022**	
Sanctioned amount	Utilised amount	Sanctioned amount	Utilised amount	Sanctioned amount	Utilised amount
148757.00	148695.00	150543.00	146403.00	127503.00	127441.00

10.1.5 Transparency and availability of correct /unambiguous information in public domain

1. Unambiguous information is displayed on all general notice boards including department notice boards, Center for information, training and placement cell (CITP), student section, library, and other important areas.

2. Copies of official notices are circulated to the entire faculty, technical and non-technical staff and students.

3. The institute website is continuously updated for disseminating all the information about policies, students, faculty and relevant information. Institute website is www.aissmscoe.com.

10.1.17 URLs for information available on institute website

S.N.	Name of document	URL of document on website
1	Vision, mission, goals and core values of the institute	https://aissmscoe.com/about-us/college-profile/
2	Admissions	https://aissmscoe.com/admission/admission-enquiry/
3	AICTE Approval Letters	https://aissmscoe.com/aicte-approvals/
4	Mandatory disclosure	https://aissmscoe.com/mandatory-disclosure/
5	Stakeholders feedback	https://aissmscoe.com/stakeholders/
6	AICTE essentials	https://aissmscoe.com/aicte-essentials/
Faculty Profile		
7	Department of Chemical Engineering	https://aissmscoe.com/chemical-engineering/faculty/

8	Department of Civil Engineering	https://aissmscoe.com/civil-engineering/faculty/
9	Department of Electrical Engineering	https://aissmscoe.com/ electrical-engineering/faculty/
10	Department of Electronics and Telecommunication	https://aissmscoe.com/electronics-engineering/faculty/
11	Department of First Year Engineering	https://aissmscoe.com/first-year-engineering/faculty/
12	Department of Mechanical Engineering	https://aissmscoe.com/ mechanical -engineering/faculty/
13	Department of Production Engineering	https://aissmscoe.com/production-engineering/faculty/
Annual Reports		
14	Department of Chemical Engineering	https://aissmscoe.com/chemical-engineering/annual-reports/
15	Department of Civil Engineering	https://aissmscoe.com/ civil-engineering/annual-reports/
16	Department of Electrical Engineering	https://aissmscoe.com/ electrical-engineering/annual-reports/
17	Department of Electronics and Telecommunication	https://aissmscoe.com/electronics-engineering/annual-reports/
18	Department of First Year Engineering	https://aissmscoe.com/first-year-engineering/annual-reports/
19	Department of Mechanical Engineering	https://aissmscoe.com/ mechanical -engineering/annual-reports/
20	Department of Production Engineering	https://aissmscoe.com/production-engineering/annual-reports/

Fig. 10.1.1 Best Professional College of SPPU

Fig. 10.1.2 Best Principal Award by ISTE

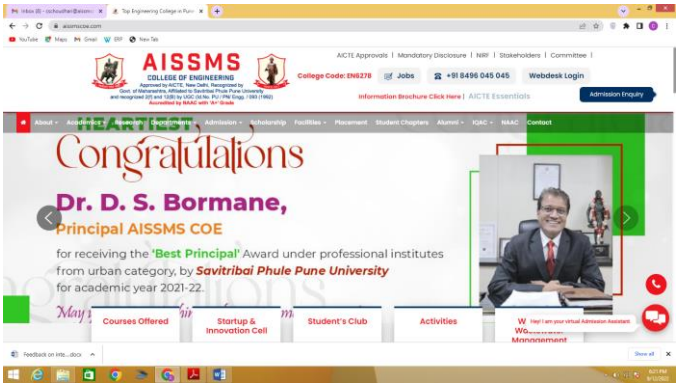


Fig. 10.1.3 Best Principal Award by SPPU

Fig. 10.1.4 Winner of prestigious “Phirodiya Trophy” for drama

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

10.2.1 Adequacy of budget allocation

In the beginning of every academic year, HoDs meeting is convened to discuss in detail about the budget requirement for various departments for the academic year concerned. Based on the discussions, HoDs are directed to submit a detailed proposal taking into account the increase in intake, revised curriculum and syllabus and the various events planned. The proposals received from all the departments are consolidated and submitted to the management for the sanction of the budget. The management usually allocates the budget considering the urgency of proposals. Always, sufficient budget has been allocated by the management to fulfil the requirements of various sections and departments of the institute.

10.2.2 Utilisation of allocated funds

Each department HoD after receiving the approved budget convene a meeting and discuss the step by step procedure for procuring the equipment and consumables required for the department Faculty who are in charge of the laboratories and course coordinators are nominated to involve in the purchase of equipment's . The nominated faculty members identify the companies/ agencies to receive the quotations and then prepare a comparative statement. The comparative statement will be submitted to the purchase Committee to get approval from the management and then place orders to procure the items. The HoD periodically monitor the faculty members involved in the purchase and take necessary efforts to see that the purchase of items is complete in all respects and the allocated funds are fully.

10.2.3 Availability of the audited statements on the institute website

Audited statements of financial years 2017-18, 2019-20, 2021-22 are available on institute website. https://aissmscoe.com/mandatory-disclosure/

Total Income at Institute level: For CFY, CFY*m*1, CFY*m*2 & CFY*m*3

CFY: Current Financial Year, CFY*m*1 (Current Financial Year minus 1), CFY*m*2 (Current Financial Year minus 2) and CFY*m*3 (Current Financial Year minus 3)

For CFY 2021-22

Total Income: 384514955				Actual expenditure (till …): 337150209.65			Total No. of students: 3030
Fee	**Govt.**	**Grant(s)**	**Other Sources (specify)**	**Recurring including Salaries**	**Non-recurring**	**Special Projects/Any other, specify**	**Expenditure per student**
383581137	0	0	933818	329543094.65	7607115	0	111270.70

Table 10.2.1

For CFY 2020-21

Total Income: 374544068				Actual expenditure (till …): 300948858.43			Total No. of students: 3112
Fee	**Govt.**	**Grant(s)**	**Other Sources (specify)**	**Recurring including Salaries**	**Non-recurring**	**Special Projects/Any other, specify**	**Expenditure per student**
373411482	0	0	1132586	291096339.43	9852519	0	96705.93

Table 10.2.2

For CFY 2019-20

Total Income:319073736.52				Actual expenditure (till …): 356936441.63			Total No. of students: 126798.03
Fee	**Govt.**	**Grant(s)**	**Other Sources (specify)**	**Recurring including Salaries**	**Non-recurring**	**Special Projects/ Any other, specify**	**Expenditure per student**
317338255	0	0	1735481.52	330815515.52	26120926	0	126798.03

Table 10.2.3

For CFY 2018-19

Total Income: 311756516				Actual expenditure (till …): 359356147.59			Total No. of students: 2916
Fee	**Govt.**	**Grant(s)**	**Other Sources (specify)**	**Recurring including Salaries**	**Non-recurring**	**Special Projects/Any other, specify**	**Expenditure per student**
310308435	0	0	1448081	317150317.48	42205830.11	0	123235.99

Table 10.2.4

Items	Budgeted in CFY 2022-22	Actual expenses in CFY 2021-22 till (till …)	Budgeted in CFY*m*1 2020-21	Actual Expenses in CFY*m*1 2020-21 till	Budgeted in CFY*m*2 2019-20	Actual Expenses in CFY*m*2 2019-20 till	Budgeted in CFY*m*3 2018-19	Actual Expenses in CFY*m*3 2018-19 till
Infrastructure Built-Up	33535208.00	32066113.00	32312734.00	29716580.00	51005208.00	49970510.11	69365208.00	69395393.11
Library	4325000.00	4099379.00	5510000.00	5500268.00	3925000.00	3296066.00	4325000.00	4399036.00
Laboratory equipment	5950000.00	4805267.00	8000000.00	7864601.00	6100000.00	5202903.00	8100000.00	6548410.00
Laboratory consumables	700000.00	231398.00	700000.00	542036.00	1000000.00	935167.00	1400000.00	1300678.00
Teaching and non-teaching staff salary	227150000.0	226611240.0	208550000.0	207828775.	205000000.0	204913144.0	203488000.0	203408950.0
Maintenance and spares	4200000.00	3419956.60	2750000.00	2591638.00	5450000.00	5312396.00	4900000.00	4878388.00
R&D	4200000.00	1723831.00	1400000.00	392884.00	3700000.00	1136690.00	4600000.00	1496623.42
Training and Travel	2850000.00	2750408.62	6020000.00	5330814.00	8300000.00	8328591.00	8065202.00	7763844.00
Miscellaneous expenses *	580000.00	3792752.00	3580000.00	5331466.00	5430000.00	58504.00	280000.00	184210.00
Others, specify	46577240.88	40778027.36	44676590.00	51947991.84	51789792.00	25400338.23	33143792.00	46296208.49
Total	330067448.88	322188011.71	298666526.0	285226438.23	341700000.00	336374924.95	352500000.00	343762101.89

Table 10.2.5

10.3 Program Specific Budget Allocation, Utilization (30)

10.3.1 Adequacy of budget allocation (10) Institute Marks : 10.00

10.3.1 Adequacy of budget allocation

As per the regular purchase process of the financial year, requirement of the department is considered for the preparation of the annual budget. Before the commencement of the financial year details of the purchase requirement (recurring and non-recurring details) are collected from the laboratory in-charge of the department.Budget proposal is finalized by the Head of the Department by considering annual intake of the students, university curriculum, industry requirement, laboratory & infrastructure development. The requirement budget of the equipment, computers, software, consumables, maintenance & furniture etc. is finalized. Apart from this, budget proposals are prepared for co-curricular, extra-curricular and extension activities for the overall development of students.Head of the Department submits the proposal of the budget to the Principal and the same is put up in the College Development Committee (CDC) and Governing Body (GB) meeting and after discussion and necessary corrections/modifications, College Development Committee and Governing Body recommends the budget for approval. The budget is reviewed by the management and approved after necessary changes. The budget allocated by the institute to the department is adequate to cater the need of the department to upgrade the laboratory in terms of equipment, consumables, software, computers, maintenance-spare and furniture etc. and for conducting curricular and extra-curricular activities.

For CFY 2021-22

Total Budget: 2738000.00		**Actual expenditure (till …): 2201913.00**		**Total No. of students: 305**
Non recurring	**Recurring**	**Non Recurring**	**Recurring**	**Expenditure per student**
10,00,000.00	17,38,000.00	8,72,077.00	13,29,836.00	7219.39

Table 10.3.1

For CFY 2020-21

Total Budget: 2048000.00		Actual expenditure (till …): 1544615		Total No. of students: 295
Non recurring	**Recurring**	**Non Recurring**	**Recurring**	**Expenditure per student**
7,00,000.00	13,48,000.00	613454	931161	5235.98

Table 10.3.2

For CFY 2019-20

Total Budget: 2491000.00		Actual expenditure (till …): 5524259		Total No. of students: 264
Non recurring	**Recurring**	**Non Recurring**	**Recurring**	**Expenditure per student**
3,00,000.00	21,91,000.00	1701168	3823091	20925.22

Table 10.3.3

For CFY 2018-19

Total Budget: 3412000.00		Actual expenditure (till …): 3001603		Total No. of students: 263
Non recurring	**Recurring**	**Non Recurring**	**Recurring**	**Expenditure per student**
10,00,000.00	24,12,000.00	1034860	1966743	11412.94

Table 10.3.4

Items	Budgeted in CFY 2020-21	Actual expenses in CFY 2021-22 till (till …)	Budgeted in CFY*m*1 2020-21	Actual Expenses in CFY*m*1 2020-21 till	Budgeted in CFY*m*2 2019-20	Actual Expenses in CFY*m*2 2019-20 till	Budgeted in CFY*m*3 2018-19	Actual Expenses in CFY*m*3 2018-19 till
Laboratory equipment	1000000.00	872077.00	700000.00	613454.00	300000.00	117701.00	1000000.00	1034860.00
Software	1000000.00	1015999.00	500000.00	209289.00	550000.00	544559.00	650000.00	651954.00
Laboratory consumable	50000.00	954.00	100000.00	165764.00	100000.00	11865.00	200000.00	210701.00
Maintenance and spares	100000.00	86313.00	100000.00	67008.00	100000.00	54444.00	200000.00	159088.00
R & D	300000.00	0	125000.00	0	300000.00	0	400000.00	0
Training and Travel	240000.00	211570.00	500000.00	484600.00	691000.00	691000.00	672000.00	645000.00
Miscellaneous expenses *	48000.00	15000.00	23000.00	4500.00	450000.00	400000.00	290000.00	300000.00
Total	2738000.00	2201913.00	2048000.00	1544615.00	2491000.00	1819569.00	3412000.00	3001603.00

Table 10.3.5

10.4 Library and Internet (20)

10.4.1 Quality of learning resources

The Learning Resource Center, the Central Library of AISSMS College of Engineering with its state-of-the-art facilities and excellent resources plays proactive role in providing excellent user services, optimal use of resources supporting quality enhancement in teaching-learning, research and extension. keeping pace with the developments in the ICTs, Institute library works as a digitized knowledge Center for accessibility with print and e-resources and provides focused services to the students and faculty. The Library has significant collection of books, journals, e-books, e-journals, secondary sources, databases, digital primary sources.

Integrated Library Management System (SLIM21) is used to manage different functions of library for improving accessibility to students. Institute Central Library is using commercial software as well as Open Source software for Automation of Library Services. With SLIM21 retrieval of information becomes easy and even a catchy phrase in the description of the catalogued item can be used for searching. SLIM21 supports flexible workflow to cover activities related to acquisition of books, serials control, and funds monitoring.

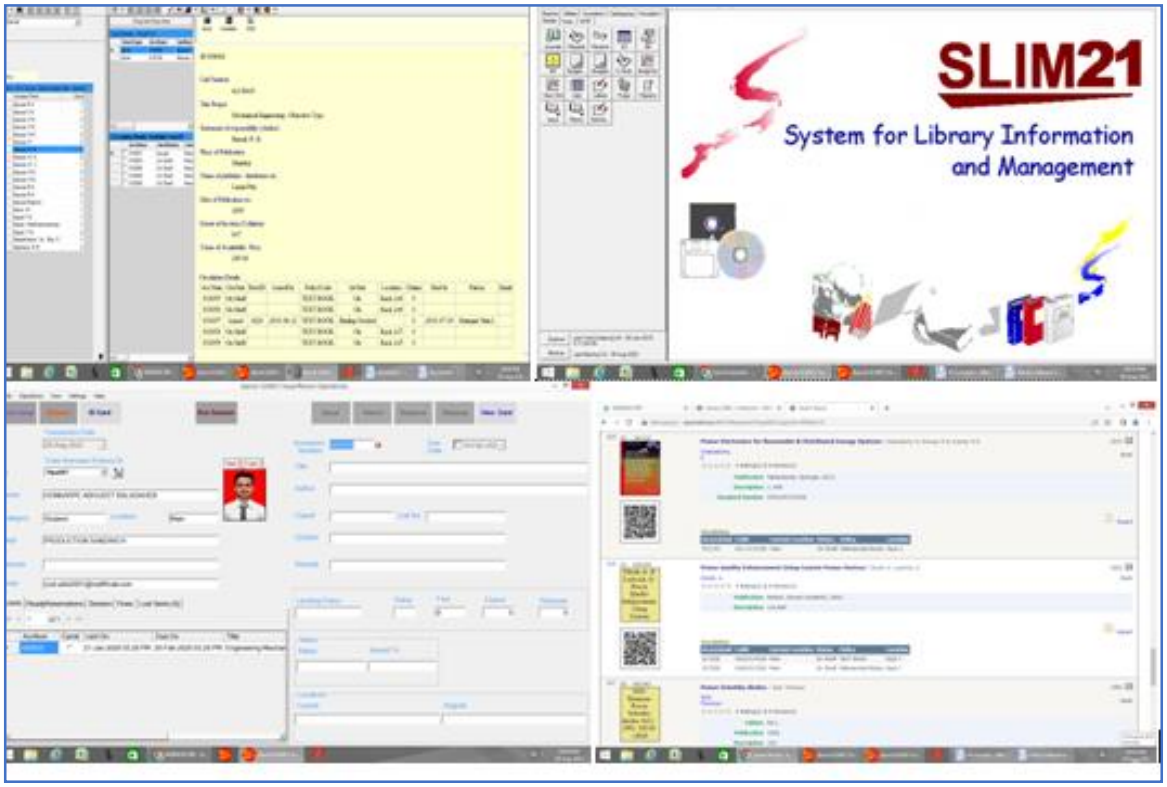


Figure 10.4.1: SLIM Software Screenshots

With the growing popularity of e-resources, library is gradually migrating from print documents to e-resources. Qualified and experienced staff plays important role in providing easily accessible and cost-effective information services. Institute library has subscribed / implemented learning and e-learning resources as shown in below tables.

Table 10.4.1: Learning resources available in Library

Learning Resources	Number of resources
Books	36942
E Journals	1014
e-Journals/e-Books	15000

List of print journals/Magazine	91
List of Newspapers	12
CD/DVD	867

Table 10.4.2 : Expenditure in last three years on learning resources

Year	No of New Titles added	No of new Editions added	No of new volumes added	Expenditure
CFY -2019-20	17	9	99	96197.00
CFY-2020-21	428	314	1324	650064.00
CFY- 2021-22	87	36	277	199492

Table 10.4.3 : Expenditure in last three years on E-Journals Subscription

Year	Number of E Journals	Expenditure
CFY 2019-20	612	2624635
CFY 2020 -21	1016	2493007
CFY 2021-22	1016	2810777

Institute Library has made following online resources available to the staff and students.

Table 10.4.4: Various online resources available in AISSMS COE Library

AISSMS E Resource	Contents	Link
Science Direct	275 E Journals Access	https://www.sciencedirect.com/
IEEE	169 eJournal Backfile Access- Since 2000)	https://ieeexplore.ieee.org/Xplore/home.jsp
ASME Digital Library	27 E Journals	https://www.asme.org/
ASCE Digital Library	35 E journals	https://www.asce.org/
Access Engineering	365 E journals/ E Books Access	https://www.accessengineeringlibrary.com/user/login
SPRINGER	149 E Journals	https://link.springer.com/

DELNET	Access Millions of Networked Library Resources through DELNET, 2,20,00,000+ Books available for loan, 5,000+ Full-text E-journals, 1,00,000+ Thesis/Dissertations	http://164.100.247.26/
Knimbus	25000+ ebooks	https://aissms.knimbus.com/user#/home
NDL	Includes all disciplines	https://ndl.iitkgp.ac.in/
List of Open Access Resources	Access to all open access resources	https://aissmscoelibrary.weebly.com/open-access-resources.html
S Chand Ebooks	Access to 112 E-Text Books	https://ebooks.schandgroup.com
New Age Ebooks	Access to 50 E Books	https://digital.elib4u.com/
Person E books	Access to 104 E -Text Books	https://elibrary.in.pearson.com/
Calibre Digital Library	Access to 1012 Free Ebooks	Available in LAN

For the easy access, all the online resources are subscribed as IP Based access subscription.This helps users to access any resource from any computer connected in the AISSMSCOE Campus LAN and also through WiFi enabled devices. This helps users for searching multiple database at a stretch. Remote off campus access facility is created and this can be used by students from home.

Library user tracking students and faculty

Library user tracking for students and faculty is done through ERP system. daily visit to library reports can be download through ERP system

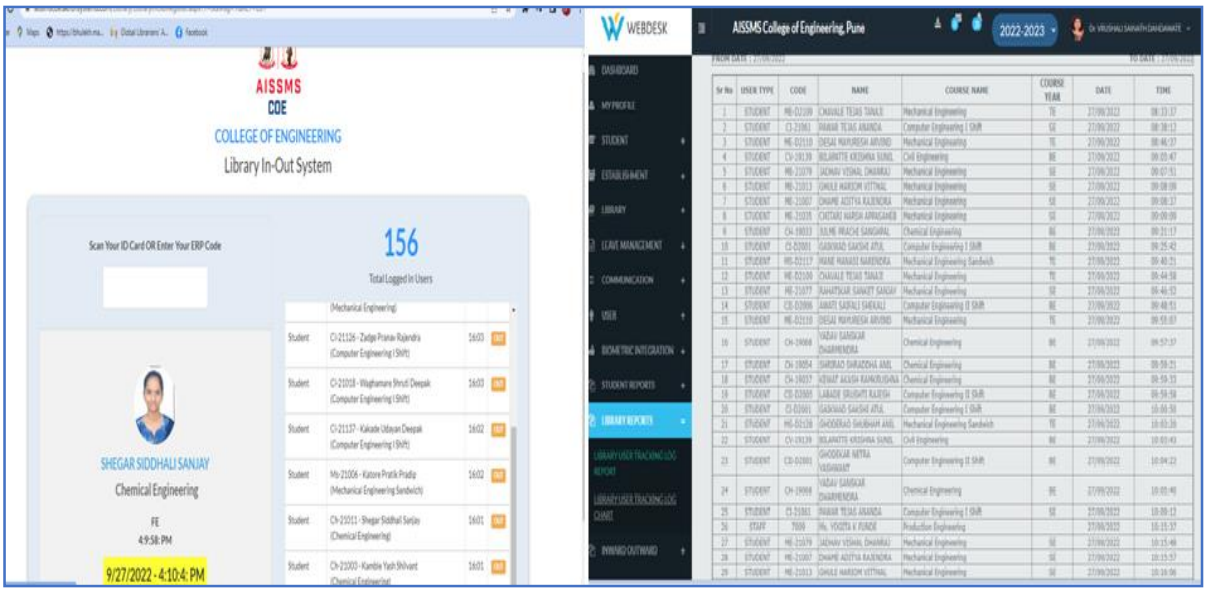
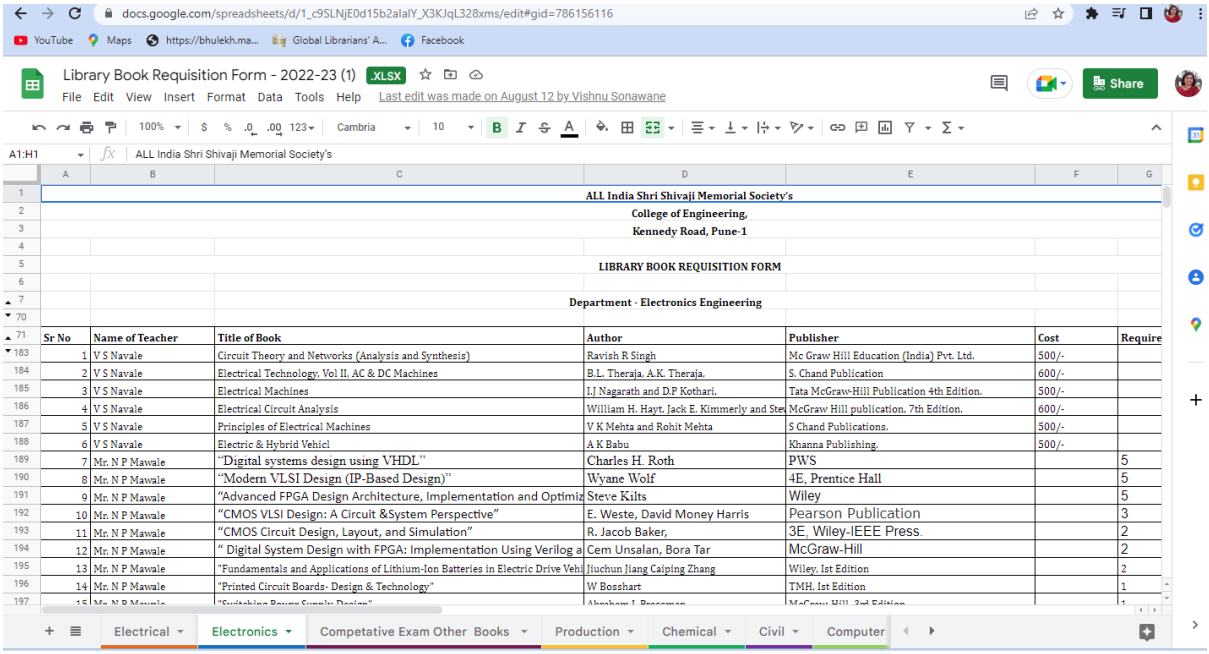


Figure 10.4.2: Screenshot of Library user tracking system

Book Purchase System Process

Library books requirement is collected through a book requisition form which is made available to all faculty through the google drive link. List of books requested by faculty are send for quotation to the supplier, after that purchase order is placed to the supplier with Head of Department and Principal approval.



Sr No	Name of Teacher	Title of Book	Author	Publisher	Cost	Require
1	V S Navale	Circuit Theory and Networks (Analysis and Synthesis)	Ravish R Singh	Mc Graw Hill Education (India) Pvt. Ltd.	500/-	
2	V S Navale	Electrical Technology, Vol II, AC & DC Machines	B.L. Theraja, A.K. Theraja,	S. Chand Publication	600/-	
3	V S Navale	Electrical Machines	I.J Nagarath and D.P Kothari,	Tata McGraw-Hill Publication 4th Edition.	500/-	
4	V S Navale	Electrical Circuit Analysis	William H. Hayt, Jack E. Kimmerly and Ste	McGraw Hill publication. 7th Edition.	600/-	
5	V S Navale	Principles of Electrical Machines	V K Mehta and Rohit Mehta	S Chand Publications.	500/-	
6	V S Navale	Electric & Hybrid Vehicl	A K Babu	Khanna Publishing.	500/-	
7	Mr. N P Mawale	"Digital systems design using VHDL"	Charles H. Roth	PWS		5
8	Mr. N P Mawale	"Modern VLSI Design (IP-Based Design)"	Wyane Wolf	4E, Prentice Hall		5
9	Mr. N P Mawale	"Advanced FPGA Design Architecture, Implementation and Optimiz	Steve Kilts	Wiley		5
10	Mr. N P Mawale	"CMOS VLSI Design: A Circuit &System Perspective"	E. Weste, David Money Harris	Pearson Publication		3
11	Mr. N P Mawale	"CMOS Circuit Design, Layout, and Simulation"	R. Jacob Baker,	3E, Wiley-IEEE Press.		2
12	Mr. N P Mawale	" Digital System Design with FPGA: Implementation Using Verilog a	Cem Unsalan, Bora Tar	McGraw-Hill		2
13	Mr. N P Mawale	"Fundamentals and Applications of Lithium-Ion Batteries in Electric Drive Vehi	Jiuchun Jiang Caiping Zhang	Wiley, Ist Edition		2
14	Mr. N P Mawale	"Printed Circuit Boards- Design & Technology"	W Bosshart	TMH, Ist Edition		1

Figure 10.4.3: Screenshot of Library book requisition form

Support to students for self-learning

Institute Library supports students for self-learningactivities by creating and making available various platforms for learning. Following resources are accessible to the students:

- 9000 + NPTEL Videos
- 100+ Subjects NPTEL Text Content
- 1500+ E-Books
- Access to previous year question papers
- Access to Ekeeda Learning platform
- Access to IIRS training programs
- Access to Coursera (During Covid pandemic period)
- Access to Edx platform (During Covid pandemic period)
- Organization of book exhibitions, Author meets, E resources training program for students
- Use of SLIM webopac for book search and reissue and reservation process

Digital library has been established by library for the effective use of these self-learning resources. Question point service, "Ask a Librarian" is a unique online service available where queries and reference questions from students are responded within 24 hours. Additional facilities created in the library for improving accessibility and support to students for self-learning.

- Ask-A-Librarian - Question Point Online Reference Service.
- Wi-Fi accessible across the Library.
- Library e-resources Remote Access (off-campus access) through Knimbus remote access platform.
- User Training, Sensitization and Information Literacy programs.
- Research Data Management, Publishing support, Style Manuals.
- Workshops/Programs on research methods Tools.
- Plagiarism Check tools (Turnitin) and services.
- Institutional Repository Dspace for faculty publication
- Faculty publication platform Vidwan

- Print, Scan Services.
- Access to previous year question papers and syllabus
- Mobile App facility availble

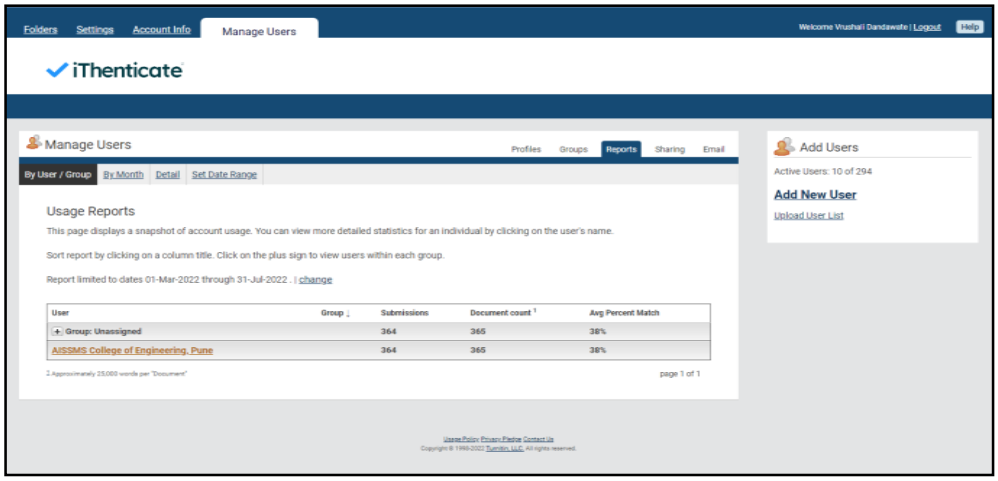


Figure 10.4.4: Plagiarism Software Screenshots

Figure 10.4.5: Library WebOPAC Screenshots

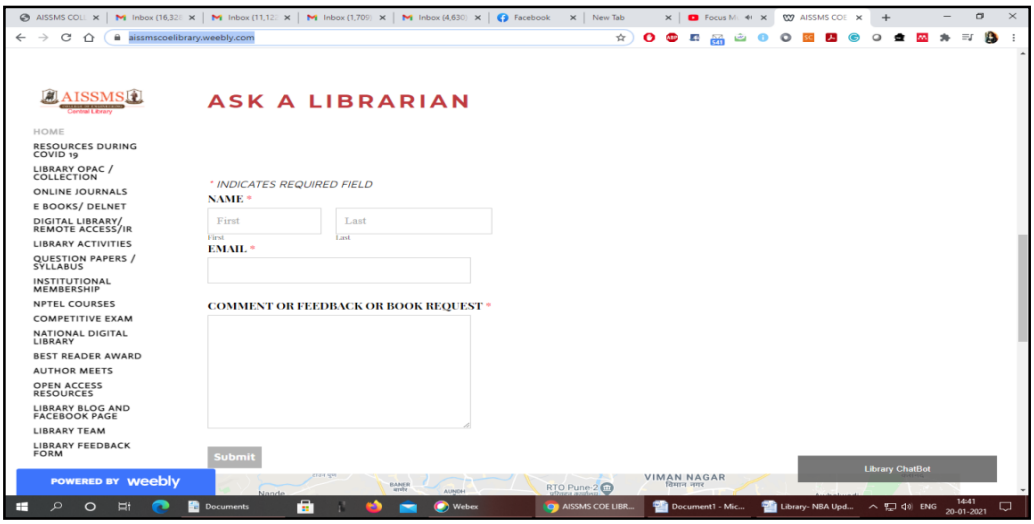


Figure 10.4.6: Ask A Librarian service

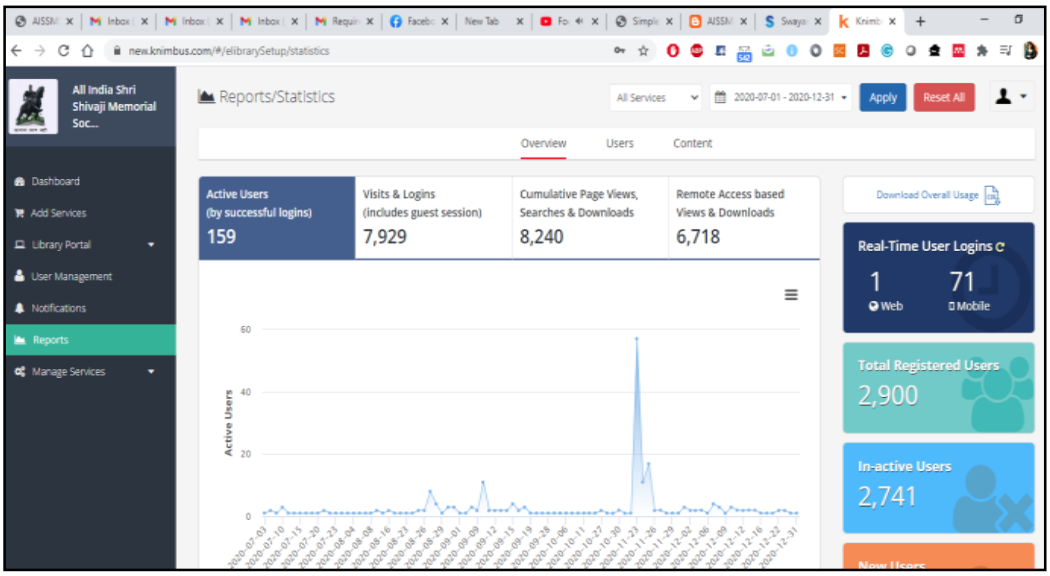


Figure 10.4.7 : Use of remote access facility

Figure 10.4.8: Reprography Machine and I card printing facility Information Kiosk

10.4.2 Internet

Name of internet provider	Tata Tele Services Ltd
Available bandwidth	500 Mbps
Wi fi availability	yes
Internet access in labs, classrooms, library and offices of all departments; yes	Internet access in available in all the labs, classrooms, library and offices of all departments and administrative office.
Security arrangements	Hardware Firewall CR-500 iNG is installed. Each user is assigned with user id and password. Antivirus software is installed on all computers and laptops of the institute.