NATIONAL BOARD OF ACCREDITATION

SELF ASSESSMENT REPORT (SAR)
UNDERGRADUATE ENGINEERING PROGRAM
(TIER - II, June - 2015)

B.E. - ELECTRICAL AND ELECTRONICS ENGINEERING

EASWARI ENGINEERING COLLEGE

Bharathi Salai, Ramapuram - 600 089

Chennai, Tamil Nadu

www.srmeaswari.ac.in

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PART A-INSTITUTIONAL INFORMATION

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

   EASWARI ENGINEERING COLLEGE

   Bharathi Salai, Ramapuram, Chennai-600 089

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

   Anna University

   Guindy, Chennai - 600025

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

   1996

4. **Type of the Institution:**

University	
Deemed University	
Government Aided	
Autonomous	
Affiliated	√

5. **Ownership Status:**

Central Government	
State Government	
Government Aided	
Self Financing ……	√
Trust	
Society	
Section 25 Company	
Any other (Please Specify)	

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

Name of the Institution(s)	Year of Establishment	Programs of Study	Location
SRM Nightingale Matriculation Higher Secondary School	1969	Higher Secondary School	68,Thambiah Road West Mambalam Chennai-600033
Valliammai Polytechnic College	1984	Diploma in Automobile Engineering, Diploma in Civil Engineering, Diploma in Electrical and Electronics Engineering Diploma in Electronic and Communication Engineering, Diploma in Mechanical Engineering	SRM Nagar, Kattankulathur Kancheepuram District Pin -603203
SRM Arts and Science College	1994	***UG-Bachelor of Science:*** • Nutrition, • Food Service • Management and Dietetics	

Name of the Institution(s)	Year of Establishment	Programs of Study	Location
		• Biochemistry • Computer Science • Microbiology • Hotel and Catering Management • Visual Communication • Electronic media • Electronics and Communication Science • Information System Management • Biotechnology • Bachelor of Commerce • Bachelor of Computer Applications ***PG-Master of Science:*** • Biochemistry • Computer Science	SRM Nagar, Kattankulathur Kancheepuram District Pin -603203

Name of the Institution(s)	Year of Establishment	Programs of Study	Location
		• Information Technology • Computer Science and Technology • Applied Microbiology • Biotechnology • Visual Communication • Bioinformatics • Master of Business Administration • Master of Computer Application	
SRM Polytechnic College	1996	• Diploma in Automobile Engineering, • Diploma in Civil Engineering, • Diploma in Electrical and Electronics Engineering • Diploma in Electronic and Communication Engineering, • Diploma in Mechanical Engineering	SRM Nagar, Kattankulathur Kancheepuram District Pin -603203

Name of the Institution(s)	Year of Establishment	Programs of Study	Location
Valliammai Engineering College	1999	***Under Graduate*** • B.E. Civil Engineering • B.E. Electronics and Communication Engineering • B.E. Computer Science and Engineering • B.E. Electrical and Electronics Engineering • B.E. Electronics and Instrumentation Engineering • B.E. Mechanical Engineering • B.Tech. Information Technology ***Post Graduate*** • M.E.Control & Instrumentation • M.E. Power System • M.E. Communication Systems • M.E. Computer Science & Engineering • M.E. Structural Engineering • M.E. CAD/ CAM	SRM Nagar, Kattankulathur Kancheepuram District Pin -603203

7. **Details of all Programs being offered by the Institution under consideration:**

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
1.	B.E. Computer Science and Engineering	1996	60	120	2001	F730-52-286(E)/ET/ 96 Dated 18.10.1996 F730-52-286(E)/ET/ 96 Dated 17.07.2001	*Accredited for 3 years from 19.03.2004 vide Letter No.F.No.NBA/ACCR-266/2004 dated 24.03.2004 *Accredited for 3 years from 22.01.2008 vide letter No.F.No.NBA /ACCR-266/032 dated 22.01.2008 *Granted provisional accreditation for 2 years for the period from 04.01.2013 vide Letter No.F.No:33-22/2010-NBA dated 29.01.2013

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
2.	B.E. Electronics and Communication Engineering	1996	60	120	2001	F730-52-286(E)/ET/ 96 Dated 18.10.1996	*Accredited for 3 years from 19.03.2004 vide Letter No.F.No.NBA/ACCR-266/2004 dated 24.03.2004
						F730-52-286(E)/ET/ 96 Dated 17.07.2001	*Accredited for 3 years from 22.01.2008 vide letter No.F.No.NBA /ACCR-266/032 dated 22.01.2008
				180	2012	F.No.Southern/ 1-696184471/2012/EOA/ Dated 10.05.2012	*Granted provisional accreditation for 2 years for the period from 04.01.2013 vide Letter No.F.No:33-22/2010-NBA dated 29.01.2013

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
3.	B.E. Electrical and Electronics Engineering	1996	60	120	2007	F730-52-286(E)/ET/96 Dated 18.10.1996 F730-52-286(E)/ET/ 96 Dated 12.07.2007	*Accredited for 3 years from 19.03.2004 vide Letter No.F.No.NBA/ACCR-266/2004 dated 24.03.2004 *Granted provisional accreditation for 2 years for the period from 04.01.2013 vide Letter No.F.No:33-22/2010-NBA dated 29.01.2013
4.	B.E Electronics and Instrumentation Engineering	1996	60	120	2008	F730-52-286(E)/ET/ 96 Dated 18.10.1996 F730-52-286(E)/ET/ 96 Dated 17.07.2008	*Accredited for 3 years from 19.03.2004 vide Letter No.F.No.NBA/ACCR-266/2004 dated 24.03.2004

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
							*Accredited for 3 years from 22.01.2008 vide letter No.F.No.NBA /ACCR-266/032 dated 22.01.2008 *Granted provisional accreditation for 2 years for the period from 04.01.2013 vide Letter No.F.No:33-22/2010-NBA dated 29.01.2013
5.	B.E. Civil Engineering	2007	60	120	2012	F730-52-286(E)/ET/ 97 Dated 12.07.2007 F.No. Southern/ 1-696184471/2012/EOA/ Dated 10.05.2012	First time accreditation

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
6.	B.Tech. Information Technology	1999	40	60	2001	730-52-286E/ET/97 Dated 26.07.1999	*Accredited for 3 years from 22.01.2008 vide letter No.F.No.NBA /ACCR-266/032 dated 22.01.2008 *Granted provisional accreditation for 2 years for the period from 04.01.2013 vide Letter No.F.No:33-22/2010-NBA dated 29.01.2013
						730-52-286E/ET/97 Dated 22.06.2001	
				90	2001	730-52-286E/ET/97 Dated 17.07.2001	
				120	2006	730-52-286E/ET/97 Dated 24.05.2006	
7.	B.E. Mechanical Engineering	2002	30	60	2006	F730-52-286(E) /ET/ 96 Dated 08.08.2002	*Accredited upto 12.05.2012 vide letter No. F.No.NBA/ACCR-266/2004 dated 25.05.2009 *Applied for re-accreditation
						F730-52-286(E) /ET/ 96 Dated 24.05.2006	
				120	2008	F730-52-286(E)/ET/ 96 Dated 17.07.2008	
				180	2012	F.No.Southern/ 1-696184471/2012/EOA/ Dated 10.05.2012	

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
8.	B.E. Automobile Engineering	2014	60	-	-	F.No.Southern/ 1-2453641894/2015/EOA/ corrigendum-1 Dated 18.05.15	Not yet eligible for accreditation -New course
9.	Master of Computer Applications	2000	30			F.No.:TN-17/ET-MCA/2000 Dated 13.10.2000	*Accredited for 3 years from 22.01.2008 vide letter No.F.No.NBA /ACCR-266/032 dated 22.01.2008 *Withdrawn Visit dates: 31st August, 1st ,2nd September 2012
				60	2001	F.No.:TN-17/ET-MCA/2000 Dated 17.07.2001	
				120	2008	F.No.:TN-17/ET-MCA/2000 Dated 15.07.2008	
				60#	2015	F.No. Southern/ 1-2453641894/2015/EOA/ Corrigendum-1	

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
10.	Master of Business Administration	2001	60			F.No.:TN-10/ET-MBA/1999 Dated 19.06.2001	*Accredited for 3 years from 22.01.2008 vide letter No.F.No.NBA /ACCR-266/032 dated 22.01.2008
				90	2007	F.No.:TN-10/ET-MBA/1999 Dated 29.06.2007	
				120	2008	F.No.:TN-10/ET-MBA/1999 Dated 15.07.2008	*Not accredited Visit dates: 19th 20th ,21st October 2012
11.	M.E. VLSI Design	2004	18	-	-	F.No.PG/TN/M.Tech./2004/ECE 0158 dated 02.09.2004	Not accredited Visit dates: 19th 20th ,21st October 2012
12.	M.E. Computer Science and Engineering	2005	18	-	-	F.No.PG/TN/M.E/2004/CSE 0101 dated 22.07.2004	Not accredited Visit dates: 19th 20th ,21st October 2012
13.	M.E. Power Electronics and Drives	2006	18	-	-	F.No.730-52-286(E)/ET/97 Dated 24.05.2006	Not accredited Visit dates: 19th 20th ,21st October 2012

S.No.	Program Name	Year of Start	Intake	Increase in intake, if any	Year of Increase	AICTE Approval	Accreditation Status
14.	M.E. Software Engineering	2008	18	-	-	F.No.730-52-286(E)/ET/97 Dated 24.10.2007	Eligible, but not applied
15.	M.E. Communication Systems	2008	18	-	-	F.No.730-52-286(E)/ET/97 Dated 24.10.2007	Eligible, but not applied
16.	M.E. Embedded Systems Technologies	2010	18	-	-	No.Southern Region/ 1-4156271/2010/EOA/ Dated 23.08.10	Eligible, but not applied
17.	M.E. Structural Engineering	2013	18	-	-	F.No.Southern/ 1-1404620382/2013/EOA/ Dated 19.03.2013	Not yet eligible for accreditation
18.	M.E. Control and Instrumentation	2013	18	-	-	F.No.Southern/1-1404620382/2013/EOA/ Dated 19.03.2013	Not yet eligible for accreditation
19.	M.E. Engineering Design	2013	18	-	-	F.No.Southern/ 1-1404620382/2013/EOA/ Dated 19.03.2013	Not yet eligible for accreditation

Intake reduced from 120 to 60 in Master of Computer Applications programme from the academic year 2015-16.

8. **Programs to be considered for accreditation vide this application**

S.NO.	PROGRAM NAME
1	B.E. - Computer Science and Engineering
2	B.E. - Electronics and Communication Engineering
3	B.E. - Electrical and Electronics Engineering

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

A. Regular employees (Faculty and Staff)

Items		CAY(2014-15)		CAYm1(2013-14)		CAYm2(2012-13)	
		min	max	min	max	min	max
Faculty in Engineering	***M***	73	78	86	93	77	79
	F	134	142	105	114	97	97
Faculty in Maths, Science & Humanities	***M***	39	43	37	40	40	42
	F	69	71	67	71	64	67
Non-teaching staff	***M***	75	80	74	82	88	90
	F	55	59	50	55	47	49

B. Contractual Staff Employees (Faculty and Staff): (Not covered in Table A)-

Items		CAY (2014-15)		CAYm1 (2013-14)		CAYm2 (2012-13)	
		min	max	min	max	min	Max
Faculty in Engineering	***M***	-	-	-	-	-	-
	F	-	-	-	-	-	-

Faculty in Maths, Science & Humanities	***M***	-	-	-	-	-	-
	F	-	-	-	-	-	-
Non-teaching staff	***M***	11	15	9	12	6	8
	F	90	97	85	91	70	76

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

a) Total number of Under Graduate Engineering students:

Item	CAY (14-15)	CAYm1 (13-14)	CAYm2 (12-13)
Total No. of Boys	2649	2199	1872
Total No. of Girls	1180	952	1183
Total No. of Students	3829	3151	3055

b) Total number of Post Graduate Engineering students:

Item	CAY (14-15)	CAYm1 (13-14)	CAYm2 (12-13)
Total No. of Boys	103	106	96
Total No. of Girls	131	137	106
Total No. of Students	234	243	202

c) Total number of Other Programme students:

i. Master of Business Administration

ii. Master of Computer Applications

Item	CAY (14-15)	CAYm1 (13-14)	CAYm2 (12-13)
Total No. of Boys	236	236	259
Total No. of Girls	189	189	152
Total No. of Students	425	425	411

11. **Vision of the Institution:**

To accomplish and maintain International eminence and become a model institution for higher learning through dedicated development of minds, advancement of knowledge and Professional application of skills to meet the global demands.

12. **Mission of the Institution:**

- Set high standards of comprehensive education by developing the intellectual strength of students and synergizing the efforts of department.
- Nurture the development of skill, attitude and core competence, inspire innovation and foster excellence in students to enable them shine in their academic pursuits
- Attain leadership in planning and resource management so as to improve the quality of technical education.
- Produce graduates of International distinction, committed to integrity and professionalism and sensitive to the needs of the progressive industrial world.
- Organize a pluralistic and supportive environment that will stimulate students and staff of the highest calibre and contribute to the process of Nation building through partnership with Industry, to realize our vision as a premier Engineering Institution.

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

i. Head of the Institution :

Name	:	Dr. K. S. Srinivasan
Designation	:	Principal
Mobile	:	09789996247
Email id	:	eecw@vsnl.com

ii. NBA Coordinator:

Name	:	Dr. K. Kathiravan
Designation	:	Dean
Mobile	:	09840842514
Email id	:	eec.dean@srmcampus.org

PART B: CRITERIA SUMMARY

Name of the program: B.E.-ELECTRICAL AND ELECTRONICS ENGINEERING

Criteria No.	Criteria	Mark/ Weightage
	Program Level Criteria	
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
	Institute Level Criteria	
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

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

Vision of the Institution:

To accomplish and maintain International eminence and become a model institution for higher learning through dedicated development of minds, advancement of knowledge and Professional application of skills to meet the global demands.

Mission of the Institution:

- Set high standards of comprehensive education by developing the intellectual strength of students and synergizing the efforts of department.
- Nurture the development of skill, attitude and core competence, inspire innovation and foster excellence in students to enable them shine in their academic pursuits
- Attain leadership in planning and resource management so as to improve the quality of technical education.
- Produce graduates of International distinction, committed to integrity and professionalism and sensitive to the needs of the progressive industrial world.
- Organize a pluralistic and supportive environment that will stimulate students and staff of the highest calibre and contribute to the process of Nation building through partnership with Industry, to realize our vision as a premier Engineering Institution.

Vision of the Department

To produce graduates with foundation in electrical and electronics engineering who can cater to the dynamic needs of the industry and to provide a diverse and stimulating environment for quality research

Mission of the Department

M1. To align the teaching learning process and to provide basic foundation for the students to adapt to the changing industrial needs

M2. To enrich with the latest developments through seminars, guest lectures, workshop and paper presentations

M3. To awake young minds to acquire knowledge continuously and learn to apply it

M4. To attain multidisciplinary problem solving skills, social awareness and confidence required to excel in their chosen field

M5. To develop professional competency and technical expertise individually and through team effort thereby exhibit leadership in industry

M6. To create research oriented mindset and focus in fulfilling growing demands of society through mentoring and motivation

1.2. State the Program Educational Objectives (PEOs)

1. Graduates will have fundamental and broad knowledge in Electrical Sciences relating to industrial applications and research to design, analyze and synthesize information from various sources and think differently to provide solutions to their discipline
2. Graduates will become entrepreneurs, employees of reputed organizations, pursue higher studies and research for developing advanced skills in Electrical and Electronics Engineering

3. Graduates will exhibit technical and intellectual competency and will be amenable for life-long learning
4. Graduates will demonstrate technical knowledge and ethical values for professional development to meet the societal needs
5. Graduates will be able to work in multi-disciplinary environment by providing solutions to real time problems.

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

A. The Vision, Mission and PEOs are adequately published as indicated below

- Department Website (www.eee.srmeaswari.ac.in)
- Department prospectus
- Department placement brochure
- Department Magazine
- Department Newsletter

B. The Vision, Mission and PEOs are disseminated as follows

- Lesson plan
- Laboratories
- Laboratory manuals

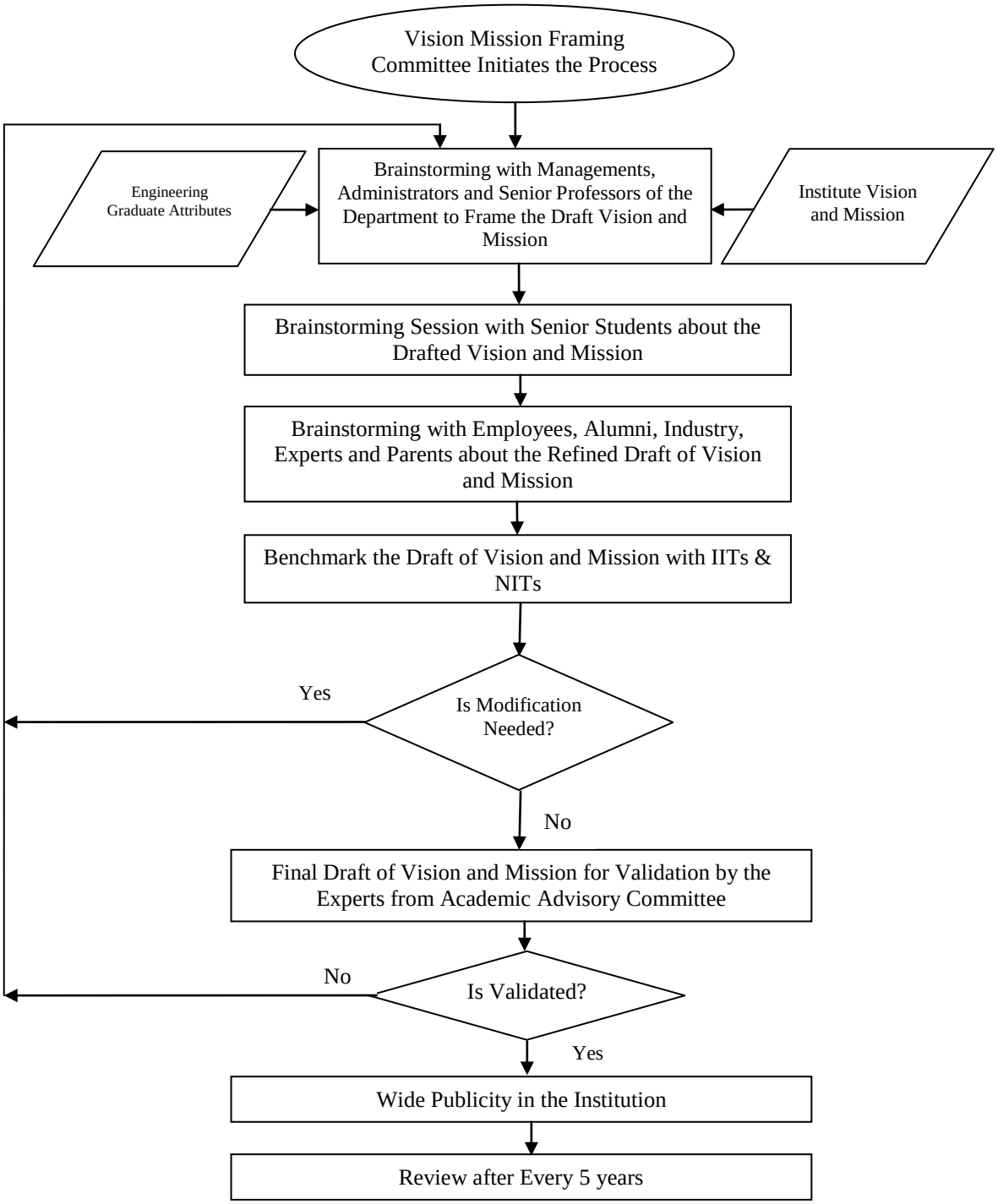
- Staff rooms
- HOD chamber
- Department Library
- Department notice board
- Respective Department floors

C. The awareness of Vision, Mission and PEOs are created among the internal and external stakeholders through:

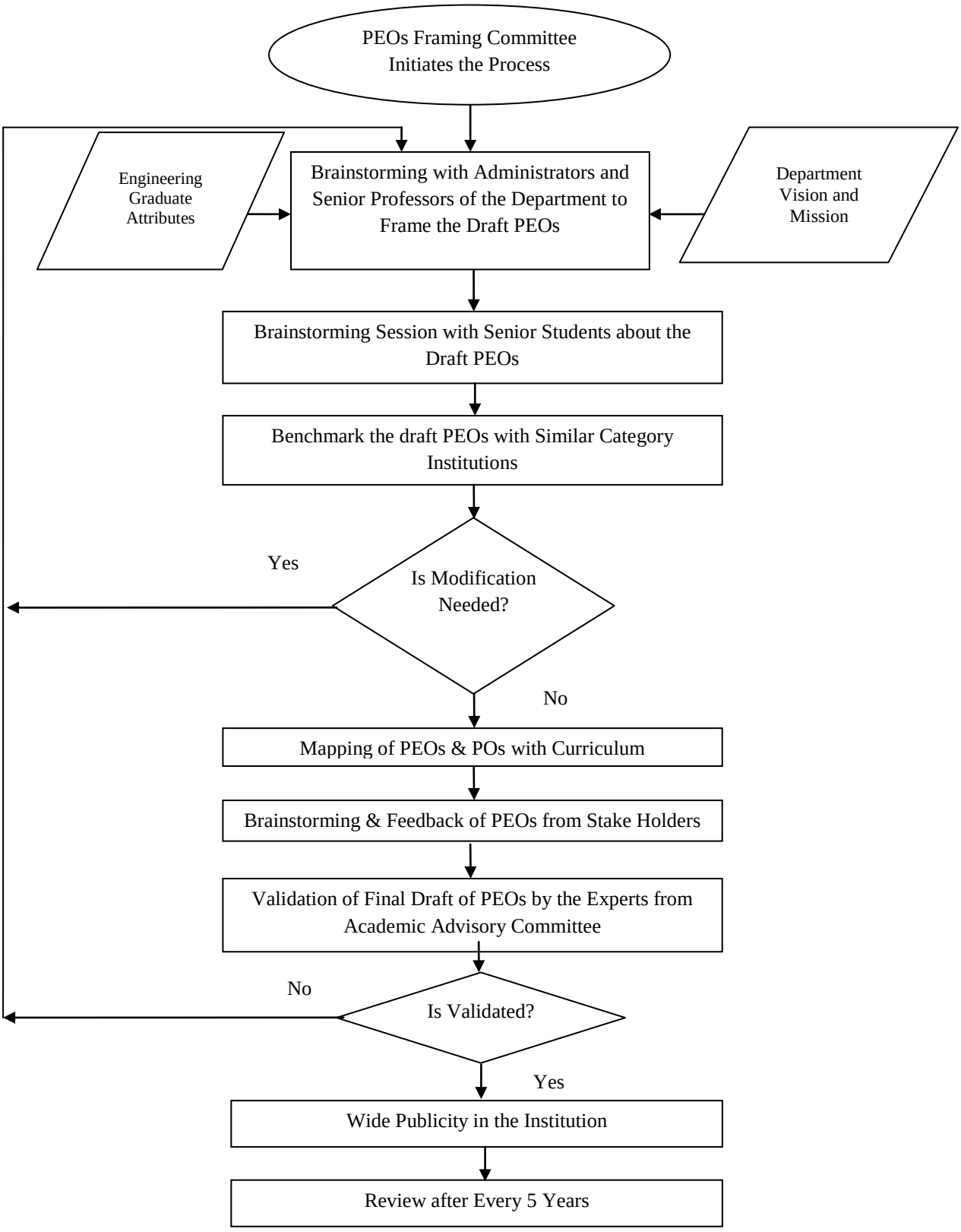
- Alumni meet
- HR meet
- Annual placement function
- Class committee meetings
- Parent teacher meeting
- Induction program for freshers
- Governing council meeting
- Management review meeting

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

Vision and Mission Creation & Validation Process



Programme Educational Objectives Creation & Validation Process



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

(*Generate a "Mission of the Department – PEOs matrix" with justification and rationaleof the mapping*)

1 – Low 2 – Medium 3 – High

PEO Statements	Department Mission					
	M1	**M2**	**M3**	**M4**	**M5**	**M6**
PEO1: Graduates will have fundamental and broad knowledge in Electrical Sciences relating to industrial applications and research to design, analyze and synthesize information from various sources and think differently to provide solutions to their discipline	3	2	3	2	2	1
PEO2: Graduates will become entrepreneurs, employees of reputed organizations, pursue higher studies and research for developing advanced skills in Electrical and Electronics Engineering	2	3	3	1	1	2
PEO3: Graduates will exhibit technical and intellectual competency and will be amenable for life-long learning	2	2	3	2	3	2
PEO4: Graduates will demonstrate technical knowledge and ethical values for professional development to meet the societal needs	2	1	1	3	3	2
PEO5: Graduates will be able to work in multi-disciplinary environment by providing solutions to real time problems	1	1	2	3	2	3

PEOs and Mission Statement Mapping - Justification:

Mapping	Justification
PEO1 strongly maps with M1 and M3	Achieving M1 and M3, the student is provided with fundamental technical knowledge through teaching-learning process and industry-institute interaction which aspires students towards research.
PEO2 strongly maps with M2 and M3	Achieving M2 and M3 will help in developing the skills required to be an entrepreneur, employees of a reputed organization and to proceed towards higher studies.
PEO3 strongly maps with M3 and M5	Achieving M3 and M5, students will expertise in technical knowledge through life-long learning and sharpen leadership qualities.
PEO4 strongly maps with M4 and M5	Achieving M4 and M5, students will gain analytical skills and knowledge in various emerging fields of Electrical and Electronics Engineering which helps to contribute to societal needs.
PEO5 strongly maps with M4 and M6	Achieving M4 and M6 will motivate students to induce research skills in various areas such as Power Systems, Power Electronics, Renewable energy, High voltage engineering.

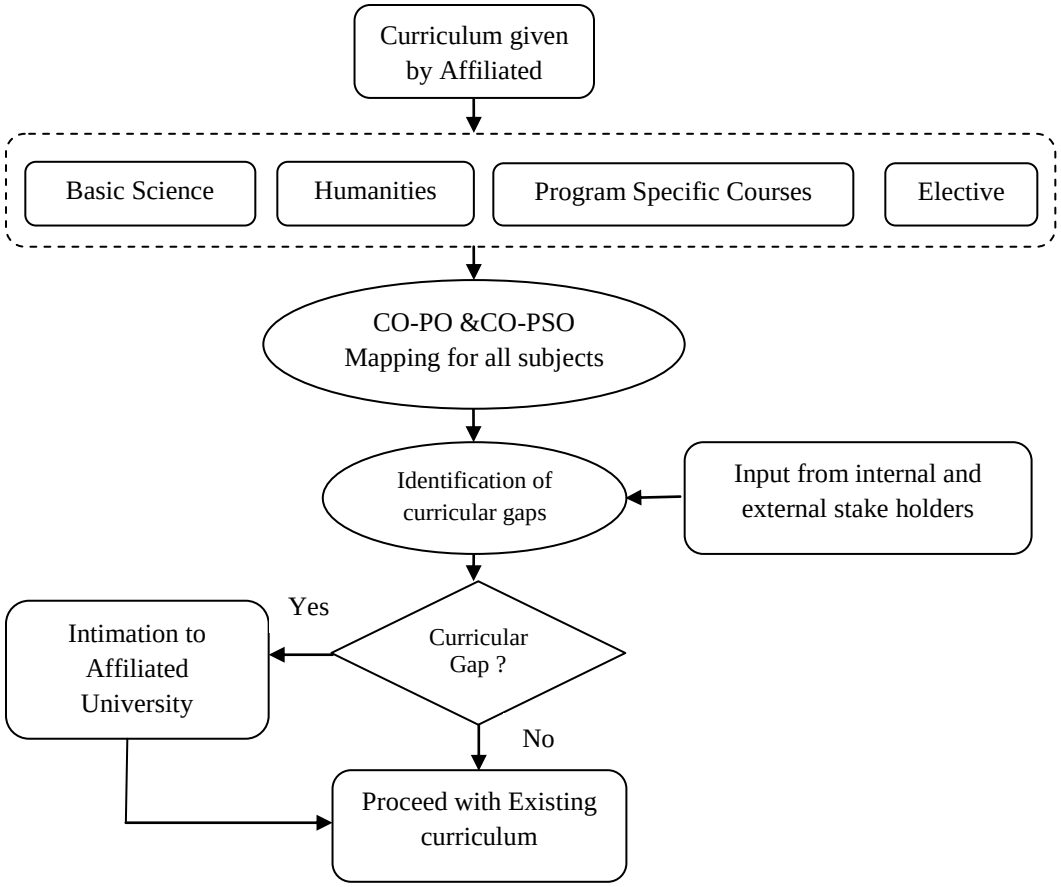
CRITERION 2	PROGRAM CURRICULUM AND TEACHING – LEARNING PROCESSES	120

2.1. Program Curriculum

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

Process:

Process Diagram to Identify Extent of Compliance of the University Curriculum for Attaining the Program Outcomes and Program Specific Outcomes



The extent of compliance of University curriculum with the POs & PSOs are identified and the process adapted to find out the curricular gaps as mentioned below:

A: The Curriculum is divided broadly into Four Categories as listed below.

1. Basic Science
2. Humanities
3. Program Specific Courses
4. Elective

B: Each Subject is mapped into the corresponding Category, Program Outcome and Program Specific Outcome as shown below:

Categories of Curriculum	Subjects	Percentage of Contribution	Mapped Program Outcome	Mapped Program Specific Outcome
Basic Science	Engineering Physics-I, Engineering Physics-II, Engineering Chemistry -I, Engineering Chemistry-II, Engineering Graphics, Fundamentals of Computing and Programming, Basic Civil and Mechanical Engineering, Environmental Science and Engineering	18%	PO1,PO2,PO7	PSO1,PSO2
Humanities	Mathematics I, Mathematics II, Transforms and Partial Differential Equation, Numerical Methods, Technical English I, Technical English II,	13%	PO1,PO2,PO4, PO10, PO11	PSO1,PSO2
Program Specific Courses	Circuit Theory, Measurements & Instrumentation, Electromagnetic Theory, Electronic Devices & Circuits, Electrical Machines – I, Power Plant Engineering, Control Systems, Linear Integrated	56%	PO1,PO2,PO3, PO4, PO5,PO11	PSO1,PSO2, PSO3

Categories of Curriculum	Subjects	Percentage of Contribution	Mapped Program Outcome	Mapped Program Specific Outcome
	Circuits and Applications, Digital Logic Circuits, Communication Engineering, Digital Signal Processing, Object Oriented Programming, Power Electronics, Electrical Machines II, Transmission & Distribution, Power System Analysis, Solid State Drives, High Voltage Engineering, Microprocessors and Micro controller, Design of Electrical Machines, Power System Operation and Control, Protection & Switchgear, Special Electrical Machines, Principles of Management, Electric Energy Generation, Utilization and Conservation			
Elective	Professional Ethics in Engineering, Intelligent Control, Power Quality ,Total Quality Management, Flexible AC Transmission Systems	11%	PO3,PO4, PO8,PO11	PSO1,PSO2, PSO3
Content Delivery			PO1,PO8, PO9, PO10	PSO1,PSO2, PSO3
Lab Work			PO1,PO2,PO3, PO4,PO5,PO9, PO10	PSO1,PSO2, PSO3
Project Work			PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9, PO10,PO11, PO12	PSO1,PSO2, PSO3

Program Outcome	Weightage (PO count) based on the mapping of Subjects	Percentage
PO 1: Engineering Knowledge	6	15
PO2: Problem Analysis	5	12.5
PO3:Design/Development of Solutions	4	10
PO4:Conduct investigations of complex problems	5	12.5
PO5: Modern Tool Usage	3	7.5
PO6: The Engineer and Society	1	2.5
PO7: Environment and Sustainability	2	5
PO8: Ethics	3	7.5
PO9: Individual and Team Work	3	7.5
PO10: Communication	4	10
PO11: Project Management and Finance	4	10
PO12: Life Long Learning	1	2.5

From the above table, POs having minimum weightage are identified as the curriculum gaps.

Program Specific Outcome	Weightage (PSO count) based on the mapping of Subjects	Percentage
PSO1: Use logical & technical skills to model, simulate and analyse electrical components and systems.	7	33
PSO2: Integrate the knowledge of fundamental electronics, power electronics and embedded systems for the controllability, reliability and sustainability of electrical systems	7	33
PSO3: Contribute for the development of smart power grid and integrating green energy on it to meet the increasing demand of the society.	5	23

From the above table, PSOs having minimum weightage are identified as the curriculum gaps.

C. Identified Curricular Gaps based on POs and PSOs are given below:

- PO6 : The Engineer and Society
- PO7: Environment and Sustainability
- PO12 : Lifelong learning
- **PSO3:** Contribute for the development of smart power grid and integrating green energy on it to meet the increasing demand of the society.

The Program Outcome and Program Specific Outcome are given in Annexure I

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

The curricular gaps are intimated by the faculty to the Head of the Department which is being forwarded to the Head of the Institution. Necessary modifications in the curriculum are intimated to the university by the Head of the Institution, further the gaps are strengthened by conducting following activities.

CAY (2014-2015)

S.No.	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Engineer and society (PO6)	Conducted Guest lecture on Applications Of LIC in control equipments	13.8.2014	Mr.D.Karthick, Design Engineer Hexsource technology Chennai.	96%	PO6
2	Environment and sustainability (PO7)	Conducted Guest lecture on Electrical Engineering in Petro Chemical Industries	25.9.14	Mr.L.Saravanan Design Engineer,SAIPAM, Chennai	93%	PO7
3		Industrial visit to Neyveli Lignite Corporation, Neyveli	20.3.15	Er.parasuraman Executive Engineer Neyveli lignite corporation	98%	PO7
4	Life long learning	Conducted value added training on	05.01.15-09.01.15	The Technical School of Yokogawa	100%	PO12

S.No.	Gap	Action taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
	(PO12)	PLC/SCADA		India Ltd.		
5		Conducted Guest lecture on Industrial automation using PLC &SCADA	22.8.2014	Mr.E.Sathyamoorthy, Application Engineer, Technocrat Automation, Chennai	95%	PO12
6	PSO 3	Conducted Guest lecture on Energy Scenario And Grid Operations	17.7.2014	Mr.Nallasivan Senior deputy manager TEDA,Chennai	95%	PSO3

CAY*m*1(2013-2014)

S.No.	Gap	Action Taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Engineer and society (PO6)	Industrial Visit to SHAR	12.3.14	P.Viswanatha sarma Dy head ldf, SHAR	100%	PO6
2	Environment and sustainability (PO7)	Conducted guest lecture on Recent trends and way forward in power	22.08.13	Mr.A.Santhosh Senior Manager Alstom, Chennai	94%	PO7

S.No.	Gap	Action Taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
		industry				
3		Conducted guest lecture on Solar applications in power system	03.02.14	Mr.Kumar Vice President,. Zynergy solar system	95%	PO7
4	Life long learning (PO12)	Conducted guest lecture on "ETAP Applications in Electrical Power Systems"	3.3.14 – 4.3.14	Mr.Vinoth Kumar Electrical Engineer, ETAP Automation Private Limited, Chennai	96%	PO12
5	PSO 3	Conducted guest lecture on Recent trends in electrical power system	30.01.14	Mr.P.Selvakumar Senior Engineer, ABB solution Pvt Ltd	93%	PSO3

CAY*m*2 (2012-2013)

S.No.	Gap	Action Taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Engineer and society (PO6)	Conducted guest lecture on Erection testing and Design of 11kV/33kV	12.09.12	Mr.Athisiyaraj Immanuel Design Engineer L&T Pvt Ltd.	93%	PO6

		Substation				
2	Environment and sustainability (PO7)	Industrial visit	3.10.12	Center for wind energy Technology, Pallikaranai, Chennai.	92%	PO7
3			11.3.13	400kV substation, Sriperumbudur	95%	PO7
4	Life long learning (PO12)	Given training on MATLAB/ SIMULINK	06.05.13	Mr.R.Shivakumar, Electrical Engineer, Newton Technologies, Chennai	95%	PO12
5		Conducted guest lecture on PLC&SCADA	14.03.13	Mr.N.Gopalan, Assistant Manager, Business development officer, PROLIFIC systems and Technologies Pvt LTd., Chennai	94%	PO12
6	PSO 3	Conducted a Lecture on Engineering solutions for Efficient grids for	27.07.12	Mr. S.Karthick Engineer BGR Energy Private Limited	100%	PSO3

		electric utilities and industrial companies.				

2.2 Teaching - Learning Processes

2.2.1. Describe Processes followed to improve quality of Teaching & Learning

The Institution follows various practices for the attainment of Program outcomes and program specific outcomes in acquiescence with university curriculum:

Academic Calendar:

- Academic calendar and semester plan are prepared well in advance with all the activities of the academic year which includes
    1. Class committee meetings.
    2. Professional society activity.
    3. Internal assessment schedule.
    4. Industrial visit.
    5. Industrial training.
    6. Syllabus coverage schedule.
    7. Guest lectures.
    8. Project review schedule.
    9. Academic audit.
- For the attainment of course outcome schedule is checked by HOD & HOI.

Pedagogical Initiatives:

- Real life examples
    1. Hands on projects
    2. Experimental learning
    3. In-plant training
    4. Industrial visits
- Collaborative learning
    1. Collaborative network learning (CNL occurs in interactive groups in which participants actively communicate and negotiate with one another within a contextual framework which may be facilitated by an online coach, mentor or group leader)
    2. Computer supported collaborative learning (CSCL systems use technology to control and monitor interactions, to regulate tasks, rules, and roles, and to mediate the acquisition of new knowledge)
    3. Learning Management system (Virtual Classrooms (i.e. geographically distributed classrooms linked by audio-visual network connections), chat, discussion threads, application sharing (e.g. a colleague projects spreadsheet on another colleague's screen across a network link for the purpose of collaboration), among many others.
    4. Student presentations
    5. Brainstorming
    6. Role play
    7. Debate
    8. Quiz

9. Online forum

- ICT supportive learning

  The following teaching – learning methods are being used by the faculty for better content delivery

  1. Simulation
  2. Animation
  3. You tube demos
  4. Online tests.
  5. e-learning resources:
     a. NPTEL
     b. Anna EDUSAT
     c. EKALAVYA
     d. UGC Gyan Dharsan.

Methodologies to Support Slow Learners and to Encourage Elite Students.

a. Appointment of Class Coordinators and Mentors:

- The department has appointed Class coordinators for each semester to monitor a class of students.
- Student Mentor is also appointed for every 20 students entering in the First year. This Mentor establishes a close relationship with each student, orients them to college practices, follows their progress regularly (e.g., with at least fortnightly/monthly meetings) and guides them throughout the four-year course.
- The class coordinator will take care of academic performance of the whole class and coordinates teaching learning process implementation.

b. Diagnosing and Tracking Student Performance and Attendance:

- The performance of students is reviewed by each course teacher during the semester. Based on the marks obtained in their assessment, the students are identified as slow learners, if they score less than 60 % in each subject.
- The efforts will be made to strengthen teaching, and/or provide additional teaching as needed. Reviewing student attendance in connection with performance, and advising students about attending classes, making up classes missed, and giving additional help are also useful.
- A 'History card' system is used for each student, and carried through for the four college years.

c. Improving Academic Performance:

- The performance of the slow learners is improved through Tutorial classes, where additional problems are solved and students interact with each other in addition to a faculty member for each 20 students.
- The department has a '**Student Academic Support Program**' which could systematically provide additional classes, notes and guidance.
- Student and faculty colaboration on Laboratory experiments, Mini project, and major projects are available to students formally and informally and more focus -attention will be given to slow learners of the group.

d. Enhancing Communication and Presentation Skills:

- The department in coordination with English department provides slots in English language Laboratory, where students can listen to tapes and use workbooks to improve their English, particularly spoken English in which they are weak. Such

students will be given special chances and such opportunities are not only confined to elite students.

- Slow Learners are provided with language and soft-skill development throughout their education (not only in the last two or three semesters). This makes the slow learners more interactive and oriented to confidence-building, rather than 'exam-oriented,' and 'job-oriented'.

e. Peer Learning Groups:

- An organized approach to involve slow learners in forming groups of 4 to 6 students - good and weak mixed, who learn jointly is established in the department. They can revise lessons after class or on weekends, before any assessments.
- Elite students will help the slow learners. The act of tutoring also helps elite students. There is a 'vertical' integration, i.e., senior students can work with juniors, and student-faculty interactions are also enhanced, where faculty members being available as resource persons to the student learning groups and even interacting informally with them. The pairing of elite students and slow learners results in better academic performance.

f. Class Room Teaching

- Faculty use traditional chalk and board method and also use other methodologies like power point presentations, over head projections for better understanding of the course.
- Innovative methods like explaining with the help of models, animations, charts, real time analogies and brain storming are made which make the class room teaching more interactive and interesting.

- Tutorial classes are conducted for analytical subjects where a class of students is divided into three groups, each with a teaching faculty. Therefore individual attention can be given to the students to solve the problems.
- University questions are solved in the classrooms.
- The students are also exposed to online EDUSAT courses by the subject experts of Anna University.
- NPTEL materials motivate the faculty, in exploring new teaching methodologies.
- It helps in the obtaining a sound understanding of the course fundamentals, design and implementation issues, etc.
- For the attainment of course outcome, academic audits are conducted twice in a semester where the completion of syllabus, tutorial classes and assignments are monitored.

Increasing Student Participation in the Classroom:

a. The students of different learning abilities are grouped together. The groups are instructed to choose topics from the syllabus, which may be different or the same. The groups are made to present a seminar for 10 to15 minutes each, showing how an issue can be looked at from different perspectives. Making one group of students present and the other groups ask questions is a good method to get students to interact, think and discuss.

b. The students are given assignments to prepare charts and are instructed to submit for review. After the review, the best charts are selected and they will be displayed in the classroom.

c. On-line assignments are also given to increase the student's participation in the class

room and they are also asked to collect other on-line materials including movie clips, simulations, and Laboratory demonstrations given in the syllabus. This enables the 'back-benchers' to come to the front, thus making less confident, bored or disruptive students engaged.

Experiments

- Faculty prepare laboratory manual well ahead of the semester which includes Do's and Don'ts of the laboratory, list of experiments, the procedure on how the experiments are to be done and sample calculations.
- Faculty test runs the experiments before starting of the semester and makes a record in laboratory manual which helps in offering constructive suggestions to the students.

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

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

Continuous Assesment in laboratory:

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

Student's feedback of teaching learning process and action taken:

1. **Semester Course Outcome (CO) Report:** These contain information on student performance and feedback and actions taken in consequence thereof.
2. **Semester Programme Outcome (PO) Report.** These include an analysis of statistical data on student achievement and progression in the internal assessment and Anna University Examinations. The failure rates and the academic performance of the students are analysed. The Reports will record any significant difficulties that have been identified from student feedback about the faculty who handled the course and actions taken in consequence of these.
3. **Periodic Review.** The Class committee meeting will analyse the performance of the students and the Department will review the performance of the faculty members based on student's feedback twice in a semester.

4. **Anna University examination result.** These relate to both academic standards and to the quality of teaching and learning and may provide statistical data on the attainment of COs and POs.
5. **Course feedback after Completion of the syllabus.** Held on the last day of each Semester, this provides an open forum for students to provide feedback about each term, including all the courses, guest seminars, workshops and other activities. Elected student representatives will pass on student comments anonymously if so wished but the spirit of the sessions is informal and the intention is to create a constructive dialogue between students and staff. .
6. **Academic audit.** The Committee usually meets twice a Semester to discuss all aspects of the programme and to take action, where necessary, in respect of student feedback. The Academic audit Committee ensures that Graduate attributes are conducted in accordance with COs and reports to the Principal.
7. **Centralized online student feedback System**:

   The faculty members are evaluated through the online feedback system on their teaching and learning process twice in the semester. Depending on the feedback suggestions and guidelines are given to the corresponding faculty. The feedback is collected with the following parameters as follows:

   - Organization of the subject matter in a logical sequence
   - Faculty coming to the class on time and engaging regularly
   - Preparation made by the faculty on the subject
   - Faculty's knowledge on the latest developments in the subject area
   - Faculty's ability to maintain discipline in the class

- Assistance and Counseling offered by the faculty to the needy students
- Faculty's appreciation and feedback on the students' performance
- Ability to take class audibly and clearly
- Usage of various methods and materials like OHP, Presentation to take class
- Ability to write and draw legibly
- Teacher's ability to explain the concepts well and provide adequate examples
- Ability of the faculty to give instructions to the students according to their understanding
- Fare and impartial valuation of the answer papers
- Regular conduction of assignments tests and returns the answer papers on time.

8. **Staff Appraisal.** With regard to the student feedback, actions are taken (if feedback score is less than of equal to 2.5) during appraisal of the faculty.

2.2.2. Quality of internal semester Question papers, Assignments and Evaluation

Process for internal question paper setting and evaluation and effective process implementation

Initiatives:

- A committee is formed comprising ofHead of the department, senior faculty members and course coordinator.
- The Senior Faculty member handling the subject is fixed as the Course coordinator.
- All the faculty members are advised to set the question paper which will make the students think analytically**.**
- Every Question Paper includes a few higher order thinking questions which are challenging for the mind.

- Multiple question papers are collected from the course instructors and best among them is selected by the committee.

Process to ensure questions from outcomes /learning level perspective:

There are 3 written regular examinations namely Continuous Assessment Test (CAT1, CAT2 & CAT3) and practical examination in line with academic schedule of the department. The objective of the committee is to maintain the following attributes to attain the COs, POs and PEOs.

1. Clarity
2. Reliability
3. Validity
4. Authenticity
5. Fairness

Clarity: The following points are avoided while setting the question paper for internal assessment.

a. Unclear test instructions
b. Confusing and ambiguous terminology
c. Being overly verbose
d. Using complicated vocabulary
e. Difficult or poor sentence structure
f. Unnecessary and distracting detail.

Reliability: The following points are given as guidelines for the question paper setters to maintain reliability.

a. Does the question allow faculties to grade it consistently and does it allow faculties to discriminate between different levels of performance?

b. Does the question paper elicit an accurate measure of a student's ability to demonstrate their knowledge and skills?

Validity: The following points are given as guidelines for the question paper setters for validity.

- The Question paper setters ensure that the questions measure the achievement of the intended learning outcomes of the unit module.
- The form of the examination question may also include Short and Essay Type Questions.

Authenticity: The Question paper setters are given guidelines to maintain the authenticity to match the style and approach of question setting to the reality of practice to attain COs and POs. They will consider the testing of "procedural knowledge" or "functioning knowledge"

Fairness: The question paper setters will give students a fair chance to demonstrate what they know and what can they do. Fairness can be facilitated by the faculty members by giving following guidelines:

a. Being very clear about expectations in student performance.

b. Providing examples of past examination papers.

c. Opportunities for students to practice in Mock Examinations.

Evaluations:

After each Continuous Assessment Test and Daily test, each course handling faculty member evaluates the answer scripts within 3 days after completion of the examination. They prepare reports to analysis the learning level of the students to attain the COs and POs. The faculty members prepare the report as follows:

A. Test Scores:

Blooms Level	**CO1**	**CO2**	**CO3**	**CO4**	**…..**	**COn**
Q.No	1	2	3	4	-------	N
Marks						
Student 1						
Student 2						

The marks scored by each student is entered in the above format in an excel sheet and analyzed.

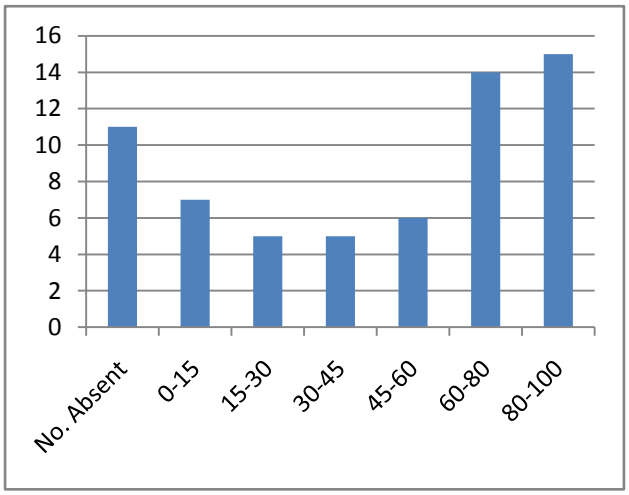
B. The data required for the analysis are given below:

Class Strength	**Total No. of students attended**	**No. of students absent**	**% of students attended**

C. Details of the score sorted in intervals

Total Present	**Total absent**	**0-15**	**15-30**	**30-45**	**45-60**	**60-80**	**80-100**

D. Mark Distribution curve :



Evaluation Outcome:

a. Analytical strength of the class

b. Students with multiple skill set

c. Students inclined in particular skill set

d. The teaching method to meet all students of all skill sets

e. Number of academically weak students in the course.

Assignments

The following types of assignments are given to the students to make them attain the Course outcomes of the programme.

a. Writing Essays or problems on the topics given in syllabus.

b. Writing Term Papers on the topics given in syllabus.

c. Internet Assignment

d. Field Assignment

e. Library Assignment on latest Trends.

2.2.3. Quality of student projects

Identification of projects and allocation methodology to Faculty Members

- Project Coordination Committee is formed by HOD comprising of senior faculty members.
- Project teams were formed based on student's area of interest to design and develop solutions for complex problems.
- Based on faculty area of expertise, HOD allocates Supervisor for the project teams.
- Students can undertake research oriented and Industry based projects under the guidance of Project Coordination Committee and the academic supervisor.
- Students are instructed to refer reputed journals and identify the problem statement and propose suitable solution.
- The working methods, time line, roles and responsibilities must be defined first. They have to plan the project and divide the tasks between themselves.
- Summer, winter and Mini Projects have been incorporated in order to enhance and utilize the creative potential of the students and built positive attitude, which will help them in their social & technical life.
- The project is designed to help students develop practical ability & knowledge about practical tools, techniques in order to solve real life problems and also connect with society. It also helps them to work in teams.

Process for Monitoring and Evaluation

- The teacher acts as a facilitator by initiating the project and giving guidance, input and feedback during the project.
- He/She encourages all the students to participate and ensures that the student accomplish their tasks as scheduled.

- The progress of the project is evaluated based on minimum three reviews at various stages of the project implementation.
- The review committee consisting of senior faculty member is constituted by the Head of the Department.
- Students will present the progress of their project for each stage of implementation during each review meeting conduced by the review committee.
- The presentation will cover all the relevant factors, from the problem formulation till the particular stage along with the simulation and hardware details which they have inferred before the review.
- The presentations will also contain snapshots of the various stages of implementation of the hardware and also screen shots of the simulation test results.
- The reviewers will take the points presented into consideration and the test data / results / screenshots and elicit information on those angles not covered or partly covered in the presentation.
- The reviewers, taking a 360 degree view of the project, shall also rate the projects on objective criteria, agreed amongst them by consensus. They shall record the criteria of

selection, rating achieved under each such criteria and their overall comments in respect of each of the reviewed project.

- The feedback of the performance will be given to students to improve the quality of work.

Process to assess individual and team performance

- The Project Coordination Committee evaluates the quality of project work, their Individual and Team performance and their communication and Presentation Skills.
- A Project evaluation form is used as a measure to evaluate the performance of project.
- The Project Coordination Committeewill continually evaluate their progress and suggest Changes to enrich their work.

Quality of completed projects/working prototypes

Project Coordination Committee evaluates the quality of project based on the following criteria:

- Design, Analysis and Implementation as well as presentation.
- Application oriented, Research oriented and projects having societal impacts.
- Projects suitable for applying for patents. Publishing papers in National conference, International conference and reputed journals.
- Project enabling the students to improve their organizational and research skills which develop better communication with their peers.
- Cost effectiveness.

Papers Published / Awards received by the Projects

- Supervisor encourage the students to publish papers in reputed journals

Evidences of papers published /Awards received by projects

S.NO	AUTHOR NAME	PAPER TITLE	Published in National/International Symposium/ Conference/Journal
CAY(2014-2015)			
1	Vaishnavi.S. Vinotha.R .Soorya Prakash.P	AGC for Two Area Interconnected Power System using Bacterial Foraging Optimization Algorithm	International Journal
2	R.Sudarsan, S.A.Venkatesh Krishna, P.Vinodhinipriya J.P.Vijay	Automation In Automobiles Using Arduino Programming	International Journal
3	Kapardi.M, Krishna.M, Ashwin.R, Pranav.G	Automation of Household Appliances Using Touch screen Interface	International Journal
4	Ramkishore.N.M, Srinandini.K, Siva Subramanyan.A Preeja.I.S	Implementation Of Real And Reactive Power Control Of Grid Tied Z Source Inverter Using Hybrid Renewable Energy Sources	International Journal
5	Valli.C, Yamini Ramesh and Shyam Narayan.J	Design and Implementation of Reconnoiter Robot using Grid-EYE for Military Purposes	International Journal
6	Karpagapreetha P , Mithra R, Karthik R, Krishna Kumar S	Load Frequency Control For Two Area Interconnected Power System Using Bacterial Foraging Optimization Algorithm	International Journal
7	Pavithra G, KeshavS,	Implementation Of Non-Isolated ZVZCS PWM Interleaved Boost	International Journal

S.NO	AUTHOR NAME	PAPER TITLE	Published in National/International Symposium/ Conference/Journal
	Balasubramaniam, N Mohan	Converter	
8	P.Ponram, K.Siddharth, T.Lokesh, V.Vignesh	Patient health monitoring and ambulance tracking using GSM and GPS	International Journal
9	Dinesh	Crop Planning And Crop Care Tool For Agriculture Based On WSN Technology	International Journal
10	V.Manoj, J.Chandramouli, T.Aswath, S.Bharat Krishn	Light Fidelity Based Smart Mobile Indoor Navigation System For Visually Impaired	International Journal
11	G Aaron, K.Krishnamurthy	Monitoring Power And Management Of Mechanical Vibrations And Temperature Of Small Wind Turbines Using WSN	International Journal
12	Sushmabhagyashree.S , Swathy.K , Vasuvi.V, Vishal.S,	Sensor Based Control of Intensity of LED Street Lamps Using Piezoelectric Technique	International Journal
13	N.Akash P.Aravind S.Dineshkar	Smart laser theft alarm	International Journal
CAYm1 (2013-2014)			
1	M.Kapardi	Morphological changes associated with the genesis and development of an excitatory gultamergic synapse-An integrated frame work model	International conference
2	S.Boopathy,	Race control Algorithm of FBPRCP	National Conference

S.NO	AUTHOR NAME	PAPER TITLE	Published in National/International Symposium/ Conference/Journal
	M.Prathap, R.Santhosh Kumar, M.Subash, Mrs. Deva Brinda	converter using FPGA	
3	Mrs.Chandrakala P.Amudha, R.Dhanalakshmi, S.Indhubala	Voltage Fluctuation Mitigation using Dynamic Voltage Restorer	National Conference
4	Aarthi.P, Aiswarya.S, Baala Sriram, Brinda.V, Jayalakshmi.D	Solar Power Panel Based Z-Source Inverter Fed Brushless DC Motor	National Conference
5	N. Venkateswari S.Anuj, R.Bharathwaj, M.Hariharan.	Modeling and simulation of solar operated Train	National Conference
6	Mrs.M.Aruna K.Giridhar Anuchand, S.Manikandan,	Reconnaissance Robot	National Conference
7	Jayanand Vijayan, Karthik.Ravishankar, Kaushik.TK, Madhusudhanan Dr.A.Peer Fathima	Wireless Health Monitoring and Closed Loop Speed Control of DC Motor	National Conference
8	B.V. Sanker Ram, R.Arvind, R.Karthik, N.Manikandan Mrs.Neena Ramesh	Design and Analysis of UPFC in IEEE 5 Test Bus Using MATLAB& SIMULINK	National Conference

S.NO	AUTHOR NAME	PAPER TITLE	Published in National/International Symposium/ Conference/Journal
9	C.Gopinath, Dr.R.Ramesh, S.Mahalakshmi, R.Priya, M.Sathya K.Swetha	Voltage sag compensation using Dynamic voltage Restorer	National Conference
CAYm2(2012-2013)			
1	Dr.N.O. Gunasekhar, Ja.Sruthi	Doubly fed Induction Generator based Wind power Generation using Matrix Converter	National Conference
2	Prathiba.S, Adithya Ram	Power Electronic Converter Employing Soft Switching Technique applied to Heating Application.	National Conference
3	Dr.C.Umayal, Anoo.S	Power Factor Correction of PMBLDC Motor using Fly back Converter	National Conference
4	A.Joseline Metilda, Adithya	A Novel approach to Power Management System in Micro Grids	National Conference
5	A.Joseline Metilda, E.Sangeetha	Mitigation of harmonics using PLL with PID controller based Shunt Active Power filter	National Conference
6	Smilee Mathuram, C.Siva Kumar	Design of Unified Power Quality Conditioner To Improve the Power Quality Problems by Using Renewable Energy Source	National Conference
7	M.Devabrindha, Vishnu Priya	Load Frequency Control of a Two Area Interconnected Power System using Genetic Algorithm tuned PI Controller	National Conference
8	C.Gopinath,	Alleviation of Harmonics using Series	National Conference

S.NO	AUTHOR NAME	PAPER TITLE	Published in National/International Symposium/ Conference/Journal
	N.Jeyashri	Power Line Compensator	
9	C.Gopinath, K.Amrita	Restitution of Voltage Using Fuel Cell Based Dynamic Voltage Restorer	National Conference
10	D.Chandrakala , Bharathram	Brake pad Actuation using Electro-magnetic Coils	National Conference
11	K.V.Thilagar, Pallavi.E	Regenerative Braking in Electric Vehicle using BLDC Motor	National Conference
12	A.Rajasekhar, S.Muthukannan	Phase Opposition Disposition Based Triggering of Multilevel Inverter Using a Single Carrier Signal	National Conference
13	V.Abirami, Anand	Advanced DC Converter for a variable Speed Drive	National Conference
14	Marshall Arockiadoss.P, ,Anu Prabha.M	A Semi automatic Continuity test kit for Travelling Cable Assembly	National Conference
15	Harinarayanan.J Sinduja	Field Trials and Performance monitoring using a Low-Cost Wireless Sensors Network for Domestic Applications	National Conference
16	Ramesh Prabhu.S, Balakumar	21-Level Cascaded H-Bridge Grid – Tied Inverter	National Conference
17	V. Annie Prema M.Vijayalakshmi	Operation and Design of Isolated Bi-directional Full bridge DC-DC Converter with a Fly back Snubber	National Conference
18	P.Balamurugan, R.Priya	Stability Improvement using GA based PID Controller of a DFIG-Based offshore Wind Farm Connected to a Power Grid Through an HVDC	National Conference

S.NO	AUTHOR NAME	PAPER TITLE	Published in National/International Symposium/ Conference/Journal
		link	
19	H.Umeshprabhu, Nivethan.K.G	Determination of State of charge using Optical Fibre sensors	National Conference
20	D.Jayalakshmi, S.Prasanth	Three Phase Three Port Fly Back Micro Inverter For Photovoltaic Applications	National Conference
21	Mrs.T.Santhi, R.A.Prasanth	Matrix Converter-Based Unified Power-Flow Controllers: Advanced Direct Power Control Method	National Conference

Types and relevance of the projects and their contribution towards attainment of POs:

List of Best Projects:

CAY(2014-2015)

S.no	Students name	Title of the project	Type	Attainment of outcomes	
				POs	PSOs
1.	Anees Ahmed. M. S Ganesh ram. P V. Giri prasaad S.Gowtham	Optimized solar power tricycle for the physically challenged	Research	1,2,3,4,5,6,7, 8,9,10,11	1,2,3
2.	Ashwin Ravishanker Kapardi.M Krishna M Pranav.G	Automation of home appliances using touch screen interface	Society	1,2,3,5,6,7,8, 9,10,11	1,2,3
3.	Soundhar.S Sundar.V	Surveillance quad rotor	Society	1,2,3,4,5,6,7, 8,9,10,11	1,2,3

	Vignesh.S Visalan.S				
4.	Ramya ravishankar Rohith.S Sai prashanth.R Vishal.G	Solar based automated LED street lighting system	Research	1,2,3,5,6,7,8, 9,10,11	1,2,3
5.	Raaja shri.R. Saranya.R. Shruthi.R.	Image analysis of cystic fibrosis using Neuro fuzzyand genetic algorithm	Research	1,2,3,4,5,6,7, 8,9,10,11	1,2,3

CAYm1(2013-2014)

S.No	Students name	Title of the project	Type	Attainment of outcomes	
				POs	PSOs
1.	Hari priya k C. Afsar basha Infant martina s S. Rajmohan	Single phase hybrid source five level inverter with reduced number of switches	Research	1,2,3,5,6,7,8, 9,10,11	1,2,3
2.	K.Sowmya G.Ratha S.Siva G.Naveen kumar	Z source inverter with simple boost control technique for energy efficient for solar conversion	Research	1,2,3,4,5,6,7, 8,9,10,11	1,2,3
3.	Bhalamurugan.R Gopinath .M Gunaseelan K A.pradeep kumar	Maintaining the voltage stability of the grid using electric springs	Society	1,2,3,4,5,6,7, 8,9,10,11	1,2,3
4.	Meenaloshini.R	Analysis of rail gun	Research	1,2,3,4,5,6,7,	1,2,3

	Angelin priyadharshini M.S. Barani.R T.Thirunavukarasu	design parameter using finite element method		8,9,10,11	
5.	K.Prasanthi V.Praveen A.Vidya	Energy management for hybrid generation system	Society	1,2,3,5,6,7,8, 9,10,11	1,3

CAYm2(2012-2013)

S.no	Students name	Title of the project	Type	Attainment of outcomes	
				POs	PSOs
1.	Shravanthi.R Shrinivass A.V Sidhant seth Naveen roy	Delineation of market structure and frequency related ancillary services in a deregulated environment	Research	1,2,3,4,5,6,7, 8,9,10,11	1,2,3
2.	Nisha irudayaraj Pallavi elango Ranjani A.R. Shankaran.B	Regenerative braking in electric cycle using BLDC motor	Society	1,2,3,5,6,7,8, 9,10,11	1,3
3.	Mirunalni D Jeyashri .N. Meera .A Arivanandham T.R	Alleviation of harmonics using series power line conditioner	Research	1,2,3,4,5,6,7, 8,9,10,11	1,2,3
4.	Lavanya S.V. Dharani K.R. Karthik M D.karthikeyan	Integrated sources powered remote monitoring system	Research	1,2,3,5,6,7,8, 9,10,11	1,3

5.	Kirubhahar Praveen P Akshay jalan Bharath ram adithya.M Gowtham ram Abhishek .T. S. Ganesan	Break pad actuation using electro magnetic coils	Society	1,2,3,5,6,7,8, 9,10,11	1,3

2.2.4. Initiatives related to industry interaction

Industry Supported Laboratories

- E – Yantra Lab is established in collaboration with IIT Mumbai Sponsored by MHRD. Staff and Students are involved in various projects related to robotics which gives a sound knowledge to the students in robotics field. Students are involved in various competitions conducted by IIT Mumbai.

Industry Involvement in the Program Design

- Our college has Industry Institute Interaction Cell (IIIC) to have better interaction with industries for arranging industrial visits, guest lectures, in plant training and placement. MoUs are signed with leading industries.
- Institute is accredited by TCS and Gold Partner by HCL. The college is a certified training institute recognized by CISCO to conduct certified networking programme. Institute organizes FDPs, workshops, conferences and other training programmes in association with research bodies such as DRDO, CSIR, IEEE, ISTE, IET, and AICTE and also with Anna University.
- Institute has a separate soft skill training cell to develop the students with good communication, technical and soft skills towards placement.
- Guest Lecture is organized to our students with the latest updates of the Industries and

Technicalities. The Students are bestowed with knowledge about Industry needs, latest technical updates, Avenues for Higher studies etc..

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

Value Added Course Details:

- Value added courses are conducted to enrich students skill set.
- Head of the Department along with Professors frame the Value Added Courses to be conducted.

CAY(2014-2015)			
S.No.	**Date**	**Name of the course**	**Name of the Company/Industry**
1	05.01.2015 to 09.01.2015	PLC/SCADA	Yokogawa
2	09.01.2015 to 13.01.2015	MATLAB	HEXDOF
3	Weekly two hours	Basic Electrical and Electronics	Orbit Edutech Pvt Ltd
4	Weekly two hours	Auto CADD	CADD center
CAYm1(2013-2014)			
S.No.	**Date**	**Name of the course**	**Name of the Company/Industry**
1.	07.07.2014 to 12.07.2014	MATLAB	Newton Technologies
2.	Weekly two hours	Auto CADD	CADD center
3.	Weekly two hours	Basic Electrical and Electronics	Orbit Edutech Pvt Ltd

CAYm2(2012-2013)			
S.No.	**Date**	**Name of the course**	**Name of the Company/Industry**
1	Weekly two hours	Basic Electrical and Electronics	Orbit Edutech Pvt Ltd
2	27.8.12 to 31.8.12	PLC/SCADA	Yokogawa
3	7.1.13to11.1.13	OR-CAD	Newton Technologies
4	Weekly two hours	Auto CADD	CADD center

The department invites experts from industry for invited lectures that the students and staff attend.

- The topics are identified to fill the curricular gaps and the eminent speakers on that domain are invited from reputed institutions, industries and leading MNC.
- Circular is sent to the students and copy is put in notice board.
- Feedback is collected from students .and speakers.

Guest Lecture Summary with Industrial Experts:

CAY(2014-2015)			
S.No	**Date**	**Topic**	**Guest Details**
1	17.07.2014	Energy Scenario And Grid Operations	Mr.Nallasivan Senior deputy manager TEDA,Chennai
2	13.08.2014	Applications of LIC in control equipments	Mr.D.Karthick, Design Engineer Hexsourcetechnology, Chennai.
3	14.08.2014	Applications of LIC in control equipments	Mr.D.Karthick, Design Engineer Hexsourcetechnology, Chennai.
4	22.08.2014	Industrial automation using PLC &SCADA	Mr.E.Sathyamoorthy, Application Engineer, Technocrat Automation, Chennai

5	22.08.2014	Industrial automation using PLC &SCADA	Mr.E.Sathyamoorthy, Application Engineer, Technocrat Automation, Chennai
6	25.09.2014	Electrical Engineering in Petro Chemical Industries	Mr.L.Saravanan Design Engineer,SAIPAM, Chennai
CAY m1(2013-2014)			
S.No.	**Date**	**Topic**	**Guest Details**
1.	22.08.2013	Recent trends and way forward in power industry	Mr.A.Santhosh GEC Alstom, Chennai Senior Manager
2.	19.09.2013	Evolving trends in electric power conversion	Mr.S.Thirukumaran SPIRO solutions Pvt Ltd Electrical Engineer
3.	26.09.2013	Embedded systems	Mr.Debi Prasad Electrical Engineer Technical head, ACCEL IT Academy, Chennai
4.	20.09.2013	Embedded systems	Mr.Debi Prasad Electrical Engineer Technical head, ACCEL IT Academy, Chennai
5.	23.09.2013	Embedded systems	Mr.Debi Prasad Electrical Engineer Technical head, ACCEL IT Academy, Chennai
6.	30.01.2014	Recent trends in electrical power system	Mr.P.Selvakumar ABB solution Pvt Ltd Senior Engineer

7.	03.02.2014	Solar applications in power system	Mr.Kumar Zynergy solar systemVice President
8.	03.03.2014, 04.03.2014	ETAP Applications in Electrical Power Systems	Mr.Vinoth Kumar ETAP Automation Private Limited, Chennai
9.	04.03.2014	Control System Applications in Electrical Engineering	Er.S.Uma Vi micro systems PVT Ltd, Chennai,Research and Development Engineer
10.	30.01.2014	Recent trends in electrical power system	Mr.P.Selvakumar ABB solution Pvt Ltd Senior Engineer
CAYm2 (2012-2013)			
1	27.07.2012	Engineering solutions for Efficient grids for electric utilities and industrial companies.	Mr. S.Karthick Engineer BGR Energy Private Limited
2	12.09.2012	Erection testing and Design of 11kV/33kV Substation	Mr.Athisiyaraj Immanuel Design Engineer L&T Pvt Ltd.
3	14.03.2013	PLC& SCADA	Mr.N.Gopalan,Assistant Manager, Business development officer,PROLIFIC systems andTechnologiesPvtLtd., Chennai
4	06.05.2013	MATLAB/SIMULINK	Mr.R.Shivakumar, Electrical Engineer, Newton Technologies, Chennai

MOU DETAILS:

- Department has signed MoU with below mentioned industries for providing industry related seminars/guest lecturers/workshops and placement drive.

Academic Year	Name of the Organization	Scope	Outcome
2013-2014	Hibrise Technologies Pvt. Ltd. (26-08-13).	❖ Technologies Advancement ❖ Job Prospects ❖ Case studies of key Engineering installations in India. ❖ Training on DCS/PLS every year ❖ Project Work	❖ They conducted training on PLC & SCADA ❖ Students gained knowledge in PLC & SCADA
2012-2013	Newton Technologies. (06-02-13).	❖ Guidance to conduct international conference ❖ Organization of whole program ❖ Publish the selected paper in IEEE Xplore digital library	❖ Staff and students published their papers in IEEE Xplore ❖ Staff and students gained their valuable knowledge in research

Impact analysis of industry institute interaction and action taken thereof:

- Feed back is obtained from the students and based on the feedback the industries are assessed.

2.2.5. Initiatives related to industry internship/summer training

Industrial /Internship/Summer Training

Initiatives

The inplant training coordinatorencourages to undergo in-plant training or internship, in their pre-final year vacations. This will enable the students

- To gain hands-on experience in implementing whatever they have learnt in their curriculum.
- To train themselves on the state of the art equipments and standards used by the industries.
- To present themselves as complete professionals, when they go for placements.

Arranging for In-plant training / Internship

- Students will choose a domain that they come across in their academia and find the industries available on that particular domain which provides training.
- Students will then approach the department for getting approval.
- The college will issue the necessary documents like a bonafide certificate and request letter to the concerned industry.
- After the consent of the industry the students will attend the training program in the respective industries.

Impact Analysis of Industrial Training

- Assessment will be based on type of industry, objectives, number of students participated, relevant area of training, documented visit report.
- Analyzing the likely impacts of the training on the performance of the student through detailed interaction with students.

Student Feedback on Initiative

- Feedback is obtained from the students regarding the training.
- Taking necessary actions with regard to the feedback given by the students who underwent training.

Details of the training undergone:

CAY(2014-2015)

Sl.No	Name of the Student	Class	Company Name	Duration of Training
1.	Divya Abirami. R	II	BSNL	15.12.2014 to 19.12.2014
2.	Sreyas.S	III	Schneider electric	3.12.2014 to 15.12.2014
3.	Vignesh. S	III	Ennore thermal power station	22.12.2014 to 26.12.2014
4.	Vasigaran.R	III	Ennore thermal power station	22.12.2014 to 26.12.2014
5.	B.Kribakaran	III	Ennore thermal power station	22.12.2014 to 26.12.2014
6.	S Sethupathy	III	Ennore thermal power station	22.12.2014 to 26.12.2014
7.	Gokul Raaj . S.G	III	Ennore thermal power station	22.12.2014 to 26.12.2014
8.	M. Kapil	III	Ennore thermal power station	22.12.2014 to 26.12.2014
9.	M.Deeepak	III	Ennore thermal power station	22.12.2014 to 26.12.2014
10.	D.Devarajan	III	Ennore thermal power station	22.12.2014 to 26.12.2014
11.	A.Vignesh	III	Airports Authority of India	15.12.2014 to 17.12.2014

Sl.No	Name of the Student	Class	Company Name	Duration of Training
12.	Aishwarya.A	III	LUCAS TVS LTD.	15.12.2014 to 19.12.2014
13.	Bhavani.P	III	LUCAS TVS LTD.	15.12.2014 to 19.12.2014
14.	Akshaya.S	III	LUCAS TVS LTD.	15.12.2014 to 19.12.2014
15.	S.Hariharan	III	Integral Coach Factory	11.12.2014 to 18.12.2014
16.	T.N.Karthick	III	Integral Coach Factory	11.12.2014 to 18.12.2014
17.	R.Meiarul selvam	III	Integral Coach Factory	11.12.2014 to 18.12.2014
18.	Abhilash unnikrishnan	III	Andrew Yule and company ltd.	15.12.2014 to 19.12.2014
19.	Akshay jeyakumar	III	Al Reyami electromechanical works	07.12.2014 to 03.01.2015
20.	Varsha, C.Sathish	II	TANGEDCO	22.12.2014 to 27.12.2014
21.	D.Vaishnavi	II	TANGEDCO	22.12.2014 to 27.12.2014
22.	D.Vaishnavi	II	Orchid chemicals &pharmaceuticals ltd	16.12.2014 to 19.12.2014
23.	Maneesha.R	III	Integral Coach Factory	03.12.2014 to 17.12.2014
24.	Sreyas.S	II	Schneider electric	03.12.2014 to 15.12.2014
25.	P.Aravind	II	Salcomp	22.12.2014 to 26.12.2014
26.	S.Srividhya	II	TANGEDCO	22.12.2014 to 27.12.2016
27.	T.Sangeetha	II	Talema-india	09.12.2014 to 13.12.2014
28.	T.Sangeetha	II	BSNL	15.12.2014 to 19.12.2014
29.	B.Sangeetha	II	TANGEDCO	22.12.2014 to 27.12.2014
30.	G.R.Pavithra	II	TANGEDCO	22.12.2014 to 26.12.2014
31.	B.Prakash	II	Coromandel	15.12.2014 to 17.12.2014
32.	E.Kameshwaran	III	TANGEDCO	16.12.2014 to 18.12.2014

Sl.No	Name of the Student	Class	Company Name	Duration of Training
33.	R.Sai vijayeendra	III	TANGEDCO	16.12.2014 to 18.12.2014
34.	D.Ragavi	III	TANGEDCO	22.12.2014 to 26.12.2014
35.	G.Vinodhini	III	TANGEDCO	22.12.2014 to 26.12.2014
36.	D.Aarthy	II	BSNL	15.12.2014 to 19.12.2014
37.	Ramya.v	II	TANGEDCO	22.12.2014 to 27.12.2014

CAYm1(2013-2014)

Sl.No	Name of the Student	Class	Company Name	Duration of Training
1	Aishwarya .B.V	III	Nissan Ashok Leyland	11.06.2014 to 20.06.2014
2	CG .Akkshara	III	WYSE Technology	16.06.2014 to 20.06.2014
3	Akshaya Priyadharshini A	IV	Neyveli Lignite Corporation	13.06.2014 to 20.06.2014
4	Anees Ahmed.M.S	IV	Neyveli Lignite Corporation	13.06.2014 to 20.06.2014
5	GR .Arun	IV	Neyveli Lignite Corporation	13.06.2014to 20.06.2014
6	Ashwin Ravishanker	IV	TTK Prestige	20.04.2014 to 03.05.2014
7	Ashwin Ravishanker	IV	HCL	16.06.2014to 20.06.2014
8	S.Balakrishnan	IV	Neyveli Lignite Corporation	17.06.2014to 24.06.2014
	S.Bharat krishna	IV		17.06.2014to 24.06.2014
	C.Binodh	IV		17.06.2014to 24.06.2014
	RR.Deva keerathana	IV		13.06.2014to 20.06.2014
	V.Dhaneshwaran	IV		17.06.2014to 24.06.2014
9	S.Gowtham	IV	Emerson CT	16.06.2014to 20.06.2014
10	A.Jeeva	IV	Ashok Leyland	12.04.2014to 17.04.2014

Sl.No	Name of the Student	Class	Company Name	Duration of Training
11	A.Jeeva	IV	Emerson CT	16.06.2014to 20.06.2014
12	T.Kaavya	IV	Neyveli Lignite Corporation	13.06.2014to 20.06.2014
13	M.Krishna	IV	Emerson CT	16.06.2014to 20.06.2014
14	K.Krishna murthy	IV	Ashok Leyland	12.04.2014to 17.04.2014
15	RP.Mithra N.Padmaja (a) sharmila Preeja IS K.Sri Nandini	IV	Neyveli Lignite Corporation	13.06.2014to 20.06.2014
16	R.Sruthi K.Swathy S.Sweata V.Vasuvi	IV	BSNL	16.06.2014to 20.06.2014
17	V.Yamini Ramesh S.Vaishnavi Vishal.G	IV	Jaaz Electro Drive System	16.06.2014 to 17.06.2014
18	S.M.Manopriya	IV	ISRO Propulsion Complex(IPRC)	16.04.2014to 23.04.2014
19	Karpagapreetha.P	IV	Alstom T&D India Ltd	16.06.2014to 20.06.2014
20	Aanand Ram.P	IV	Rail Net Software Solutions	16.06.2014to 21.06.2014
21	Ponram.P	IV	SelvaganaPathy Cotton Mills	16.06.2014to 20.06.2014
22	Kaavya T Akshaya Priyadarshini A Devakeerthana R Mithra R P Padmaja(A)Sharmila N	III	Nuclear Power Corporation ,Kudankulam	18.12.2013 to 26.12.2013
23	Maneesha R JeyaKeerthana J S.Karthick Sundar R.Karthick K.Balaji	II	TANGEDCO, K.K Nagar	19.12.2013 to 26.12.2013

Sl.No	Name of the Student	Class	Company Name	Duration of Training
	S.Balachandran			
24	J.Aravindhan M.Kapil B.V.Aishwarya G.Archana	II	TANGEDCO, K.K.Nagar	16.12.213 to 21.12.2013
25	P.Vinodhini Priya	III	Oil And Corporation Ltd	12.12.2013 to 30.12.2013

CAY m2(2012-2013)

Sl.No	Name of the Student	Class	Company Name	Duration of Training
1.	K.Kalyani	III	Trimble Information Technologies India Private Limited	24.12.2012 to 28.12.2012
2.	Sarayu.B Anandan .K Naveen Kumar A Ram Kumar	III	TNEB–KKNagar Substation	21.12.2012 to 28.12.2012
3.	HariPriya.K Barani.R Infant Martina.S Angeline Priyadharshini M.S Anushasree R.G Meenaloshini.R Priya.S Subhaananthi.M Tamil Ponni.A Sathiya M.P S.Monica	III	Kuttalam gas Turbine Power Station, Maruthur	10.12.2012 to 14.12.2012
4.	V.Manoj	III	BHEL,Bangalore	24.06.2013 to 28.06.2013
5.	R.Raajashri R.Saranya R.Shruthi	III	TNPL,Karur	03.06.2013 to 07.06.2013

Sl.No	Name of the Student	Class	Company Name	Duration of Training
6.	Shruthi Ramachandran Prathiba.U RamyaRavishankar Vasuvi.V Swetha.S Sruthi R S.Shruti KNL Priya	III	Integral Coach Factory	03.06.2013to 10.06.2013
7.	R.Yogeshwaran	III	BHEL,Thirumayam	27.06.2013 to 29.06.2013
8.	R.Rajagopal B.V.Venkataraman	III	Flextronics	03.06.2013 to 07.06.2013
9.	B.V.Venkataraman R.Rajagopal S.Ramkumar	III	BSNL,Chennai	17.06.2013 to 21.06.2013
10.	Praveen.V	IV	Neyveli Lignite Corporation	22.06.2013to 29.06.2013
11.	Praveen.V	IV	S&S Power Switch Gear Equipment Ltd	06.06.2013to 21.06.2013
12.	Praveen.V Prasanthi.k Sowmya.k	IV	BHEL,Ranipet	08.07.2013 to 13.07.2013
13.	Prasanthi.k	IV	AAI,Chennai	05.06.2013 to 07.06.2013
14.	M.Krishna Ganesh Ram.P	III	Integral Coach Factory	24.06.2013 to 01.07.2013
15.	Madhumita.C Madhunisha.S Aparna.V	III	Ashok Leyland	22.06.2013 to 29.06.2013

Sl.No	Name of the Student	Class	Company Name	Duration of Training
	Aarthy.N			
16.	S.Gowtham	III	India Cements Ltd	17.06.2013 to 22.06.2013
17.	G.Aaron	III	BSNL,Chennai	10.06.2013 to 14.06.2013
18.	Mekala priya.J Mano priya S.M Jhanani.R Nivethithaa.C	III	BSNL,Chennai	24.06.2013 to 28.06.2013
19.	Kirthana.B Jayasundari Priscilla Pavithra.G Karpagapreetha.P	III	Power Grid Corporation	18.06.13 to 23.06.13
20.	K.Krishna Murthy	III	BGR Energy	19.06.2013 to 27.06.2013
21.	B.Deepika	III	Johnson Electric PVT	03.06.2013 to 28.06.2013
22.	Abhishek hari	III	Ajantha Packings	13.06.2013 to 23.06.2013
23.	Ashwin. Ravishankar			
24.	Dinesh.M	IV	BHEL,Ranipet	15.07.2013 to 20.07.2013
25.	Ashwin Prashanth.M			
26.	S.Dinesh	IV	AAI,Chennai	27.06.2013 to 29.06.2013
27.	AshwinRavi Shankar	III	BSNL,Chennai	24.06.2013 to 28.06.2013
28.	Aanand Ram.P	III	The India Cements Ltd	17.06.2013 to22.06.2013

Industrial Training / Tours for Student:

Initiatives

- Industrial visit is a part of the professional courses, during which students visit companies and get insight on how companies work and also useful information related to the practical aspects of the course which cannot be visualized in lectures. With an aim to go beyond academics, these visits are arranged to develop the insights of the students – attaining practical knowledge and their theoretical applications thereof.
- Developing contacts, collecting the addresses of the Industries (with the phone numbers) planned for the Industrial Visit.
- Prepare and send the letters approved by the HOD requesting the Industry concerned to grant permission mentioning the date / time and number of students accompanied by the staff from the department concerned.
- Follow-up with the industry through telephone to confirm their acceptance for Industrial Visit on the mentioned date and time or convenient date is provided by the Industry and requesting them to send permission letter.
- After receiving the permission letter, a letter is addressed to the transport department through HOD and Principal requesting them for organizing of college bus on the permitted day to take the students for Industrial Visit. Alternately outside transport is arranged with the approval of HOD/Principal.
- On the day of Visit, accompanying staff are provided with the Nominal roll number and names of the students for the Industry reference. Staff and students to carry ID Cards.
- On return to the college after the IV, the students are asked to submit a report on visit.

Industrial Visit Details

CAY(2014-2015)

Sl.No	Name of the Company Visited	Class	Date of Visit
1.	Neyveli Lignite Corporation,Neyveli	III A	20.03.2015
2.	Neyveli Lignite Corporation,Neyveli	III B	20.03.2015
3.	Suryadev Alloys and Power Pvt. Ltd	II B	29.01.2015
4.	Ennore thermal power station	III A	21.07.2014
5.	400kVsubstation,suguvarchatiram	III B	15.07.2014
6.	Technocrat Automation Pvt. Ltd	II A	21.08.2014
7.	Technocrat Automation Pvt. Ltd	II B	22.08.2014

CAYm1(2013-2014)

S.No	Name of the Company Visited	Class	Date of Visit
1.	Sri Hari Kota,SHAR	III B	12.03.2014
2.	Ennore thermal power station	IV A	24.02.2014
3.	Technocrat Automation Pvt. Ltd	II A	22.08.2013
4.	Technocrat Automation Pvt. Ltd	II B	23.08.2013
5.	400kVsubstation,Sunguvarchatiram	III A	21.08.2013
6.	Center for wind energy Technology	IV A	23.08.2013

CAYm2(2012-2013)

S.No	Name of the Company Visited	Class	Date of Visit
1	400kVsubstation,Sriperumbudur	IIIA	07.03.2013
2	Technocrat Automation Pvt. Ltd		28.07.2012
3	Load dispatch centre and SCADA centre		17.09.2012
4	400kVsubstation,Sriperumbudur	III B	11.03.2013
5	Load dispatch centre and SCADA centre		18.09.2012
6	Technocrat Automation Pvt. Ltd		20.07.2012
7	Load dispatch centre and SCADA centre	IV A	27.02.2013
8	Centre for wind energy and Technology		03.10.2012
9	Load dispatch centre and SCADA centre	IV B	28.02.2013
10	Centre for wind energy and Technology		05.10.2012

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)

Semester: III **Course Name:** EE 2202- Electromagnetic Theory **Year of study**: 2012-13

Students will be able to

EE 2202.1	analyze the various coordinate systems and to analyze the application of Coulomb's and Gauss's law.
EE 2202.2	discriminate the symmetrical and unsymmetrical nature of the problem and the ability to solve the problems based on boundary conditions in electric field.
EE 2202.3	discriminate the symmetrical and unsymmetrical nature of the problem and the ability to solve the problems based on boundary conditions in magnetic field.
EE 2202.4	apply the Maxwell's equation relating to the electric and magnetic fields and the applications in the machines.
EE 2202.5	analyze the characteristics of radio waves, TV signals, radar beams and light rays.
EE 2202.6	apply basic science, circuit theory and Electro-magnetic field theory to electrical engineering problems.

EE2202is the third course in the second year and '1' to '6' are the outcomes of this course.

Semester: IV **Course Name:** EE 2251- Electrical Machines – I **Year of study**: 2012-13

Students will be able to

EE 2251.1	apply basic magnetic circuit concepts like field properties, materials, hysteresis & saturation and induction principle to technical problem solving.
EE 2251.2	perceive the fundamental concepts of electro mechanical energy conversion.
EE2251.3	apprehend the transformer constructions, ideal & practical models, parameter testing, regulation, efficiency, parallel operation and load sharing.
EE 2251.4	infer the effects of armature reaction and commutation on the design of differently excited DC machines.
EE 2251.5	deal with the different methods of controlling the speed of DC motors and voltage of generators.
EE 2251.6	select an appropriate electrical machine to meet, specified performance requirements by analyzing their characteristics.

EE2251 is the second course in the second year and '1' to '6' are the outcomes of this course.

Semester: V **Course Name:** EE 2303- Transmission & Distribution **Year of Study:** 2013-14

Students will be able to

EE 2303.1	compute the parameters of transmission line.
EE 2303.2	model the different types of transmission line and determine its efficiency and voltage regulation
EE 2303.3	determine the corona loss and reduce its effects on transmission
EE 2303.4	improve voltage distribution across the string insulator and enhance its efficiency
EE 2303.5	calculate the sag and tension of the transmission line for different weather conditions.
EE 2303.6	be familiar with the concepts of compensation devices and their applications

EE2303 is the sixth course in the third year and '1' to '6' are the outcomes of this course.

Semester: VI **Course Name:** EE2351- Power System Analysis **Year of Study:** 2013-14

Students will be able to

EE 2351.1	apply different methods to analyse power system for the purpose of system planning and operation.
EE 2351.2	develop the single line diagram and per unit analysis for the power system studies
EE 2351.3	select suitable iterative method for power flow studies
EE 2351.4	compute the fault current and short circuit capacity for symmetrical fault.
EE 2351.5	apply the usage of various sequence networks for unsymmetrical fault studies.
EE 2351.6	select suitable algorithm for stability analysis

EE2351 is the first course in the third year and '1' to '6' are the outcomes of this course.

Semester: VII **Course Name:** EE2401- Power System Operation and Control **Year of**

Study: 2014-15

Students will be able to

EE 2401.1	apply the concepts of power system operation and control.
EE 2401.2	model and analyze the load frequency control and its response characteristics with and without integral controller for single area and two area power system.
EE 2401.3	model and analyze the automatic voltage regulator and maintaining the voltage profile against varying system loads with compensation devices.
EE 2401.4	calculate and analyze the unit commitment scheduling problems and its methods.
EE 2401.5	calculate and analyze economic load scheduling problems and its methods.
EE 2401.6	apply the concepts on need of computer control of power systems.

EE2401 is the first course in the fourth year and '1' to '6' are the outcomes of this course.

Semester: VIII**Course Name:** EE2451- Electrical Energy Generation, Utilization and Conservation. **Year of Study:** 2014-15

Students will be able to

EE 2451.1	grasp the fundamentals of electrical power generation by Conventional and Non-conventional methods.
EE 2451.2	analyze the effects of distributed generation on power systems.
EE 2451.3	conserve Electrical Energy with adequate knowledge about Economics of power generation, power quality, energy efficiency and energy auditing.
EE 2451.4	design energy efficient illumination schemes suiting various applications.
EE 2451.5	interpret the various schemes of industrial heating and welding.
EE 2451.6	infer the merits, control mechanism and performance of electric traction.

EE2451 is the first course in the fourth year and '1' to '6' are the outcomes of this course.

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) (05)

1	Slight	**2**	Moderate	**3**	Substantial

Semester: III **Course Name:** EE 2202- Electromagnetic Theory **Year of study**: 2012-13

EE 2202 Electromagnetic Theory	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
EE 2202.1	3	3	2	2	1	1	-	-	1	-	1	-
EE 2202.2	3	3	2	2	2	-	1	-	1	-	1	1
EE 2202.3	3	3	2	2	2	-	1	-	1	-	1	1
EE 2202.4	3	2	2	2	2	-	-	-	1	-	2	-
EE 2202.5	2	3	2	2	1	1	1	-	1	-	2	-
EE 2202.6	3	3	2	2	2	1	-	-	1	-	1	-
EE 2202	3	3	2	2	2	1	1	-	1	-	2	1

Justification of mapping:

EE2202.1	By analyzing the various coordinate systems and the application of Coulomb's and Gauss's law, it attributes to strong Engineering knowledge (PO1) , as the student will know how to explain the position displacement and separation vectors and gains knowledge about three dimensional analysis of various coordinate systems. This strongly helps in problem solving (PO2) of coordinate systems. In design and development of solution (PO3) and in investigation of complex problem (PO4) it attributes moderately. Analyzing the various systems and laws helps in learning the commercial software (PO5) weakly. It promotes engineer society relation (PO6) by connecting engineering concepts and practical applications to real world challenges and it promotes individual and team work (PO9) and helps in project management (PO11) weakly. It has strong usage of logical & technical skills to model, simulate and analyze electrical components and systems by applying the concept of co ordinate systems (PSO1).
EE2202.2	By discriminating the symmetrical and unsymmetrical nature of the problem and by developing the ability to solve the problems based on boundary conditions in electric field, it attributes to strong Engineering knowledge (PO1), as the concept of field, potential and continuous charge distribution is dealt. This will help in problem solving (PO2) strongly like finding the field due to a line charge having various symmetries. In design and development of solution (PO3) and in investigation of complex problem (PO4) like finding the flux density of a cylinder it attributes moderately. By knowing the nature of the problem it helps in using the commercial software (PO5) moderately

	and helps in environment and sustainability (PO7) weakly. It promotes individual and team work (PO9), effective project management (PO11) and lifelong learning (PO12) weakly. Strong usage of logical & technical skills to model, simulate and analyze electrical components and systems (PSO1) is possible and the capacitance of parallel plate capacitor of various geometrics using boundary conditions is possible.
EE2202.3	By discriminating the symmetrical and unsymmetrical nature of the problem and by developing the ability to solve the problems based on boundary conditions in magnetic field, it attributes to strong Engineering knowledge (PO1) as the concept of mmf, magnetic flux density and ampere's circuital law is discussed. This will help in problem solving related to emf induced and magnetostatic field (PO2) strongly, design and development of solution (PO3) and in investigation of complex problem related to boundary conditions (PO4) moderately. By knowing the nature of the problem it helps in using the commercial software (PO5) moderately and helps in environment and sustainability (PO7) weakly. It promotes individual and team work (PO9) and helps in effective project management (PO11) weakly. It aids lifelong learning (PO12) weakly. Strong usage of logical & technical skills to model, simulate and analyze electrical components and systems (PSO1) like analysis of the magneto static fields.
EE2202.4	By applying the Maxwell's equation relating to the electric and magnetic fields and the applications in the machines attributes to strong Engineering knowledge (PO1) as the various laws are discussed. This will help in problem solving (PO2), design and development of solution explaining the behaviour of electric and magnetic field (PO3)

	and in investigation of complex problem related to it (PO4) moderately. It helps in learning and using the commercial software (PO5) moderately and it promotes individual and team work (PO9) weakly. It helps in effective project management (PO11) moderately. Analysis of Maxwell's equation contributes for the development of smart power grid and integrating green energy on it to meet the increasing demand of the society (PSO3) weakly.
EE2202.5	By analyzing the characteristics of radio waves, TV signals, radar beams and light rays, Engineering knowledge (PO1) is developed moderately. This will help in problem solving of skin depth, characteristic impedance and reflection and transmission coefficients (PO2) strongly. In design and development of solution (PO3) and in investigation of complex problems like how electromagnetic energy is propagated as wave (PO4) it attributes moderately. Ithelps in learning the commercial software (PO5) weakly. It promotes engineer society relation (PO6), helps in environment and sustainability (PO7) and it promotes individual and team work (PO9) weakly. It helps in effective project management (PO11) moderately. There is strong usage of logical & technical skills to model, simulate and analyze electrical components and systems and used to derive the characteristics of uniform plane waves (PSO1).
EE2202.6	Applying basic science, circuit theory and Electro-magnetic field theory to electrical engineering problems attributes strong Engineering knowledge as to how conducting medium and dielectric medium behaves with electromagnetic field (PO1). This will help in problem solving like obtaining current density and power loss (PO2) strongly,

	design and development of solution (PO3) and in investigation of complex problem using various laws (PO4) moderately. It helps in learning the commercial software (PO5) moderately by analyzing the problems. It promotes engineer society relation (PO6) and individual and team work (PO9) weakly. It helps in project management (PO11) weakly due to the increase in innovations in research. Strong usage of logical & technical skills to model, simulate and analyze electrical components and systems to obtain circuit elements (PSO1).

EE 2202 Electromagnetic Theory	PSO1	PSO2	PSO3
EE 2202.1	3	-	-
EE 2202.2	3	-	-
EE 2202.3	3	-	-
EE 2202.4	3	-	1
EE 2202.5	3	-	1
EE 2202.6	3	-	-
EE 2202	3	-	1

Semester: IV **Course Name:** EE 2251- Electrical Machines – I **Year of study**: 2012-13

EE 2251 Electrical Machines – I	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
EE 2251.1	3	1	1	1	-	2	2	-	-	-	1	-
EE 2251.2	3	1	1	1	-	2	2	-	-	-	1	-
EE 2251.3	3	2	2	2	-	2	2	-	-	-	2	1
EE 2251.4	3	2	2	2	-	2	2	-	-	-	2	1
EE 2251.5	3	2	2	2	-	2	2	-	-	-	2	1
EE 2251.6	3	2	2	2	-	2	2	-	-	-	2	1
EE 2251	3	2	2	2	-	2	2	-	-	-	2	1

Justification of mapping:

EE 2251.1	The analysis of fundamentals of magnetic circuits will help the students to apply engineering knowledge to devices such as of transformers and rotating machines which strongly maps with (PO1). This will form the basics for problem analysis and to design magnetic system components and also to form new ideas with a weak relation to (PO2) ,(PO3) and (PO4).Transformers and rotating machineries form the basic electric components which influences the electrical development of the society .Inferring the fundamentals helps the students in designing advanced machinery and with due consideration given to their sustainability to environment with medium mapping to (PO6) and (PO7).The student will be able to apply the fundamentals to his own work and keep progressing in his research field lifelong. The student takes his first step in applying his engineering knowledge for the

	societal by knowing the fundamentals with low mapping to (PO11), (PSO1), (PSO2) and (PSO3).
EE 2251.2	By assimilating the basic concepts of electromechanical energy conversion the students will be able to solve, a wide variety of practical engineering problems in a logical and effective manner which attributes strongly to (PO1).Electro mechanical energy conversion theory is the corner stone for the problem analysis of electromechanical motion devices with a low mapping to (PO2).The theory allows us to express the electromagnetic force or torque in terms of the device variables such as the currents and displacement of the mechanical systems .By interpreting these concepts the students will contribute to the development of new designs and also conduct investigations of complex problems attributing weakly to (PO3) and (PO4).The students can apply these concepts to the numerous types of electromechanical devices used in motion systems and also contribute to their sustainable development which attributes with a medium mapping to (PO6) and (PO7).Knowing the fundamentals he will be able to create his own ideas to fulfil the growing societal demand and improvise on it lifelong attributing weakly to (PO11), (PSO1), (PSO2) and (PSO3).
EE 2251.3	Transformers are among the most common of electrical devices found in power plants, substations, electrical and electronic equipments. Inferring the effects of leakage inductance the students will contribute to an efficient load sharing concept of transformers when they are operated in parallel. By assimilating the different testing procedures available the students will be able to confirm the transformer

	performance and to get the best performance out of a transformer the students will analyze ways of achieving the lowest possible voltage regulation by intercepting the causes of loss occurrence. Mastering these concepts, helps the students to apply his engineering knowledge to formulate new ideas, design transformers that meet specified needs, analyze and interpret data's attributing strongly to (PO1) and moderately to (PO2), (PO3) and (PO4).Transformers play a major role in power systems which is the need for increasing the production rates of making a better society .With a thorough knowledge of transformers, the students will apply their knowledge to the sustainable development and a safe and a better society attributing moderately to (PO6) and (PO7).The students will also apply his engineering knowledge to his own work and meet the changing needs of the society lifelong attributing a medium mapping with (PO11) and low with (PO12).Transformers are a basic components of power systems .Understanding and analyzing their behaviour the students will able to model new designs and also contribute to the growing smart grid attributing weakly to (PSO1),(PSO2) and (PSO3).
EE 2251.4	Throughout the world there is a need for generators in many different applications. In addition to the underlying need for a public supply of electricity, there are a number of situations in which independent supplies are needed. DC motors play a vital role in the development of industrial power transmission systems. By analyzing their operating characteristics and apprehending the various effects like armature reaction, commutation, etc, that influences the design of electrical machines the student will be able to be able to apply his engineering specialization to the solution

	of complex engineering problems attributing strongly to (PO 1). The student will be able to formulate new ideas, thereby design efficient machinery by analysis and interpretation of data's attributing moderately with (PO2), (PO3) and (PO4).Operating temperature should be considered when using sensitive electronic equipment, when the environment is not at the standard 40°C, or when the environment may be sensitive to a motor's heat dissipation. Motors and generators are the major components of the power systems. Developing state of art machinery remains a challenge. Additive cooling mechanisms can be installed to counteract excessive heating of machinery or the surrounding environment. By understanding the entire concepts of machinery the student will be able to contribute to the societal needs and understand the impact of electrical engineering in environmental context. The student will be able to implement the acquired knowledge to his own work and contribute to the technological change attributing a medium mapping with (PO11) and low with (PO12).The student will also be able to apply his analytical skills, model new designs and contribute to the development of smart grid attributing weakly with (PSO1),(PSO2) and (PSO3).
EE 2251.5	Speed control means intentional change of the drive speed to a value required for performing the specific work process. Speed control is a different concept from speed regulation where there is natural change in speed due change in load on the shaft. Speed control is either done manually by the operator or by means of some automatic control device. The impacts of load changes on terminal voltage are necessary to maintain a constant voltage level. By understanding these concepts and

	the various factors that affect their performance the student will be able to apply his engineering knowledge to formulate new ideas leading to new design concepts and provide valid conclusions based on the interpretation of data's attributing strongly to (PO1) and moderately to (PO2), (PO3) and (PO4). DC motors can provide a variable starting torque and it is also possible to obtain speed control over wide range. Many applications demand high speed control for better performance. A primary concern when deciding what type of generator is best for your environment needs knowledge of its electrical configuration. An electrical configuration typically includes the phase, voltage, kW, and hertz that are best for an application. Knowing the various control methods the student will be able to understand the societal need and apply his knowledge to fulfil it with due importance given to its impact on the environment and its sustainability attributing moderately to (PO6) and (PO7). He will be able to apply his problem solving skills, use his logical reasoning ability towards the technological change and also contribute to the development of smart grid attributing a medium mapping with (PO11) and low with (PO12) and a weak mapping with (PSO1), (PSO2) and (PSO3).
EE 2251.6	By analyzing the operating characteristic curves the student will be able to illustrate the performance of dc machinery and understand their usage in different applications. Having a knowledge of the performance of machines under different conditions the student will be able to apply his engineering knowledge for problem analysis, to develop solutions for different requirements and also come to valid

	conclusions resulting in the development of new techniques and different kinds of models which suits for different environmental conditions and also contribute for the sustainable growth of technology attributing strongly to (PO1) and moderately with (PO2),(PO3),(PO4),(PO6),(PO7). Having understood the different the operating characteristics that an application needs the student will implement his engineering knowledge to his own work and improvise its development by engaging in lifelong learning attributing moderately with (PO11) and low with (PO12). By acquiring the knowledge about the behaviour of machines the students will be able to trouble shoots problems in the related electrical field and work towards its sustainability. Power systems form the backbone of smart grid. Motors and generators are the pillars of power systems. Having a thorough knowledge of them , the students will be able to contribute the development of smart grid attributing weakly with (PSO1),(PSO2) and (PSO3)

EE 2251 Electrical Machines – I	PSO1	PSO2	PSO3
EE 2251.1	1	1	1
EE 2251.2	1	1	1
EE 2251.3	1	1	1
EE 2251.4	1	1	1
EE 2251.5	1	1	1
EE 2251.6	1	1	1
EE 2251	1	1	1

Semester: V **Course Name:** EE 2303- Transmission & Distribution **Year of Study:** 2013-14

EE2303 Transmission & Distribution	PO1	PO2	PO3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2
EE2303.1	2	3	2	-	2	1	-	-	-	-	-	1
EE2303.2	2	3	2	1	2	1	2	-	-	-	-	1
EE2303.3	2	3	2	1	2	2	2	-	-	-	-	1
EE2303.4	2	2	2	1	-	2	2	-	-	-	-	1
EE2303.5	2	3	3	1	-	2	1	-	-	-	-	1
EE2303.6	2	2	3	2	1	1	2	-	-	-	-	1
EE2303	2	3	3	2	2	2	2	-	-	-	-	1

Justification of mapping:

EE2303.1	Students could apply the knowledge of R,L,C of transmission line to solve complex engineering problems (PO1); Could analyse the problem (PO2); could develop solution for the complex engineering problem (PO3); Could use modern tools (PO5);Would able to engage in lifelong learning (PO12); Able to model and analyze transmission systems (PSO1); knowledge of electronics could be used to improve reliability (PSO2).
EE2303.2	Students could apply the knowledge of modelling of transmission line in solving complex engineering problems (PO1); Could analyse the problem (PO2); Able to develop the process to meet the specified needs (PO3);Could use modern tools to solve equivalent circuit (PO5); Engineering solution in societal context could be given (PO7); students could prepare for lifelong

	learning (PO12); Technical skills could be used to model and analyse transmission systems(PSO1); Could contribute for the development of smart transmission systems (PSO3).
EE2303.3	Students could apply the knowledge of corona to solve engineering problems (PO1); Problem analysis in corona could be carried out (PO2); Process could be designed for finding solutions (PO3); Modern tools could be used (PO5); students could solve societal issues (PO6); They could provide solutions in environmental contexts (PO7). They will able to engage in lifelong learning. Technical skills could be used to analyze the performance of systems (PSO1). They could contribute to the development of smart grid (PSO3).
EE2303.4	Students could apply the knowledge about insulators to solve complex engineering problems (PO1);Problem analysis could be carried out (PO2); Process could be designed to meet the needs with safety consideration (PO3);Could apply knowledge to assess safety issues (PO6);Provide solutions in societal contexts(PO7);Could recognize the need for lifelong learning (PO12);Students are skilful to model, Simulate and analyze insulators (PSO1);They could also contribute for the development of smart power grid(PSO3).
EE2303.5	Students could apply the knowledge of science and engineering fundamentals (PO1);They could analyze problems related to sag and tension (PO2);Could develop solutions with safety and environmental considerations (PO3); So societal and safety issues could be analyzed (PO6); Could model and analyze

	sag and tension in the transmission line(PSO1);Could contribute for the development of smart power grid (PSO3).
EE2303.6	Students could apply the knowledge of compensating devices for engineering problems (PO1);They could analyze problems related to engineering sciences(PO2);Could design solutions to meet the specific needs (PO3); Could apply research based knowledge of compensation devices(PO4); Could demonstrate the needs for sustainable development (PO7);Could recognize the need for lifelong learning(PO12);Students could analyze compensation devices (PSO1);Could integrate electronics for the sustainability of system(PSO2); Could also contribute for the development of smart power grid (PSO3).

EE2303 Transmission & Distribution	PSO1	PSO2	PSO3
EE2303.1	3	2	-
EE2303.2	1	-	2
EE2303.3	2	-	3
EE2303.4	2	-	2
EE2303.5	2	-	2
EE2303.6	1	2	2
EE2303	3	2	3

Semester: VI **Course Name:** EE2351- Power System Analysis **Year of Study:** 2013-14

EE2351 Power System Analysis	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
EE2351.1	2	3	3	2	1	1	1	-	-	-	1	1
EE2351.2	2	3	-	1	-	-	-	-	-	-	-	-
EE2351.3	2	2	2	1	1	-	-	-	-	-	-	1
EE2351.4	2	3	-	2	-	1	-	-	-	-	-	-
EE2351.5	2	3	-	2	-	1	-	-	-	-	-	-
EE2351.6	2	2	2	2	1	1	-	-	-	-	-	1
EE2351	2	3	3	2	1	1	1	-	-	-	1	1

Justification of mapping:

EE 2351.1	By developing the single line diagram and the per unit analysis it features to moderate Engineering knowledge (PO1), This will help in problem solving (PO2), design and development of solution (PO3) strongly and in investigation of complex problem (PO4). Learning the power flow analysis, fault analysis and stability analysis makes use of new software's (PO5). By knowing the fault analysis safety of the people can be done (PO6). By understanding the stability analysis results in sustainable development (PO7).Power system planning helps in managing the projects (PO11) and for technological change (PO12). Ability to simulate the power system components from single line diagram (PSO1), fault analysis studies having the usage of fundamental electrical system (PSO2) and stability studies helps in designing of smart grid (PSO3).
EE 2351.2	By developing the per unit analysis, impedance and admittance matrix it

	attribute to moderate Engineering knowledge (PO1), This will help in problem solving (PO2), and in investigation of complex problem (PO4). Ability to simulate the power system components from single line diagram (PSO1), and formulating the single line diagram helps in designing of smart grid (PSO3).
EE 2351.3	By formulating the power flow equation it features to moderate Engineering knowledge (PO1), This will help in problem solving (PO2), design and development of solution (PO3) moderately and in investigation of complex problem (PO4). Learning the power flow analysis makes use of new software's (PO5). Power flow studies helps for technological change (PO12). Power flow analysis supports the designing of smart grid (PSO3).
EE 2351.4	By developing the Thevenin's method and Impedance method of fault analysis it features to moderate Engineering knowledge (PO1), This will help in problem solving (PO2), and in investigation of complex problem (PO4). By knowing the fault analysis safety of the people can be done (PO6). Ability to simulate the symmetrical fault conditions (PSO1), symmetrical fault analysis studies having the usage of fundamental network theories (PSO2) and formulation of fault MVA helps in designing of circuit breaker which supports the designing of smart grid and satisfying the power demand (PSO3).
EE 2351.5	By developing the unsymmetrical conditions of fault analysis it features to moderate Engineering knowledge (PO1), This will help in problem solving (PO2), and in investigation of complex problem (PO4). By knowing the unsymmetrical fault analysis safety of the people can be done (PO6). Ability to

	simulate the unsymmetrical fault conditions (PSO1), unsymmetrical fault analysis studies having the usage of fundamental phasor sequences (PSO2) and formulation of fault MVA helps in designing of circuit breaker which supports the designing of smart grid and increasing the power demand (PSO3)
EE 2351.6	By developing the single bus infinite bus system for stability analysis it supports moderately the Engineering knowledge (PO1), this will help in problem solving (PO2) , design and development of solution (PO3) moderately and in investigation of complex problem (PO4). Learning algorithms for stability analysis makes use of new software's (PO5). By calculating the critical clearing time safety of the people can be done (PO6). Power system stability studies helps in improving the fault clearing time which helps for technological change (PO12). Stability studies helps in increasing the power demand of the society (PSO3)

EE2351 Power System Analysis	PSO1	PSO2	PSO3
EE2351.1	2	1	2
EE2351.2	1	-	1
EE2351.3	-	-	1
EE2351.4	2	1	1
EE2351.5	2	1	1
EE2351.6	-	-	2
EE2351	2	1	2

Semester: VII **Course Name:** EE2401- Power System Operation and Control

Year of Study: 2014-15

EE 2401 Power system operation and control	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
EE 2401.1	2	2	-	-	1	2	2	-	1	-	-	1
EE 2401.2	2	3	2	1	2	2	2	-	1	-	-	1
EE 2401.3	2	2	2	1	-	2	2	-	1	-	-	1
EE 2401.4	2	2	1	1	-	2	2	-	1	-	-	1
EE 2401.5	2	1	1	-	-	2	2	-	1	-	-	1
EE 2401.6	2	1	1	-	1	2	2	-	1	-	-	1
EE 2401	2	3	2	1	2	2	2	-	1	-	-	1

Justification of mapping:

EE 2401.1	Apply moderately the concepts of power system operation &control and solutions to complex power system problems (PO1). Identify and analyze moderately the importance of power system operation control by applying engineering sciences(PO2). With modern tool usage of control is weakly used for modeling and operation of control loops of power system can be easily understood(PO5). Describe moderately the issues in operation of power system and its controls(PO6). Know the impact to the engineering society moderately based on the power system operation of control loops (PO7) Know fundamentals weakly the power system operation and control and can

	able to act and deliver as individual or an in a team of multi disciplinary areas (PO9). Infer and use weakly the concepts of power system operation and control for future technological change (PO12). Infer weakly the analytical skills to understand the power system operation control.(PSO1) Integrate the fundamentals of electrical and electronics weakly for reliable operation of power system weakly.(PSO2)
EE 2401.2	Relate moderately the concepts of the load frequency control (PO1). Strongly Formulate the transfer function model of equations of load frequency control (PO2). Design moderately or model load frequency control and its response characteristics with and without controller(PO3). Understand load frequency control by varying the load and the time constants and response characteristics with and without controller can be observed and improved (PO4). Construct use of and select moderately the tool for solving load frequency control (PO5). Describe the issues moderately in load frequency control and its characteristics upon load change(PO6). Recognize with the impact to the engineering society moderately about load frequency control and variation of load and its characteristics (PO7).Identify the fundamentals of load frequency controls and can able to act and deliver moderately as individual or an in a team (PO9). Infer and apply weakly the concepts of load frequency control for future technological change (PO12).Infer moderately logical and analytical skills to understand the load frequency control and components and systems(PSO1).Incorporate moderately the

	fundamentals of electrical and electronics for load frequency control and to obtain its characteristics(PSO2).Aids in enhancing the integration of green energy moderately in to the power system network.(PSO3)
EE 2401.3	To moderately apply the concepts of automatic voltage regulator and compensating devices for solving engineering problems(PO1). Ability to Formulate the transfer function model equations of automatic voltage regulator and compensating devices moderately(PO2).Intend or representation of the automatic voltage regulator and compensating devices moderately(PO3).Comprehend the of automatic voltage regulator and compensating devices for maintaining voltage constant upon load changes and its complex problems can be observed weakly (PO4). Explain the issues moderately in automatic voltage regulator and compensating devices.(PO6) Distinguish the impacts moderately of automatic voltage regulator and compensating devices (PO7). Identify fundamentals of automatic voltage regulator and compensating devices weakly and can able to act and deliver as individual or an in a team.(PO9).Infer and apply the concepts of automatic voltage regulator and compensating devices for future technological change weakly (PO12).Incorporate the basics of automatic voltage regulator and compensating devices moderately for maintaining voltage profile.(PSO2)
EE 2401.4	Relate moderately the concepts of the unit commitment scheduling problems and its methods (PO1).Formulate the equations moderately the unit commitment scheduling problems and its methods (PO2). Recognize the

	process of solving the unit commitment scheduling problems and its methods weakly (PO3). Comprehend unit commitment scheduling problems and its methods can be observed weakly (PO4). Describe the issues moderately in unit commitment scheduling problems and its methods (PO6). Distinguish the impact moderately about the unit commitment scheduling problems and its methods (PO7).Identify fundamentals Weakly the of unit commitment scheduling problems and its methods and can able to act and deliver as individual or an in a team (PO9). Infer and make use of concepts of unit commitment scheduling problems and its methods for future technological change weakly (PO12). Interlink the basics of unit commitment scheduling problems and its methods weakly .(PSO2)
EE 2401.5	Pertains moderately the concepts of economic load scheduling problems and its methods (PO1). Formulation of optimizing the fuel cost equations for economic load scheduling problems and its methods weakly (PO2). Acquainted with the process of solving the optimization equations of economic load scheduling problems and its methods weakly (PO3). Illustrate the issues in optimization equations moderately of economic load scheduling problems and its methods moderately (PO6). Familiar with the impact to the about optimization equations of economic load scheduling problems and its methods moderately (PO7). Distinguish fundamentals of optimization equations of economic load scheduling problems and its methods and can able to act and deliver as individual or an in a team weakly (PO9). Infer and apply

	weakly the concepts of optimization equations of economic load scheduling problems and its methods for future technological change (PO12). Aids in enhancing the controlabilility of Smart grid weakly in to the power system network (PSO3). Incorporate weakly the basics of economic load scheduling problems and its methods.(PSO2)
EE 2401.6	To apply the moderately concepts of need of computer control of power systems (PO1). Devise the blocks of operation of power system and need of computer control of power systems can be improved (PO2). Acquainted with the process of computer control of power systems weakly (PO3). With the modern tool usage weakly to apply the need of computer control of power systems (PO5). Describe the issues moderately in operation of power system and need of computer control of power systems (PO6). Distinguish the impacts in the engineering society about operation of power system and need of computer control of power systems moderately(PO7). Recognize fundamentals of operation of power system and need of computer control of power systems and can able to act and deliver as individual or an in a team moderately (PO9). Infer and make use of the concepts of operation of power system and need of computer control of power systems for future technological change weakly (PO12). Integrate the essentials moderately of need of computer control of power systems .(PSO2)

EE 2401 Power system operation and control	PSO1	PSO2	PSO3
EE 2401.1	1	1	-
EE 2401.2	2	2	2
EE 2401.3	-	2	-
EE 2401.4	-	1	-
EE 2401.5	-	1	1
EE 2401.6	-	2	-
EE 2402	2	2	2

Semester: VIII **Course Name:** EE2451- Electrical Energy Generation, Utilization and Conservation. **Year of Study:** 2014-15

EE 2451 Electric Energy Generation, Utilization and conservation	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
EE 2451.1	3	-	2	-	-	-	2	-	-	-	-	1
EE 2451.2	2	2	-	2	2	-	2	-	-	-	-	-
EE 2451.3	1	2	-	3	-	2	-	2	-	1	1	-
EE 2451.4	2	1	3	3	1	-	2	-	-	-	-	1
EE 2451.5	1	-	3	-	1	-	2	-	-	-	-	1
EE 2451.6	1	-	2	3	1	-	2	-	-	-	-	1
EE2451	3	2	3	3	2	2	2	2	-	1	1	1

EE 2451.1	Ability to understand about rapidly developing (PO12) conventional and non-conventional methods of power generation needs basic engineering knowledge (PO1). Focus is given on generation of electricity through green energy (PSO3) for providing sustainable (PSO2) development of the society (PO7) without causing damage to our environment (PO3).
EE 2451.2	Analyzing the impacts of integrating green energy which is distributed in nature into power systems (PSO3) and providing proper solutions for the same by analyzing and interpreting the data (PO4) from certain case studies.
EE 2451.3	Dealing with economic aspects of power generation requires knowledge on engineering (PO1) to analyze various complex electrical problems (PSO1) (PO4) (PO2) such as Power Quality and Energy Efficiency. Energy Audit is an ethical (PO8) process of conducting investigations, interpreting of data (PO4) and providing valid conclusion to communicate (PO10) the need for reducing expenses on electricity (PO11). The mitigation of power quality issues will be done by optimal design of the Power Electronic circuits (PSO2). As a result of conservation of electricity this will pave way to meet the increasing energy demand of the society at large (PSO3).
EE 2451.4	Design of various evolving (PO12) energy efficient illumination systems with the help of basic knowledge fundamental knowledge of engineering sciences (PO1), electronic components (PSO2) for development of solutions (PO3) (PO4) for lighting needs. Design of energy efficient lamps will contribute towards utilizing green energy sources (PSO3).

EE 2451.5	Analyzing of various developing (PO12) schemes of industrial heating and welding with the help of fundamental knowledge of engineering sciences (PO1) and electronic components (PSO2) for development of economical and solutions (PO3) for industrial requirements of the society (PSO3).
EE 2451.6	Design of rapidly growing (PO12) electric traction systems with the help of fundamental knowledge of engineering sciences (PO1) and power electronics (PSO2) for development of sustainable (PO7) solutions (PO3) for transportation needs. Plug-in Electric Vehicles will play an vital role in development of smart power grid (PSO3).

EE 2451 Electric Energy Generation, Utilization and conservation	PSO1	PSO2	PSO3
EE 2451.1	-	3	2
EE 2451.2	2	1	3
EE 2451.3	2	2	2
EE 2451.4	1	2	3
EE 2451.5	1	2	3
EE 2451.6	1	2	3
EE2451	2	3	3

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

1	Slight	**2**	Moderate	**3**	Substantial

Sem	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
I	HS2111 Technical English – I	-	-	-	2	-	1	1	1	2	3	1	1
	MA 2111 Mathematics – I	3	3	2	2	2	1	1	-	2	1	-	1
	PH 2111 Engineering Physics – I	3	3	2	2	1	1	1	-	1	1	-	1
	CY 2111 Engineering Chemistry – I	3	2	2	2	2	2	1	-	1	2	-	1
	GE 2111 Engineering Graphics	3	3	2	2	2	1	1	1	1	3	-	1
	GE 2112 Fundamentals of Computing and Programming	3	3	2	2	3	-	-	-	1	2	-	1
	GE 2116 Engineering Practices Lab	3	1	2	2	2	1	1	1	1	2	-	1
	GE 2115 Computer Practice Laboratory –I	3	3	2	2	3	-	1	-	1	2	-	1
II	HS 2161 Technical English – II	-	-	-	2	-	1	1	1	2	3	1	1
	MA 2161 Mathematics – II	3	2	2	1	2	1	-	1	1	1	-	1

Sem	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
	PH 2161 Engineering Physics – II	3	3	2	2	1	1	1	-	1	1	-	1
	CY2161 Engineering Chemistry – II	3	2	2	2	2	2	1	-	1	2	2	1
	EE 2151 Circuit Theory	3	2	1	1	3	-	1	-	1	-	1	2
	GE 2152 Basic Civil & Mechanical Engineering	3	2	2	2	1	1	-	-	2	-	2	2
	GE2155 Computer Practice Laboratory-II	3	2	2	2	1	2	1	1	1	1	-	1
	GS2165 Physics & Chemistry Laboratory II	3	2	2	2	2	1	1	1	2	2	2	1
	EE2155 Electrical Circuits Laboratory	3	2	2	2	2	1	1	1	2	1	-	1
III	MA 2211 Transforms and Partial Differential Equations	3	3	2	2	-	2	2	2	-	-	-	-
	EE 2201 Measurements &Instrumentation	3	2	2	2	1	1	2	-	1	-	2	-
	EE 2202 Electro magnetic Theory	3	3	2	2	2	1	1	-	1	-	2	1
	GE 2211 Environmental	-	1	-	-	-	2	3	-	1	-	-	-

Sem	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
	Science and Engineering												
	EE 2203 Electronic Devices & Circuits	3	2	2	1	-	2	2	-	1	-	-	1
	EE 2204 Data Structures and Algorithms	3	1	-	-	2	1	-	-	1	-	1	-
	EE 2207 Electronic Devices and CircuitsLab	3	3	3	2	1	-	-	-	2	2	2	-
	EE 2209 Data Structures and Algorithms Laboratory	3	1	1	-	3	1	1	-	-	-	1	-
	EE 2208 Measurements &Instrumentation Laboratory	3	2	2	2	-	2	1	-	2	-	-	-
IV	MA 2264 Numerical Methods	3	3	1	2	2	-	-	-	-	-	2	-
	EE 2251 Electrical Machines – I	3	2	2	2	-	2	2	-	-	-	2	1
	EE 2252 Power Plant Engineering	3	2	2	2	-	-	-	-	1	-	1	1
	EE 2253 Control Systems	3	3	2	1	1	2	2	-	1	-	1	1
	EE 2254 Linear Integrated	3	3	2	2	2	2	1	-	1	1	2	-

Sem	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
	Circuits and Applications												
	EE 2255 Digital Logic Circuits	3	3	2	2	3	1	2	-	1	-	2	1
	EE 2257 Control Systems Laboratory	3	3	2	2	3	-	-	-	2	1	-	1
	EE 2258 Linear and Digital Integrated Circuits Laboratory	3	3	3	2	2	1	1	-	2	1	1	-
	EE 2259 Electrical Machines Laboratory – I	3	3	2	2	2	2	2	-	-	1	2	-
V	EC2311 Communi-cation Engineering	3	2	1	-	-	2	2	-	-	-	1	1
	EC2314 Digital Signal Processing	3	3	3	2	2	1	-	-	-	-	-	1
	CS 2311 Object Oriented Programming	3	2	2	2	3	1	1	-	-	-	1	-
	EE 2301 Power Electronics	3	3	2	2	1	2	1	-	2	-	2	1
	EE 2302 Electrical Machines II	3	2	2	2	-	1	2	-	1	-	2	1
	EE 2303 Transmission & Distribution	2	3	3	2	2	2	2	-	-	-	-	1

Sem	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
	CS 2312 Object Oriented Programming Laboratory	3	1	-	-	3	1	-	-	-	-	-	-
	GE 2321 Communication Skills Laboratory	-	-	-	-	-	-	-	-	2	3	1	-
	EE 2304 Power Electronics Laboratory	3	2	2	1	2	-	-	-	2	-	2	1
	EE 2305 Electrical Machines Laboratory II	3	3	2	2	2	2	2	-	2	1	2	1
VI	EE 2351 Power System Analysis	2	3	3	2	1	1	1	-	-	-	1	1
	EE 2352 Solid State Drives	2	3	3	3	2	1	1	-	1	-	-	1
	EE 2353 High Voltage Engineering	2	-	-	-	-	1	1	-	1	-	-	1
	EE 2354 Microprocessor and Micro controller	2	1	3	2	3	2	-	-	1	-	1	1
	EE 2355 Design of Electrical Machines	2	3	3	2	1	2	2	-	1	-	-	1
	CS 2363 Computer Networks	2	-	-	-	3	1	2	-	-	-	1	-
	GE 2025 Professional	-	-	-	-	-	-	2	3	2	2	1	-

Sem	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
	Ethics in Engineering												
	EE 2356 Microprocessor and Micro controller Laboratory	2	1	2	2	3	-	-	-	2	-	2	1
	EE 2357 Presentation Skills and Technical Seminar	1	-	-	-	-	-	-	-	3	3	1	-
VII	EE 2401 Power System Operation and Control	2	3	2	1	2	2	2	-	1	-	-	1
	EE 2402 Protection & Switchgear	3	2	2	1	-	-	-	-	1	-	-	1
	EE 2403 Special Electrical Machines	2	3	1	1	-	-	-	-	1	-	-	1
	MG 2351 Principles of Management	-	-	-	-	-	-	-	1	2	-	3	-
	CS 2411 Operating Systems	2	-	-	-	-	2	2	-	1	-	-	-
	EE 2404 Power System Simulation Laboratory	2	3	2	3	3	-	-	-	2	2	1	1
	EE 2405 Comprehension	2	-	1	1	1	-	-	-	2	3	1	-
	GE 2022 Total Quality Management	-	-	-	-	-	1	2	2	2	1	3	-

Sem	Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
	EE2025 Intelligent Control	2	2	3	1	1	1	-	-	1	-	1	1
VIII	EE 2451 Electric Energy Generation, Utilization and Conservation	3	2	3	3	2	2	2	2	-	1	1	1
	EE 2028 Power Quality	2	-	2	3	-	2	2	-	-	-	-	1
	EE 2036 Flexible AC Transmission Systems	2	1	2	1	-	2	2	-	1	-	-	1
	EE 2452 Project work	2	3	3	2	2	2	2	2	3	3	3	2
Direct Program Outcome Average		**2.68**	**2.35**	**2.09**	**1.87**	**2.00**	**1.46**	**1.50**	**1.43**	**1.45**	**1.79**	**1.56**	**1.07**

1	Slight	**2**	Moderate	**3**	Substantial

SEMESTER	COURSE	PSO1	PSO2	PSO3
I	HS2111 Technical English – I	-	-	-
	MA 2111 Mathematics – I	1	1	-
	PH 2111 Engineering Physics – I	1	-	-
	CY 2111 Engineering Chemistry – I	1	-	-

SEMESTER	COURSE	PSO1	PSO2	PSO3
	GE 2111 Engineering Graphics	1	-	-
	GE 2112 Fundamentals of Computing and Programming	1	-	-
	GE 2116 Engineering Practices Laboratory	1	1	-
	GE 2115 Computer Practice Laboratory –I	1	-	-
II	HS 2161 Technical English – II	-	-	-
	MA 2161 Mathematics – II	1	1	-
	PH 2161 Engineering Physics – II	1	-	-
	CY2161 Engineering Chemistry – II	1	-	-
	EE 2151 Circuit Theory	1	1	-
	GE 2152 Basic Civil & Mechanical Engineering	1	-	-
	GE2155 Computer Practice Laboratory-II	1	-	-
	GS2165 Physics & Chemistry Laboratory – II	1	-	-
	EE2155 Electrical Circuits Laboratory	1	1	-
III	MA 2211 Transforms and Partial Differential Equations	3	-	-
	EE 2201 Measurements & Instrumentation	2	1	2
	EE 2202 Electromagnetic Theory	3	-	1
	GE 2211 Environmental Science and	-	-	3

SEMESTER	COURSE	PSO1	PSO2	PSO3
	Engineering			
	EE 2203 Electronic Devices & Circuits	2	3	1
	EE 2204 Data Structures and Algorithms	3	1	-
	EE 2207 Electron Devices and Circuits Laboratory	2	1	-
	EE 2209 Data Structures and Algorithms Laboratory	1	-	-
	EE 2208 Measurements & Instrumentation Laboratory	2	-	-
IV	MA 2264 Numerical Methods	2	-	-
	EE 2251 Electrical Machines – I	1	1	1
	EE 2252 Power Plant Engineering	-	-	3
	EE 2253 Control Systems	3	2	1
	EE 2254 Linear Integrated Circuits and Applications	2	2	1
	EE 2255 Digital Logic Circuits	3	1	-
	EE 2257 Control Systems Laboratory	3	1	-
	EE 2258 Linear and Digital Integrated Circuits Laboratory	2	2	1
	EE 2259 Electrical Machines Laboratory – I	-	3	-
V	EC2311 Communication Engineering	-	1	1

SEMESTER	COURSE	PSO1	PSO2	PSO3
	EC2314 Digital Signal Processing	2	-	-
	CS 2311 Object Oriented Programming	-	2	-
	EE 2301 Power Electronics	3	3	3
	EE 2302 Electrical Machines II	1	3	1
	EE 2303 Transmission & Distribution	3	2	3
	CS 2312 Object Oriented Programming Laboratory	1	-	-
	GE 2321 Communication Skills Laboratory	-	-	-
	EE 2304 Power Electronics Laboratory	2	3	1
	EE 2305 Electrical Machines Laboratory II	1	3	-
VI	EE 2351 Power System Analysis	2	1	2
	EE 2352 Solid State Drives	3	3	3
	EE 2353 High Voltage Engineering	-	2	1
	EE 2354 Microprocessor and Micro controller	-	2	1
	EE 2355 Design of Electrical Machines	1	-	-
	CS 2363 Computer Networks	1	-	-
	GE 2025 Professional Ethics in Engineering	-	-	-
	EE 2356 Microprocessor and Micro controller Laboratory	-	2	1

SEMESTER	COURSE	PSO1	PSO2	PSO3
	EE 2357 Presentation Skills and Technical Seminar	-	-	-
VII	EE 2401 Power System Operation and Control	2	2	2
	EE 2402 Protection & Switchgear	1	-	2
	EE 2403 Special Electrical Machines	1	-	1
	MG 2351 Principles of Management	-	-	-
	CS 2411 Operating Systems	1	-	-
	EE 2404 Power System Simulation Laboratory	3	-	1
	EE 2405 Comprehension	1	2	1
	GE 2022 Total Quality Management	-	-	-
	EE2025 Intelligent Control	2	1	-
VIII	EE 2451 Electric Energy Generation, Utilization and Conservation	2	3	3
	EE 2028 Power Quality	2	2	2
	EE 2036 Flexible AC Transmission Systems	-	2	-
	EE 2452 Project work	3	3	3
DIRECT PSO AVERAGE		1.71	1.86	1.70

3.2. Attainment of Course Outcomes

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

Assessment Process	Evaluation
Theory	
Class tests	Class tests are conducted every day during 1st hour for 25 marks.
Continuous Assessment Tests	Three continuous assessment tests will be conducted. The first two will be conducted for 50 marks for the duration of 1.30 Hrs covering 4 units (2 units each). The last assessment will be a model exam for 100 marks for a duration of 3 Hrs.
End Semester Examination	Will be conducted as per Anna University schedule
Laboratory	
Model Exam	Lab model exam will be conducted after completion of all the experiments for 100 marks for a duration of 3 Hrs
End Semester Examination	Will be conducted as per Anna University schedule
Project Work	
Final Year Projects	Students will be divided into groups, wherein each group will have a maximum of 5 students. Every group will be mentored by a faculty. Four reviews will be conducted and the students will be reviewed by a panel of Professors.
Others	
Assignments	Three Assignment topics per subject will be given to students
Tutorials	The entire class will be divided into three batches where each batch will have 20 to 23 students. A faculty will be allotted for each batch. Every week an hour will be conducted for tutorials wherein the faculty will make the students solve more problems.
Seminars	One hour per week will be allotted for the seminar session wherein

	students present topics of their interest.
Course Feedback*	Once in a semester

*** Refer Annexure III**

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

The set attainment value is fixed based on the performance of students in the university examination of previous years. Once the set attainment level is reached, the set attainment value is increased for the successive academic years.

- Attainment Level 1 (slight): 60% of students scoring more than set attainment level in the final examination.
- Attainment Level 2 (moderate): 70% of students scoring more than set attainment level in the final examination.
- Attainment Level 3 (substantial): 80 % of students scoring more than set attainment level in the final examination.

******Attainment is measured in terms of actual percentage of students getting set percentage of marks

Semester	Course	University			Internal			Total Attainment level
		Set target%	% crossing the target %	Attainment level	Set target%	% crossing the target %	Attainment level	
1	HS 2111 - Technical English I	70	80.67	3	80	73.24	2	2.80
	MA 2111 - Mathematics I	60	67.22	1	70	80.24	3	1.40
	PH 2111 - Engineering Physics I	70	77.31	2	80	71.52	2	2.00
	CY 2111 - Engineering Chemistry I	70	83.19	3	80	76.34	2	2.80
	GE 2111 - Engineering Graphics	70	79.83	3	80	75.32	2	2.80
	GE 2112 - Fundamentals of Computing and programming	55	89.07	3	60	83.21	3	3.00
	GE 2116 - Engineering Practice Lab	90	80.67	3	95	84.46	3	3.00
	GE 2115 - Computer Practice Laboratory I	80	73.10	2	90	82.10	3	2.20

Semester	Course	University			Internal			Total Attainment level
		Set target%	% crossing the target %	Attainment level	Set target%	% crossing the target %	Attainment level	
II	HS 2161 - Technical English II	70	88.24	3	80	73.24	2	2.80
	MA 2161 - Mathematics II	65	63.03	1	75	81.26	3	1.40
	PH 2161 - Engineering Physics – II	65	62.18	1	75	80.43	3	1.40
	CY2161 - Engineering Chemistry II	70	61	1	80	77.24	2	1.20
	EE 2151 - Circuit Theory	55	81.51	3	60	81.32	3	3.00
	GE 2152 - Basic Civil & Mechanical Engineering	60	88.24	3	70	84.15	3	3.00
	GE2155 - Computer Practice Laboratory-II	80	76.47	2	85	80.23	3	2.20
	GS2165 Physics & Chemistry Laboratory – II	80	91.59	3	90	81.24	3	3.00
	EE2155 - Electrical Circuits Laboratory	90	91.6	3	95	80.32	3	3.00

Semester	Course	University			Internal			Total Attainment level
		Set target %	% crossing the target %	Attainment level	Set target %	% crossing the target %	Attainment level	
III	MA 2211 -Transforms and Partial Differential Equations	56	80	3	80	77.37	2	2.80
	EE 2201 - Measurements &Instrumentation	60	70.02	2	85	86.8	3	2.20
	EE 2202 - Electromagnetic Theory	60	70	2	75	67.8	1	1.80
	GE 2211 - Environmental Science and Engineering	70	71.73	2	85	82.48	3	2.20
	EE 2203 -Electronic Devices & Circuits	60	66.67	1	80	72.99	2	1.20
	EE2204 -Data Structures and Algorithms	56	77.53	2	75	74.45	2	2.00
	EE 2207 Electron Devices and Circuits Laboratory	60	84.78	3	80	84.7	3	3.00
	EE 2208 Data Structures and Algorithms Laboratory	70	82.6	3	90	83.2	3	3.00
	EE 2209 - Measurements &InstrumentationLaboratory	70	80.44	3	90	76.6	2	2.80

Semester	Course	University			Internal			Total Attainment level
		Set target %	% crossing the target %	Attainment level	Set target %	% crossing the target %	Attainment level	
IV	MA2264-Numerical Methods	60	84.78	3	70	100	3	3.00
	EE2251 Electrical Machines – I	56	81.88	3	75	65.9	1	2.60
	EE 2252 - Power Plant Engineering	60	61.59	1	80	63.76	1	1.00
	EE 2253 - Control Systems	56	84.78	3	80	60.86	1	2.60
	EE 2254 - Linear Integrated Circuits and Applications	56	72.46	2	75	60.8	1	1.80
	EE 2255 - Digital Logic Circuits	55	75.36	2	75	74.6	2	2.00
	EE 2257 - Control Systems Laboratory	80	78.26	2	85	88.4	3	2.20
	EE 2258- Linear and Digital Integrated Circuits Laboratory	80	85.50	3	85	96.8	2	2.80
	EE 2259 - Electrical Machines Laboratory I	70	92.75	3	90	78.2	2	2.80

Semester	Course	University			Internal			Total Attainment level
		Set target%	% crossing the target %	Attainment level	Set target%	% crossing the target %	Attainment level	
V	EC 2311-Communication Engineering	54	83.21	3	65	89.1	3	3.00
	EC 2314 - Digital Signal Processing	50	80.29	3	55	85.47	3	3.00
	CS 2311-Object Oriented Programming	55	75.91	2	65	71.67	2	2.00
	EE 2301-Power Electronics	57	85.40	3	60	80	3	3.00
	EE 2302-Electrical Machines II	56	82.48	3	65	81.67	3	3.00
	EE 2303-Transmission & Distribution	60	60.58	1	65	80.38	3	1.40
	CS 2312 Object Oriented Programming Laboratory	80	80.29	3	90	71.66	2	2.80
	GE 2321 Communication Skills Laboratory	72	83.2	3	75	65.21	1	2.60
	EE2305 Electrical machines-II Lab	90	94.89	3	90	89.16	3	3.00
	EE 2304 Power Electronics Laboratory	80	81.75	3	90	76.67	2	2.80

Semester	Course	University			Internal			Total Attainment level
		Set target%	% crossing the target %	Attainment level	Set target%	% crossing the target %	Attainment level	
VI	EE 2351-Power System Analysis	55	87.5	3	85	93.47	3	3.00
	EE 2352-Solid State Drives	70	80.29	3	75	94.20	3	3.00
	EE 2353-High Voltage Engineering	70	64.23	1	85	97.82	3	1.40
	EE 2354-Microprocessors and Micro controller	70	65.6	1	80	91.30	3	1.40
	EE 2355-Design of Electrical Machines	60	75.18	2	80	67.39	1	1.80
	CS 2363-Computer Networks	60	70.80	2	90	82.6	3	2.20
	GE 2025-Professional Ethics In Engineering	70	81.75	3	85	97.1	3	3.00
	EE 2356 Microprocessor and Micro controller Laboratory	80	84.67	3	90	97.1	3	3.00
	EE 2357 Presentation Skills and Technical Seminar	90	86.86	3	85	86.23	3	3.00

Semester	Course	UNIVERSITY			INTERNAL			Total Attainment level
		Set target %	% crossing the target %	Attainment level	Set target %	% crossing the target %	Attainment level	
VII	EE 2401-Power System Operation and Control	70	76.81	2	75	62.32	1	1.80
	EE 2402-Protection & Switchgear	70	70	2	75	74.51	2	2.00
	EE 2403-Special Electrical Machines	70	68.81	1	75	82.32	3	1.40
	EE2025-Intelligent control	70	86.95	3	80	81.05	3	3.00
	MG 2351-Principles of Management	70	80.43	3	80	71.40	2	2.80
	CS 2411-Operating Systems	60	73.91	2	70	66.32	1	1.80
	GE 2022-Total Quality Management	70	67.82	1	80	73.24	2	1.20
	EE 2404 Power System Simulation Laboratory	90	94.20	3	90	76.12	2	2.80
	EE 2405 Comprehension	90	100	3	90	83.24	3	3.00

Semester	Course	University			Internal			Total Attainment level
		Set target %	% crossing the target %	Attainment level	Set target %	% crossing the target %	Attainment level	
VIII	EE 2451-Electric Energy Generation, Utilization and conservation	70	67.39	1	80	97.1	3	1.40
	EE 2028-Power Quality	70	78.26	2	85	97.82	3	2.20
	EE 2036-Flexible AC Transmission Systems	70	71.73	2	85	97.1	3	2.20
	EE 2452 Project work	90	97.82	3	90	92.7	3	3.00

3.3. Attainment of Program Outcomes and Program Specific Outcomes

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

Assessment Process	Evaluation	Frequency
Direct Assessment		
Theory		
Class tests	Class tests are conducted every day during 1st hour for 25 marks.	Weekly once for each subject
Continuous Assessment tests	Three continuous assessment tests will be conducted. The first two will be conducted for 50 marks for the duration of 1.30 Hrs covering 4 units (2 units each). The last assessment will be a model exam for 100 marks for a duration of 3 Hrs.	Thrice in a semester
End Semester Examination	Will be conducted as per Anna University schedule	Once in a semester
Laboratory		
Model Exam	Lab model exam will be conducted after completion of all the experiments for 100 marks for a duration of 3 Hrs	Once in a semester
End Semester Examination	Will be conducted as per Anna University schedule	Once in a semester
Project Work		
Final Year Projects	Students will be divided into groups, wherein each group will have a maximum of 5 students. Every group will be mentored by a faculty. Four reviews will be conducted and the students will be reviewed by a panel of Professors.	Once during final year

Others		
Publications	The final year project groups with the guidance of their supervisor should publish their work in any conference or journal	Minimum one publication during final year
Assignments	Three Assignment topics per subject will be given to students	Maximum of three assignments per subject per semester
Seminars	One hour per week will be allotted for the seminar session wherein students present topics of their interest.	A minimum of one seminar per student per semester
Tutorials	The entire class will be divided into three batches where each batch will have 20 to 23 students. A faculty will be allotted for each batch. Every week an hour will be conducted for tutorials wherein the faculty will make the students solve more problems.	15 sessions for subjects with tutorial as per curriculum
Online tests	During 7^{th} semester, the students will take up online tests on different topics for placement preparation.	7 to 10 online tests in 7^{th} semester
Mock Interview	During 5^{th} semester, the students will attend mock interviews conducted by faculty team from the college on different subjects for placement preparation. The mock interviews will be conducted after college hours.	1 mock interview during the 5^{th} semester
	During 7^{th} semester, the students will attend mock interviews conducted by department faculty team along with an alumini on different subjects for placement preparation. The mock interviews will be conducted after college hours.	1 mock interview during the 7^{th} semester

Summer and winter inplant training	Students attend summer and winter inplant training camps which help acquire practical knowledge.	A minimum of one inplant training per semester.
Indirect Assessment		
Survey		
Alumni survey*	Get the feedback from the Alumni for the improvement of infrastructure, library facilities, placement activities and industry-institute interaction.	Twice in a year
Student Entry survey	Get the expectations from the students during the orientation programme to know their requirements for the their improvement	Once during the orientation programme
Student Exit survey*	Get the feedback from the students after their course completion for the betterment of the department	Once after course completion
Feedback		
Student Mid Semester Feedback	Get the feedback after a month from the Start of the semester to improve teaching-learning process	Once in a semester
Student End Semester Feedback	Get the feedback after sylLabus completion to improve teaching-learning process	Once in a semester
Parent Feedback	Get the feedback from the parents during the orientation programme for the improvement of the student performance and conduct.	Once during the orientation programme and as and when needed
Industry feedback*	Get the feedback from the industry to know the gaps to be filled to improve our students' skill and placement count.	After every campus drive, guest lecture, workshop and seminar

Others		
Ranking	Anna University ranks the department based on end semester examination results and university ranks secured.	Once in a semester
Internationally/ Nationally normed exams	Various examinations (national and international level) like GATE, NET, CAT, GRE, IELTS, and TOEFL are taken into consideration for students' performance and evaluation.	As and when the exams are conducted and also on students' readiness
TCS best student award	Based on the academic, co-curricular and extracurricular achievements a student from final year will be chosen as best student. TCS will award the student.	Once in a year
TCS best project award	Base on the novelty and societal impact a project will be chosen as best project. TCS will award the students involved in that project work.	Once in a year
Assessment process to demonstrate the degree of attainment of PO's and PSO's:-		
(Attainment through university examination and internal assessment)*attainment of course outcome/3		

*** Refer Annexure III**

3.3.2. Provide results of evaluation of each PO & PSO (40)

Semester	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
I	HS2111 Technical English – I	-	-	-	1.87	-	0.93	0.93	0.93	1.87	2.80	0.93	0.93
	MA 2111 Mathematics – I	1.40	1.40	0.93	0.93	0.93	0.47	0.47	-	0.93	0.47	-	0.47
	PH 2111 Engineering Physics – I	2.00	2.00	1.33	1.33	0.67	0.67	0.67	-	0.67	0.67	-	0.67
	CY 2111 Engineering Chemistry – I	2.80	1.87	1.87	1.87	1.87	1.87	0.93	-	0.93	1.87	-	0.93
	GE 2111 Engineering Graphics	2.80	2.80	1.87	1.87	1.87	0.93	0.93	0.93	0.93	2.80	-	0.93
	GE 2112 Fundamentals of Computing and Programming	3.00	3.00	2.00	2.00	3.00	-	-	-	1.00	2.00	-	1.00
	GE 2116 Engineering Practices Laboratory	3.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	2.00	-	1.00
	GE 2115 Computer Practice Laboratory – I	2.20	2.20	1.47	1.47	2.20	-	0.73	-	0.73	1.47	-	0.73
II	HS 2161 Technical English – II	-	-	-	1.87	-	0.93	0.93	0.93	1.87	2.80	0.93	0.93
	MA 2161 Mathematics – II	1.40	0.93	0.93	0.47	0.93	0.47	-	0.47	0.47	0.47	-	0.47
	PH 2161	1.40	1.40	0.93	0.93	0.47	0.47	0.47	-	0.47	0.47	-	0.47

Semester	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	Engineering Physics – II												
	CY2161 Engineering Chemistry – II	1.20	0.80	0.80	0.80	0.80	0.80	0.40	-	0.40	0.80	0.80	0.40
	EE 2151 Circuit Theory	3.00	2.00	1.00	1.00	3.00	-	1.00	-	1.00	-	1.00	2.00
	GE 2152 Basic Civil & Mechanical Engineering	3.00	2.00	2.00	2.00	1.00	1.00	-	-	2.00	-	2.00	2.00
	GE2155 Computer Practice Laboratory-II	2.20	1.47	1.47	1.47	0.73	1.47	0.73	0.73	0.73	0.73	-	0.73
	GS2165 Physics & Chemistry Laboratory – II	3.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00
	EE2155 Electrical Circuits Laboratory	3.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	2.00	1.00	-	1.00
III	MA 2211 Transforms and Partial Differential Equations	2.80	2.80	1.87	1.87	-	1.87	1.87	1.87	-	-	-	-
	EE 2201 Measurements & Instrumentation	2.20	1.47	1.47	1.47	0.73	0.73	1.47	-	0.73	-	1.47	-
	EE 2202 Electromagnetic Theory	1.80	1.80	1.20	1.20	1.20	0.60	0.60	-	0.60	-	1.20	0.60

Semester	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	GE 2211 Environmental Science and Engineering	-	0.73	-	-	-	1.47	2.20	-	0.73	-	-	-
	EE 2203 Electronic Devices & Circuits	1.20	0.80	0.80	0.40	-	0.80	0.80	-	0.40	-	-	0.40
	EE 2204 Data Structures and Algorithms	2.00	0.67	-	-	1.33	0.67	-	-	0.67	-	0.67	-
	EE 2207 Electron Devices and Circuits Laboratory	3.00	3.00	3.00	2.00	1.00	-	-	-	2.00	2.00	2.00	-
	EE 2209 Data Structures and Algorithms Laboratory	2.80	0.93	0.93	-	2.80	0.93	0.93	-	-	-	0.93	-
	EE 2208 Measurements & Instrumentation Laboratory	3.00	2.00	2.00	2.00	-	2.00	1.00	-	2.00	-	-	-
IV	MA 2264 Numerical Methods	3.00	3.00	1.00	2.00	2.00	-	-	-	-	-	2.00	-
	EE 2251 Electrical Machines – I	2.60	1.73	1.73	1.73	-	1.73	1.73	-	-	-	1.73	0.87
	EE 2252 Power Plant Engineering	1.00	0.67	0.67	0.67	-	-	-	-	0.33	-	0.33	0.33

Semester	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	EE 2253 Control Systems	2.60	2.60	1.73	0.87	0.87	1.73	1.73	-	0.87	-	0.87	0.87
	EE 2254 Linear Integrated Circuits and Applications	1.80	1.80	1.20	1.20	1.20	1.20	0.60	-	0.60	0.60	1.20	-
	EE 2255 Digital Logic Circuits	2.00	2.00	1.33	1.33	2.00	0.67	1.33	-	0.67	-	1.33	0.67
	EE 2257 Control Systems Laboratory	2.20	2.20	1.47	1.47	2.20	-	-	-	1.47	0.73	-	0.73
	EE 2258 Linear and Digital Integrated Circuits Laboratory	2.80	2.80	2.80	1.87	1.87	0.93	0.93	-	1.87	0.93	0.93	-
	EE 2259 Electrical Machines Laboratory – I	2.80	2.80	1.87	1.87	1.87	1.87	1.87	-	-	0.93	1.87	-
V	EC2311 Communication Engineering	3.00	2.00	1.00	-	-	2.00	2.00	-	-	-	1.00	1.00
	EC2314 Digital Signal Processing	3.00	3.00	3.00	2.00	2.00	1.00	-	-	-	-	-	1.00
	CS 2311 Object Oriented Programming	2.00	1.33	1.33	1.33	2.00	0.67	0.67	-	-	-	0.67	-
	EE 2301 Power	3.00	3.00	2.00	2.00	1.00	2.00	1.00	-	2.00	-	2.00	1.00

Semester	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	Electronics												
	EE 2302 Electrical Machines II	3.00	2.00	2.00	2.00	-	1.00	2.00	-	1.00	-	2.00	1.00
	EE 2303 Transmission & Distribution	0.93	1.40	1.40	0.93	0.93	0.93	0.93	-	-	-	-	0.47
	CS 2312 Object Oriented Programming Laboratory	2.80	0.93	-	-	2.80	0.93	-	-	-	-	-	-
	GE 2321 Communication Skills Laboratory	-	-	-	-	-	-	-	-	1.73	2.60	0.87	-
	EE 2304 Power Electronics Laboratory	2.80	1.87	1.87	0.93	1.87	-	-	-	1.87	-	1.87	0.93
	EE 2305 Electrical Machines Laboratory II	3.00	3.00	2.00	2.00	2.00	2.00	2.00	-	2.00	1.00	2.00	1.00
VI	EE 2351 Power System Analysis	2.00	3.00	3.00	2.00	1.00	1.00	1.00	-	-	-	1.00	1.00
	EE 2352 Solid State Drives	2.00	3.00	3.00	3.00	2.00	1.00	1.00	-	1.00	-	-	1.00
	EE 2353 High Voltage Engineering	0.93	-	-	-	-	0.47	0.47	-	0.47	-	-	0.47
	EE 2354 Microprocessor and Micro controller	0.93	0.47	1.40	0.93	1.40	0.93	-	-	0.47	-	0.47	0.47

Semester	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	EE 2355 Design of Electrical Machines	1.20	1.80	1.80	1.20	0.60	1.20	1.20	-	0.60	-	-	0.60
	CS 2363 Computer Networks	1.47	-	-	-	2.20	0.73	1.47	-	-	-	0.73	-
	GE 2025 Professional Ethics in Engineering	-	-	-	-	-	-	2.00	3.00	2.00	2.00	1.00	-
	EE 2356 Microprocessor and Micro controller Laboratory	2.00	1.00	2.00	2.00	3.00	-	-	-	2.00	-	2.00	1.00
	EE 2357 Presentation Skills and Technical Seminar	1.00	-	-	-	-	-	-	-	3.00	3.00	1.00	-
VII	EE 2401 Power System Operation and Control	1.20	1.80	1.20	0.60	1.20	1.20	1.20	-	0.60	-	-	0.60
	EE 2402 Protection & Switchgear	2.00	1.33	1.33	0.67	-	-	-	-	0.67	-	-	0.67
	EE 2403 Special Electrical Machines	0.93	1.40	0.47	0.47	-	-	-	-	0.47	-	-	0.47
	MG 2351 Principles of Management	-	-	-	-	-	-	-	0.93	1.87	-	2.80	-
	CS 2411 Operating Systems	1.20	-	-	-	-	1.20	1.20	-	0.60	-	-	-

Semester	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	EE 2404 Power System Simulation Laboratory	1.87	2.80	1.87	2.80	2.80	-	-	-	1.87	1.87	0.93	0.93
	EE 2405 Comprehension	2.00	-	1.00	1.00	1.00	-	-	-	2.00	3.00	1.00	-
	GE 2022 Total Quality Management	-	-	-	-	-	0.40	0.80	0.80	0.80	0.40	1.20	-
	EE2025 Intelligent Control	2.00	2.00	3.00	1.00	1.00	1.00	-	-	1.00	-	1.00	1.00
VIII	EE 2451 Electric Energy Generation, Utilization and Conservation	1.40	0.93	1.40	1.40	0.93	0.93	0.93	0.93	-	0.47	0.47	0.47
	EE 2028 Power Quality	1.47	-	1.47	2.20	-	1.47	1.47	-	-	-	-	0.73
	EE 2036 Flexible AC Transmission Systems	1.47	0.73	1.47	0.73	-	1.47	1.47	-	0.73	-	-	0.73
	EE 2452 Project work	2.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	3.00	2.00
DIRECT ATTAINMENT LEVEL AVERAGE		2.68	2.35	2.09	1.87	2.00	1.46	1.50	1.43	1.45	1.79	1.56	1.07
DIRECT ATTAINMENT LEVEL		2.38	2.38	2.38	2.41	2.42	2.29	2.31	2.48	2.48	2.59	2.52	2.37
INDIRECT ATTAINMENT LEVEL		2.70	2.20	2.50	2.20	2.50	2.20	2.50	2.40	2.70	2.70	1.90	2.60
TOTAL ATTAINMENT LEVEL		2.44	2.35	2.40	2.36	2.44	2.27	2.35	2.46	2.52	2.61	2.39	2.41

SEMESTER	COURSE	PSO1	PSO2	PSO3
I	HS2111 Technical English – I	-	-	-
	MA 2111 Mathematics – I	0.47	0.47	-
	PH 2111 Engineering Physics – I	0.67	-	-
	CY 2111 Engineering Chemistry – I	0.93	-	-
	GE 2111 Engineering Graphics	0.93	-	-
	GE 2112 Fundamentals of Computing and Programming	1.00	-	-
	GE 2116 Engineering Practices Laboratory	1.00	1.00	-
	GE 2115 Computer Practice Laboratory –I	0.73	-	-
II	HS 2161 Technical English – II	-	-	-
	MA 2161 Mathematics – II	0.47	0.47	-
	PH 2161 Engineering Physics – II	0.47	-	-
	CY2161 Engineering Chemistry – II	0.40	-	-
	EE 2151 Circuit Theory	1.00	1.00	-
	GE 2152 Basic Civil & Mechanical Engineering	1.00	-	-
	GE2155 Computer Practice Laboratory-II	0.73	-	-
	GS2165 Physics & Chemistry Laboratory – II	1.00	-	-
	EE2155 Electrical Circuits Laboratory	1.00	1.00	-

SEMESTER	COURSE	PSO1	PSO2	PSO3
III	MA 2211 Transforms and Partial Differential Equations	2.80	-	-
	EE 2201 Measurements & Instrumentation	1.47	0.73	1.47
	EE 2202 Electromagnetic Theory	1.80	-	0.60
	GE 2211 Environmental Science and Engineering	-	-	2.20
	EE 2203 Electronic Devices & Circuits	0.80	1.20	0.40
	EE 2204 Data Structures and Algorithms	2.00	0.67	-
	EE 2207 Electron Devices and Circuits Laboratory	2.00	1.00	-
	EE 2209 Data Structures and Algorithms Laboratory	0.93	-	-
	EE 2208 Measurements & Instrumentation Laboratory	2.00	-	-
IV	MA 2264 Numerical Methods	2.00	-	-
	EE 2251 Electrical Machines – I	0.87	0.87	0.87
	EE 2252 Power Plant Engineering	-	-	1.00
	EE 2253 Control Systems	2.60	1.73	0.87
	EE 2254 Linear Integrated Circuits and Applications	1.20	1.20	0.60
	EE 2255 Digital Logic Circuits	2.00	0.67	-

SEMESTER	COURSE	PSO1	PSO2	PSO3
	EE 2257 Control Systems Laboratory	2.20	0.73	-
	EE 2258 Linear and Digital Integrated Circuits Laboratory	1.87	1.87	0.93
	EE 2259 Electrical Machines Laboratory – I	-	2.80	-
V	EC2311 Communication Engineering	-	1.00	1.00
	EC2314 Digital Signal Processing	2.00	-	-
	CS 2311 Object Oriented Programming	-	1.33	-
	EE 2301 Power Electronics	3.00	3.00	3.00
	EE 2302 Electrical Machines II	1.00	3.00	1.00
	EE 2303 Transmission & Distribution	1.40	0.93	1.40
	CS 2312 Object Oriented Programming Laboratory	0.93	-	-
	GE 2321 Communication Skills Laboratory	-	-	-
	EE 2304 Power Electronics Laboratory	1.87	2.80	0.93
	EE 2305 Electrical Machines Laboratory II	1.00	3.00	-
VI	EE 2351 Power System Analysis	2.00	1.00	2.00
	EE 2352 Solid State Drives	3.00	3.00	3.00
	EE 2353 High Voltage Engineering	-	0.93	0.47
	EE 2354 Microprocessor and Micro controller	-	0.93	0.47

SEMESTER	COURSE	PSO1	PSO2	PSO3
	EE 2355 Design of Electrical Machines	0.60	-	-
	CS 2363 Computer Networks	0.73	-	-
	GE 2025 Professional Ethics in Engineering	-	-	-
	EE 2356 Microprocessor and Micro controller Laboratory	-	2.00	1.00
	EE 2357 Presentation Skills and Technical Seminar	-	-	-
VII	EE 2401 Power System Operation and Control	1.20	1.20	1.20
	EE 2402 Protection & Switchgear	0.67	-	1.33
	EE 2403 Special Electrical Machines	0.47	-	0.47
	MG 2351 Principles of Management	-	-	-
	CS 2411 Operating Systems	0.60	-	-
	EE 2404 Power System Simulation Laboratory	2.80	-	0.93
	EE 2405 Comprehension	1.00	2.00	1.00
	GE 2022 Total Quality Management	-	-	-
	EE2025 Intelligent Control	2.00	1.00	-
VIII	EE 2451 Electric Energy Generation, Utilization and Conservation	0.93	1.40	1.40
	EE 2028 Power Quality	1.47	1.47	1.47
	EE 2036	-	1.47	-

SEMESTER	COURSE	PSO1	PSO2	PSO3
	Flexible AC Transmission Systems			
	EE 2452 Project work	3.00	3.00	3.00
DIRECT PSO ATTAINMENT LEVEL AVERAGE		**1.37**	**1.48**	**1.26**
DIRECT ATTAINMENT LEVEL		**2.41**	**2.39**	**2.22**
INDIRECT ATTAINMENT LEVEL		**2.50**	**2.30**	**2.37**
TOTAL ATTAINMENT LEVEL		**2.43**	**2.38**	**2.25**

The Indirect attainment level is obtained from the alumini feedback. The feedback form was send or given to alumini students to get the indirect attainment level. The format is in Annexture III

CRITERION 4	STUDENTS PERFORMANCE	150

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY (2014-2015)	CAY*m*1 (2013-2014)	CAY*m*2 (2012-2013)
Sanctioned intake of the program (*N*)	120	120	120
Total number of students admitted in first year *minus* number of students migrated to other programs/institutions plus no. of students migrated to this program (*N*1)	123	112	108
Number of students admitted in 2nd year in the same batch via lateral entry (*N*2)	20	14	26
Separate division students, if applicable (N3)	-	-	-
Total number of students admitted in the Program (*N*1 + *N*2 + N3)	143	126	134

Year of entry	*N1 + N2 + N3 (As defined above)*	Number of students who have successfully graduated without backlogs in any semester/year of study (Without Backlog means no compartment or failures in any semester/year of study)			
		I Year	II Year	III Year	IV Year
CAY(2014-2015)	123	84			
CAY*m*1 (2013-2014)	126	68	59		
CAY*m*2 (2012-2013)	134	84	82	70	
CAY*m*3 (LYG) (2011-2012)	138	87	67	63	62
CAY*m*4 (LYG*m*1) (2010-2011)	127	68	71	57	53
CAY*m*5 (LYG*m*2) (2009-2010)	128	85	66	54	52

Year of entry	***N*1 + *N*2 + N3 (As defined above)**	Number of students who have successfully graduated			
		I Year	II Year	III Year	IV Year
CAY(2014-2015)	123	88			
CAY*m*1 (2013-2014)	126	92	81		
CAY*m*2 (2012-2013)	134	87	99	82	
CAY*m*3 (LYG) (2011-2012)	138	91	80	98	124
CAY*m*4 (LYG*m*1) (2010-2011)	127	77	87	76	117
CAY*m*5 (LYG*m*2) (2009-2010)	128	93	70	84	105

4.1. Enrolment Ratio

CAY Enrolment Ratio= N1/N=1.0

Item	Marks
>=90% students enrolled at the First Year Level on average basis during the period of assessment	20
>=80% students enrolled at the First Year Level on average basis during the period of assessment	-
>=70% students enrolled at the First Year Level on average basis during the period of assessment	-
>=60% students enrolled at the First Year Level on average basis during the period of assessment	-
Otherwise	-

4.2. Success Rate in the stipulated period of the program

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

Item	Latest Year of Graduation, LYG (CAY*m*3)	Latest Year of Graduation minus 1, LYG*m*1 (CAY*m*4)	Latest Year of Graduation minus 2, LYG*m*2 (CAY*m*5)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	138	127	128
Number of students who have graduated without backlogs in the stipulated period	62	53	52
Success Index (SI)	0.45	0.42	0.406
Success rate	10.63		

4.2.2. Success rate in stipulated period

Item	Latest Year of Graduation, LYG (CAY*m*3)	Latest Year of Graduation minus 1, LYG*m*1 (CAY*m*4)	Latest Year of Graduation minus 2, LYG*m*2 (CAY*m*5)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	138	127	128
Number of students who have graduated in the stipulated period	124	117	105
Success Index (SI)	0.9	0.92	0.82
Success rate	13.2		

4.3. Academic Performance in Third Year

Academic Performance	CAY	CAY*m*1	CAY*m*2
Mean of CGPA or Mean Percentage of all successful students (X)	7.08	7.25	7.32
Total no. of successful students (Y)	132	138	127
Total no. of students appeared in the examination (Z)	132	138	127
API = x* (Y/Z)	7.08	7.25	7.32
Average API = (AP1 + AP2 + AP3)/3	7.22		

Academic Performance Level = 1.5 X Average API = **10.83**

4.4. Academic Performance in Second Year

Academic Performance	CAY	CAY*m*1	CAY*m*2
Mean of CGPA or Mean Percentage of all successful students (X)	7.26	7.42	7.32
Total no. of successful students (Y)	126	135	137
Total no. of students appeared in the examination (Z)	126	135	137
API = x* (Y/Z)	7.26	7.42	7.32
Average API = (AP1 + AP2 + AP3)/3	7.33		

Academic Performance Level = 1.5 X Average API = **11**

4.5. Placement, Higher Studies and Entrepreneurship (40)

Item	CAY	CAY*m*1	CAY*m*2
Total No. of Final Year Students (N)	138	127	128
No. of students placed in companies or Government Sector (x)	121	121	122
No. of students admitted to higher studies with valid qualifying scores(GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (y)	9	6	6
No. of students turned entrepreneur in engineering/technology (z)	2	0	0
x + y + z =	132	127	128
Placement Index : (x + y + z)/N	0.956	1.0	1.0
Average placement= (P1 + P2 + P3)/3	0.985		

Assessment Points = 40 X Average placement = **39.4**

4.6. Professional Activities (20)

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

- EEE students have membership in various professional societies such as IETE, ISTE, IET and IEEE.
- Under these societies, Conference, Workshop, Symposium, Seminar, Guest Lecture and Career Guidance Program were conducted.

Name of the Chapter	Date	Details of the Activity	Name of the Chief Guest & his/her Official Address
Academic Year 2014 - 2015			
IETE	6.4.2015	Seminar - Industrial Automation	Mr.R.Ranjith ,Automation Engineer Technocrat Automation private limited
IETE	19.3.2015	Workshop - Aurdino	IETE student members
IETE	21.02.2015	"Career Guidance Program on Higher Education" to Koilpillai Memo. Matric. Hr.Sec.School, Ramapuram.	IETE student members from EEE & ECE
IETE	13.08.14	Inauguration and Guest Lecture - "Development of Broadcasting in India"	Mr.S.Ramasamy, Chairman, IETE Chennai Centre.
IETE	18.09.14	Seminar - "Embedded Systems"	Ms.Manjula, Technical Head, SIT Technologies, Chennai.
IETE	27.09.14	Career Guidance Program- " Placement and Higher Studies"	Ms.Gayathri, Project Coordinator, TCS, Chennai.
ISTE	1.2.2015	Inauguration of ISTE and guest lecture -Motivational talk and seminar	Dr K.Manivannan National executive council member,ISTE,NewDelhi

Name of the Chapter	Date	Details of the Activity	Name of the Chief Guest & his/her Official Address
ISTE	1.2.2015	Seminar - Opportunities offered by ISTE in various fields	Dr K.Manivannan National executive council member,ISTE,NewDelhi
IET	6.5.2015	Workshop - Computer Networking	Dr.N.Thangaraj,Professor, Dept of CSC,Anna university
IET	28.3.2015 29.3.2015	Workshop - Two days workshop on Big Data And Renewable Energy Technologies	Dr.V.Vijayarangan,TCS Mr.Narem Krishna ,IBM,Chennai.
IET	24.3.2015	Workshop - Development of Agricultural systems and Rural Development	Mr.Kondaveeti Balaraju Entrepreneur,IIT ,Chennai Dr.R.Velraj,Director,Institute for Energy Studies ,Anna University, Prof.R..Sakthivadivel ,Former Director ,Centre For Water Resources ,Anna University Chennai Mr.V.Nivas ,Associate Director,Steinbeis solar centre,Chennai. Mr.Suresh Simadri,Smart Grid architect,Siemens,Chennai.
IET	11.7.2014	Workshop & Training-INSPEC Training and Academic Publishing	Mr.Sujan Shekhar,Sales &Training Manager, Knowledge Management ,IET Chapter
IET	27.10.2014	Guest Lecture -Orientation Programme	Mr.S.Raghavan,Regional Manager,South IndiaSection
IEEE	30/07/2014	Inauguration	Mr.Tata Sudhakar, NIOT, Chennai
IEEE	30/07/14	Guest Lecture	Mr.Akhil Loganathan, HCL

Name of the Chapter	Date	Details of the Activity	Name of the Chief Guest & his/her Official Address
IEEE	8/8/2014	Guest Lecture	Ms.Tatako Hoshimoto, Japan
IEEE	11.8.2014	Campaign	Mrs. Sowmiya, Social Activist and entrepreneur
Academic Year 2013 - 2014			
IETE	03.10.13	" E – Governance Initiatives in Tamil Nadu"	Col(Retd). K.S.Chakravarthi, Chairman, IETE Chennai Centre. Mr.E.Iniya Nehru, Senior Technical Director, National Informatics Centre, Ministry of Communications & Information Technologies, Chennai.
IETE	03.03.14 & 04.03.14	"Android Development & Ethical Hacking"	Mr.Venkatesan Prabhu Jeyakanthan, Kaashiv Infotech,Chennai.
IETE	27.03.14	"Higher Studies"	Mr.Nishanth Priyadarshi, Chief Operating Officer, Vista Mind, Chennai.
IETE	21.04.14	"Technological Advancements in Power Systems and Power Electronics Engineers"	Mr.N.Thiyagarajan, Additional Director General, (Engg) South Zone, Doordharshan Col(Retd). K.S.Chakravarthi, Chairman,IETE Chennai Centre.
ISTE	3.10.2013	Inaugural function	Mr.K.S. Chakravathic,hairman IETE,Chennai.
ISTE	3.10.2013	Seminar on science and technological I	Mr.E.Iniya Nehru, Senior Technical Director, National informatics centre Chennai.

Name of the Chapter	Date	Details of the Activity	Name of the Chief Guest & his/her Official Address
ISTE	23.01.14 & 24.01.14	Annual convention for engineering students	ISTE society, Easwari Engineering College.
ISTE	20.02.14 & 21.02.14	Workshop on Robotics	Haptics Technology, Techophilla, Easwari Engineering College.
ISTE	26.2.2014	Energy audit	Mr D.Jeyaraj,Certified energy manager(AEEE,USA)
IEEE	12/07/2013	Inauguration and Introduction of office bearers	Mr. Muniratnam, Chariman Iglobe Solutions
IEEE	22/07/2013	Project Contest	Mr. S. Srikanth, Design Engineer, Mando softech
IEEE	23/07/2013	IEEE orientation programme	Ms. Madhuri, Ms. Charanya Mr. Abishek
IEEE	19/08/2013	Youth motivation programme	Mr. Pramod Kumar, Cultural coordinator ,Amrutha University
IEEE	21/08/2013	Technical lecture	Dr. Vijay Narayanan, Penn State University
IEEE	14/09/2013	WIE Orientation programme	Dr. Ramalatha, Madras IEEE WIE chair
IEEE	28/9/.13	WIE Symposium	Ms. Vanipriya, Ms. Absala Pream Regin, CTS & Alumni-EEC
IEEE	6/10/2013	Guest Lecture	Mr.Ramanathan, DE,BSNL. Topic: wireless communication
IEEE	25/11/13	Guest Lecture	Mr.Naren Krishnan, IBM addressed I year students on project contest at IBM
IEEE	1/3/14 and 15/3/14	Workshop	SPARK-Fun with Robotics

Name of the Chapter	Date	Details of the Activity	Name of the Chief Guest & his/her Official Address
IEEE	April, 2014	National Conference	IT Department
IEEE	17/04/2014	National Conference	VECaN 2014
Academic Year 2012 - 2013			
IETE	01.08.12	"The necessary skills the companies expect from the freshers"	Mr.J.Premchandran, Centre Head – L & T Infotech, Chennai. And Mr.A.C.Ashok Kumar, HR – L & T Infotech, Chennai.
IETE	01.08.12	Contest	Organized by IETE members of Final Year ECE Students.
IETE	23.08.12	"Trends in Electronics and communication – using Texas Instruments"	Dr.C.P.Ravikumar, Texas Instruments.
IETE	12.02.13	"Research Methodologies"	Dr.Ebenezer, (Retd) Professor, Anna University, Chennai.
ISTE	27.02.2013	Inaugural Function, Implementation of Analog and Digital controllers	Mr.R.Thandapani Director/Technical, RRT Electropower pvt .Ltd.

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

- Technical symposium SPANGLES is held every year. It comprises of Paper Presentation, Project Expo, Circuit Debugging, Technical Quiz, Line Follower, Adzap, Gaming, Minute to win it and Dumb C.
- National Conference TAPSPEE is held every year in which Paper Presentation in various field is conducted.

Name of the news letter: SPARKZ

S.No	Month of the newsletter publication	Year of publication (Thrice per semester)	Advisory Committee	Board of Editors
1	August	2012	Dr.A.Peer Fathima Mrs.Smilee Mathuram	Aishwarya.C Chandana.B.V
2	September	2012		
3	October	2012		
4	January	2013	Dr.A.Peer Fathima Mrs.M.Deva brinda	V.Nandhini Kalyani Radha Nandithitha Manoj Visalan Priyankha
5	February	2013		
6	March	2013		
7	August	2013	Dr.R.Murugan Mrs.M.Deva brinda	
8	September	2013		
9	October	2013		
10	January	2014	Dr.K.Kalai Selvi Mrs.M.Deva brinda,	G.Pavitra RamyaRavishankar SS.Monishaa B.Priyanka Manojkumar P.Sreeram
11	February	2014		
12	March	2014		

S.No	Month of the newsletter publication	Year of publication (Thrice per semester)	Advisory Committee	Board of Editors
13	August	2014	Dr.K.Kalai Selvi Mrs.M.Deva brinda,	SS.Monishaa B.Priyanka Manojkumar P.Sreeram
14	September	2014		
15	October	2014		
16	January	2015		
17	February	2015		
18	March	2015		

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

Co curricular activities:

Academic year	Category	No. of publications in symposium	No. of participants in engineering events	No. of mini projects	Total No. of Participation
2014-15	Within state	10	153	12	178
	Outside State	3	-	-	
	Prizes/Awards won	7	14	6	
2013-14	Within state	22	86	14	126
	Outside State	-	4	-	
	Prizes/Awards won	4	16	9	
2012-13	Within state	29	80	11	124
	Outside State	-	4	-	
	Prizes/Awards won	9	36	11	

Publication Details:

Academic Year: 2014 - 2015

International Journal

S. No.	Paper details
1.	K. Mala, Kapardi.M, Krishna.M, Ashwin.R and Pranav.G, "Automation of Household Appliances Using Touchscreen Interface", International Journal of Applied Engineering Research (IJAER), Research India Publications, *ISSN 0973-4562*, pp.30132-30136, Vol.10 No.40(2015).
2.	Dr. K. Mala, Valli.C, Yamini Ramesh and Shyam Narayan.J, "Design and Implementation of Reconnoiter Robot using Grid-EYE for Military Purposes", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30249-30255, Vol.10 No.40(2015).
3.	Mrs.Smilee Maturam, R.Sudarsan, S.A.Venkatesh Krishna, P.Vinodhini Priya, J.P.Vijay, "Automation In Automobiles Using Arduino Programming", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40(2015).
4.	Mrs.M.Devabrinda, Vaishnavi S, Vinotha R,Soorya Prakash.P, "Agc For Two Area Interconnected Power System Using Bacterial Foraging Optimization Algorithm", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243,Vol.10 No.40(2015).
5.	Mrs M.Devabrindha, Karpagapreetha P , Mithra R Karthik R, Krishna Kumar S ," Load Frequency Control For Two Area Interconnected Power System Using Bacterial Foraging Optimization Algorithm", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40(2015).
6.	Mrs.D.Chandrakala, Preeja, Ramkishore N M, Srinandini K, Siva Subramaniyan A , "Implementation Of Real And Reactive Power Control Of Grid Tied Z Source Inverter Using Hybrid Renewable Energy Sources", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562,

	pp.30239-30243, Vol.10 No.40 (2015).
7.	K.V.Thilagar, Pavithra G, Keshav S, Balasubramaniam N Mohan," Implementation Of Non-Isolated Zvzcs Pwm Interleaved Boost Converter ", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40 (2015).
8.	J. Lydia, P.Ponram, K.Siddharth, T. Lokesh, V.Vignesh, "Patient health monitoring and ambulance tracking using GSM and GPS",International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40 (2015).
9.	J.Lydia, Dinesh," Crop Planning And Crop Care Tool For Agriculture Based On Wsn Technology", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40 (2015).
10.	P.Pushpakarthick, V.Manoj, J.Chandramouli, T.Aswath, S.Bharat Krishna, "Light Fidelity Based Smart Mobile Indoor Navigation System For Visually Impaired", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40 (2015).
11.	Mrs.K.Priyadharsini, G Aaron, K.Krishnamurthy," Monitoring Power And Management Of Mechanical Vibrations And Temperature Of Small Wind Turbines Using Wsn", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40 (2015).
12.	R.Keerthana, Sushmabhagyashree.S , Swathy.K , Vasuvi.V, Vishal.S," Sensor Ba6sed Control of Intensity of LED Street Lamps Using Piezoelectric Technique", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40 (2015).
13.	N.Aakash,P.Aravind, S.Dineshkar "Smart Laser Theft Alarm" in International Journal for Scientific Research & Development.

International Conference

S. No.	Paper Details
1.	Aishwarya. B.V and Archana G of 2012 - 2016 presented paper on "Agriculture Robotic Vehicle Based Pesticide Sprayer with Efficiency Optimization" in "IEEE International conference on technological innovations in ICT for agricultural and rural development",2015.
2.	S.Jagannathan(EEE) & Chetan Dwarkani M, Ganesh Ram Rajakumar and R. Priyatharshini(IT) of 2013 - 2017 presented paper on "Smart Farming System Using Sensors for Agricultural Task Automation" in "IEEE International conference on technological innovations in ICT for agricultural and rural development", 2015.

National Conference

S. No.	Paper Details
1.	Dr. K. Mala, Kapardi.M, Krishna.M, Ashwin.R and Pranav.G, "Automation of Household Appliances Using Touchscreen Interface", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
2.	Dr. K. Mala, Valli.C, Yamini Ramesh and Shyam Narayan.J, "Design and Implementation of Reconnoiter Robot using Grid-EYE for Military Purposes", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
3.	Mrs.A.Joseline Metilda, V. Aparna,. Nivethithaa C, Nasrin Fathima N, Jhanani R, "Pulse Generator Card For Dosing Pump", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th April 2015.
4.	A.Joseline Metilda, R. Rajashree, R Shruthi "Image Analysis Of Cystic Fibrosis- A Comparative Study Of Classifiers",Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
5.	Mrs.Smilee Maturam, R.Sudarsan, S.A.Venkatesh Krishna, P.Vinodhini Priya,

	J.P.Vijay, "Automation In Automobiles Using Arduino Programming",in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
6.	Mrs.M.Devabrinda, Vaishnavi S, Vinotha R,Soorya Prakash.P, "Agc For Two Area Interconnected Power System Using Bacterial Foraging Optimization Algorithm", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
7.	Mrs M.Devabrindha, Karpagapreetha P , Mithra R Karthik R, Krishna Kumar S ," Load Frequency Control For Two Area Interconnected Power System Using Bacterial Foraging Optimization Algorithm", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
8.	Mrs.D.Chandrakala, Preeja, Ramkishore N M, Srinandini K, Siva Subramaniyan A , "Implementation Of Real And Reactive Power Control Of Grid Tied Z Source Inverter Using Hybrid Renewable Energy Sources", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
9.	K.V.Thilagar, Pavithra G, Keshav S, Balasubramaniam N Mohan," Implementation Of Non-Isolated Zvzcs Pwm Interleaved Boost Converter ", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
10.	J. Lydia, P.Ponram, K.Siddharth, T. Lokesh, V.Vignesh, "Patient health monitoring and ambulance tracking using GSM and GPS", in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
11.	J.Lydia, Dinesh," Crop Planning And Crop Care Tool For Agriculture Based On Wsn Technology",in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
12.	Mrs.K.Priyadharsini, G Aaron, K.Krishnamurthy," Monitoring Power And Management Of Mechanical Vibrations And Temperature Of Small Wind Turbines

	Using Wsn",in Fifth National Conference on Technological Advancements in Power System and Power Electronics Engineering 17th april 2015.
13.	R.Keerthana, Sushmabhagyashree.S , Swathy.K , Vasuvi.V, Vishal.S," Sensor Based Control of Intensity of LED Street Lamps Using Piezoelectric Technique", International Journal of Applied Engineering Research (IJAER), Research India Publications, ISSN 0973-4562, pp.30239-30243, Vol.10 No.40 (2015).

Academic Year: 2013 - 2014

International Conference

S. No.	Paper Details
1.	Kapardi.M of 2011-2015 Batch Presented Paper on "Morphological changes associated with the genesis and development of an excitatory glutamergic synapse – An integrated frame work model" at University of Crete, FORTH-Foundation Of Research&Technology-Hellas,Heraklion, Greece in the year 2014-2015

National Conference

S. No.	Paper Details
1.	V.Abirami, Sathiya MP , Indumathi, Chinnadurai, Murali M, "Hybrid power quality compensator in cophase traction systems",4th National Conference, Easwari Engineering College, 21-24 ,2014
2.	Dr.R.Murugan, Barani, Meeena loshini, Angelin Priyadharshini, Thirunavukarasu, "Analysis of rail gun design parameters using finite element method" 4th National Conference, Easwari Engineering College,13 to 15, 2014
3.	N.O.Gunasekhar, S.Monica , A. Tamil ponni, K.Mani , "Wind energy fed AC drives by using modified back to back converter" 4th National Conference, Easwari Engineering College, 58-60,2014
4.	Mr.S.Ramesh Prabhu , K. sowmya , G ratha, S. Siva , G.naveen kumar "Z-source inverter with simple boost control technique for energy efficient solar conversion system", Technological Advancements in Power Systems and Power Electronics

	Engineering- TAPSPEE
5.	M.Devabrindha, R.sahana, S.priya, S.sunitha, "Frequency control using fuzzy logic controller considering governor dead band non-linearity in a deregulated electricity environment" 4th National Conference,Easwari Engineering College 176-180, 2014
6.	Dr.Mala, Smilee Mathuram, G.Tamil pavai, "Performance improvement of photovoltaic module using interleaved flyback converter Topologies"4th National Conference,Easwari Engineering College,158-163, 2014
7.	D.Chandrakala, Kayal vizhi, M.Muthu Ponmani, Arul pandiyan, G.Abishek "Transformerless inverter with virtual DC bus concept for grid connected PV system using DC-DC converter", 4th National Conference,Easwari Engineering College, 36-42,2014
8.	J.Lydia, K.Prasannthi , V.Praveen, A.Vidhya , M.subhannthi, "Energy management for hybrid generation system", 4th National Conference, Easwari Engineering College,1 to6,2014
9.	Smilee Mathuram, S.Vijayarajan, E.vivek, V.Pradeep, R.Ganesh kumar & R.Mohan, "Power Quality improvement in Microgrid using UPQC" Communication Control and Energy Engineering,Vel Tech, 176-181 , april 2014
10.	A.Rajasekar, Vigneshwaran, Sathish.S, Srinath S, Pradeep "A high Efficiency fuel cell simulator implemented by an LLC resonant DC-DC converter"4th National Conference,Easwari Engineering College, 46-52,2014
11.	Joseline Metilda.A , S.Abhinaya, G.Pavana, V.Mahalakshmi, S.Sivaraman, DR. C. Sharmeela, "PI Controller based Shunt Active Power Filter for Power Quality Improvement", Power, Control & Instrumentation ,2014

Academic Year: 2012 - 2013

International Journal

S. No.	Paper Details
1.	Bharathram, Kirubhahar Praveen P, Chandrakala D, Akshay Jalan, Gowtham Ram N, "Brake Pad Actuation using Electromagnetic Coils", ISRJ, MEPED'13, ISSN: 2230-7850
2.	A.V. Shrinivass, R.Shravanthi, Sidhant Sath, A.Peer Fathima, "Design of Dyadic Deregulation with focus on choice of controllers", ISRJ, MEPED'13, ISSN: 2230-7850, April,2013
3.	N.Jeyashri, C.Gopinath, D.Mirunalini , A.Merra, and T.R Arivanandham , Dr.R.Ramesh , "Alleviation of harmonics using series power line compensator", ISRJ 2013.
4.	K.Amritha , C.Gopinath, M.Mohamed Ashraf , R,MAdhan , E.B. Amrith and Dr,R,Ramesh, "Restitution of voltage using fuel cell based dynamic voltage restorer", ISRJ 2013.
5.	Arun Kumar R, Chandini S ,Jayalakshmi D , Abishek K and Chandana B V, "Real Time Application of solar Energy System for basic Residential Purposes", ISRJ, pg No 100-112, 2013.

National Conference

S. No.	Paper Details
1.	T.Rakesh, V.Raakesh, D.Sharath, "Improvement of a PMBL DC Motor using a Push-Pull converter",National Conference on Smart Advancement in Green Energy.
2.	E.Sangeetha, R.Sahana, E,Snekha, S,Suganya, A.Joseline Metilda, "Harmonic Mitigation using Shunt Active Power Line Conditioners with PID Controller", National Conference on Methods Enriching Power and Energy Development-2013.
3.	A.Rajasekar,S.Muthukannan, U.Nandakumar, Prashanth and G.Muralidhar,SaiAbhishek Mani, "Phase opposition disposition based triggering of multilevel inverter using a single carrier signal", Methods Enriching Power and Energy Developments , Vol 1 , Issue 1 ,143-147, April 2013.

4.	E.Sangeetha , R.Sahana ,E.Sneha ,D.Suganyaand A.JoselineMetilda, "Mitigation of Harmonics using PLL with PID Controller based Shunt Active Power Filter", Methods Enriching Power and Energy Developments , Vol 1 , Issue 2, April 2013.
5.	Ja. Sruthi ,R.Rajeshwari,M.S.Preetha ,S. Nehruselvan and Dr.N.O.Gunasekhar, "Doubly fed induction generator based wind power generation using matrix converter", Methods Enriching Power and Energy Developments , Vol 1 , Issue 3, 431-434,April 2013.
6.	N.Jeyashri, C.Gopinath, D.Mirunalini , A.Merra, and T.R Arivanandham , Dr.R.Ramesh , "Alleviation of harmonics using series power line compensator", Methods Enriching Power and Energy Developments , Vol 1 , Issue 2, 243-248,April 2013.
7.	R.Priya, C.Nandhini,S.NaiduMehul ,E.S. MukeshSrinivasan and P.Balamurugan , "Stability improvement using GA based PID controller of a DFIG-based offshore wind farm connected to a power grid through an HVDC link", Methods Enriching Power and Energy Developments , Vol 1 , Issue 2, 231-236,April 2013.
8.	R.A.Praasanth, J.Purushothaman,J. Thulasiraman,SA.Venkataraman and T.Santhi, "Matrix converter based unified power flow controllers: Advanced direct power control method", Methods Enriching Power and Energy Developments , Vol 1 , Issue 2, 339-344,April 2013.
9.	C.Siva Kumar, pradeep.K, R.SelvaMuthuKumaran ,Praveen.K and Mrs.SmileeMathuram, "Design of unified power quality conditioner to improve the power quality problems by using renewable energy source", Methods Enriching Power and Energy Developments , Vol 1 , Issue 2, 249-253,April 2013.
10.	Arun Kumar R, Chandini S ,Jayalakshmi D , Abishek K and Chandana B V, "Real Time Application of solar Energy System for basic Residential Purposes", Methods Enriching Power and Energy Developments , Vol 1 , Issue 2, 397-400,April 2013.
11.	A.V.Shrinivas,,R.Shravanthi . Sidhant Seth and Dr.A.PeerFathima, "Delineation of Dyadic Deregulation and Frequency related Ancillary Services Competitive and Complete energy", Smart Advancements in Green Energy, April 2013.

12.	J.Nandhagopal,S.Divya and R.ReshmaFathima, "Standalone Hybrid Wind – Solar Power Generation System with Multiple Storage Techniques", Emerging trends in Intellectual Power Systems, 53-56, Feb 2012.
13.	S.Sindhuja,R.M.Vallikannu , S.Thamizan ,S.ShanmugaSundaram and K.Zahirhussain, "Small Size wind power generating system using Switched Reluctance Generator", Methods Enriching Power and Energy Developments , Vol 1 , Issue 3, 410-415,April 2013.
14.	Archana C , Jeevanya R, Kameshwari G, Jayraman V , Dr.A.PeerFathimaMr.A.P.MarshallArokiaDass , "Power Quality improvement by using Diode Clamped Multilevel Inverter for Renewable energy System, Methods Enriching Power and Energy Developments ,Vol 1 , Issue 2, 334-338,April 2013.
15.	AishwaryaC,DiwakharR, Ganesh S , Harikrishna N and K.Zahirhussain , "Energy audit, Conservation and Monitoring in a campus", Methods Enriching Power and Energy Developments, Vol 1 , Issue 4, 504-509,April 2013.
16.	Abigail Kearney, Andrew John Winney, N,Bhuvesh,MamtaSatheesh and SmileeMathuram, "Smart Grids: Protection and Monitoring of Power System Entities", Methods Enriching Power and Energy Developments, Vol 1 , Issue 2, 329-333,April 2013.
17.	Satheesh G, Vignesh Kumar S.P, PremSagar B, Satihsh .S and Mrs.R.Prathiba, "Determination of AvaiLable Transfer Capability in a CEED environment - using interpolation", Methods Enriching Power and Energy Developments, Vol 1 , Issue 2, 264-266,April 2013.
18.	Lakshmi Narasimhan V , Lakshmi V, HariPrasath R , Gowri Shankar K and Dr.N.O.Gunasekhar, "Highly Efficient Maximum Power point Tracking Using Slope Detection Technique", ", Methods Enriching Power and Energy Developments, Vol 1 , Issue 2, 325-328,April 2013.
19.	Vishnu Priya S , Vijyetha D , P.Kaleeshwari , AbhijitBal and Mrs. Deva Brinda, "Load Frequency Control of a Two Area Interconnected Power System using Genetic Algorithm tuned PI Controller", Methods Enriching Power and Energy Developments, Vol 1 , Issue 2,April 2013.

20.	K.Amritha , C.Gopinath, M.Mohamed Ashraf , R,MAdhan , E.B. Amrith and Dr,R,Ramesh, "Restitution of voltage using fuel cell based dynamic voltage restorer",Emerging Technologies in Electrical and Electronics Engineering, ISBN 978-81-926837-2-0, April 2013.
21.	Bala Kumar S, Kamesh K , Kaushik P , Lakshmi Kanthan N , Ramesh Prabhu S , "21-level cascaded H-bridge grid tied inverter", Methods Enriching Power and Energy Developments, Vol 1 , Issue 1,83-85,April 2013.
22.	K.Dhanaarasu, R.Divya Varshini , M.Adhithya , S. Ramshankar and A.Joseline Metilda, "A Novel approach to Power Management System in MicroGrids",AITHRE ,224-230, March 2013.
23.	S.Anoo, C.Umayal, B.Bipin , Durga Raghavendran , Devani Charinigia Bordoloi, "Power factor correction of PMBLDC motor using flyback converter", Methods Enriching Power and Energy Developments, Vol 1 , Issue 1,123-125,April 2013.
24.	B.Yugesh, D.Vaidhya Subramanian , C.Pranav , S. Vighneshwar and Mrs.Deva Brinda, "Improvement of power quality and power factor of complimentary power station using PLC and SCADA", Methods Enriching Power and Energy Developments, Vol 1 , Issue 2,293-296,April 2013.
25.	Anupraba M, Dharshan V.S , Gowthaman.M, Arul jothi . K, and Mr.Marshal Arockiadass.P, "A Semi Automatic Continuity Test Kit for Traveling Cable Assembly", MOSDES,20-23,2013.
26.	Anand, Balakrishnan,Seenuvasan,Srikanth and Mrs.V.Abirami, "Advanced DC converter for a variable speed drive", Smart advancements in green energy, Feb 2013.
27.	Nisha Irudayaraj, Pallavi E, Ranjini A.R, Shankaran B and Mr. K.V. Thilagar, "Regenerative braking in electric vehicle using BLDC motor", Methods Enriching Power and Energy Developments, Vol 1 , Issue 5,603-607,April 2013.
28.	Sindhuja R.M, Sowmya.S and Mr.J.Harinarayanan, "Field trials and performance monitoring using a low-cost wireless sensors network for domestic applications", Modeling, Simulation, Design and Experimental Study of Electrical System,106-110,April 2013.
29.	Umesh Prabhu H, Nivethan K.G , Nesa Kumar T, Saranya V.R and Varshini

	Raghavan, "Determination of state of charge using optical fibre sensors", ", Methods Enriching Power and Energy Developments, Vol 1 , Issue 3,405-409,April 2013.
30.	Ilamaran mamallan, Adithya Ram V, Abhishek G.Iyer, Periyathambi.A and Prathibha.S, "Power Electronic Converter employing soft switching technique applied to heating applications", ", Methods Enriching Power and Energy Developments, Vol 1 , Issue 1,152-160,April 2013.
31.	Bharathram M, Kirubhahar Praveen P, Mrs.D.Chandrakala ,Akshay jalan and Gowtham ram N, "Brake pad actuation using electromagnetic coils", Methods Enriching Power and Energy Developments, Vol 1 , Issue 5,617-620,April 2013.
32.	B.Athi Vignesh, Abdul Majeed, Alladi Ramesh,P.Deepak, J.Lydia, "Induction Motor drive for Electric Vehicles based on Vector control with Space Vector Modulation Concept", Methods Enriching Power and Energy Developments, Vol 1 , Issue 5,617-620,April 2013.

Student Achievements

S.No	Name of the Students	Batch	Name of the activity	Details of the activity
1.	R.Vignesh	2013-2017	Patents	1. 99/CHE/2011- Bio physiological Monitoring And Alerting Device, 2. 3837/CHE/2011- Blind Navigation System With Terrain Mapper, 3. 520/CHE/2015 - Non Destructive and Non Invasive Plant Nutrient.
2.	R.Vignesh, B.Manoj kumar Anandhu Ajith Vyas K.Manojkumar (EIE)	2013-2017	Texas Instruments Innovator Challenges India Design Contest 2015	3rd prize and won cash prize of $2000 for the project "Farm Corder low cost agro advisory system".

S.No	Name of the Students	Batch	Name of the activity	Details of the activity
3.	III year EEE, ECE & MECHANICAL students	2013-2017	Design Competition Conducted by Imperial Society of Innovative Engineers.	Designed and Assembled the Hybrid Vehicle.
4.	R.Vignesh B.Manojkumar	2013-2017	IGNITE (National Innovation Foundation-India)	Got award two times from Dr. A.P.J. Abdul Kalam
5.	S.Visalan, K.Siddharth T.Lokesh	2011-2015	KSHITIJ 12,Lumos- IIT Kharagpur	Qualified for finals & won Best Position Algorithm
6.	G.Sanjay Kumar and Pradeep.R	2012-2016	Paper presentation - NIT Trichy-2014-2015	Presented a paper on "Privacy Information Protection in an Encrypted Compressed H.264 Video bit stream"
7.	Yamini Ramesh, Ramkishore, Priya.K.N.L	2011-2015	CCQCE'14 in Quality Circle Forum of India	Won Excellence Award in case study presentation
8.	P.Venkatesh	2010-2014	Paper presentation-Paavai	Won cash prize of Rs. 25,000/
9.	K.Sowmya	2010-2014	Waves 2013 and Waves 2012 - Anna University,	Selected as Best Student Ambassador
	S. Muthu Kannan	2009-2013		

S.No	Name of the Students	Batch	Name of the activity	Details of the activity
			Chennai.	
10.	Naresh, Shankar, Arunkanth, Koushik and V.Sathishkumar	2010 - 2014	Project from Analog devices "Anveshan 2012"	Got Rs. 10,000 for "Low cost integrated Wireless self-Diagnosis and health monitoring system with emergency response"
11.	Y.V.Aishwarya	2014-2018	Workshop on Indian Nuclear Programme and Indian Institute of Metals, Kalpakkam	Won first prize in Elocution Contest
12.	S.Varun	2013-2017	Guinness World Record- Spencer Plaza, Chennai.	The largest display of Origami boats" by displaying 16,343 boats under Wide Animation Studio.
13.	S.Varun	2013-2017	Spangles 2K15	Nikola Tesla Face using a junks
14.	T.N.Karthick, M.Kapil, K.S.Anirudhan	2012-2016	CCQCE'14 in Quality Circle Forum of India	Won Excellence Award in case study presentation

Prize Won in Inter Institute events

ACADEMIC YEAR 2014-2015					
S.no	**Name**	**Year**	**Event**	**Venue**	**Prize Won**
1.	Pradeep R	2015	Paper Presentation	NIT Trichy	I Prize
2.	Sanjay kumar G	2015	Paper Presentation	NIT Trichy	IPrize

3.	Muthuveerappan	2015	IPL Mock Bidding	College of Engineering Guindy	III Prize
4.	Aishwarya Y.V	2015	Elocution Contest (Indian Nuclear Programme)	Easwari Engg College	I Prize
5.	Sulthan Shahul Hameed R Sanjay Kumar G Sathish Sankara Narayanan S Shrivatsav Vishnuvardhan Oscar JH Priyankha	2015	ROBO-ZEST 15 (International Level robotics Championship	Conducted by Robo species Technologies in association with SPORTECH 15 SASTRA University	II Prize (Selected to Compete in IIT Delhi)
6.	B.Manoj Kumar	2014	Project Display EUPRAXIA 2K14	SSN College of Engineering	II Prize
	Anandhu Ajith vyas	2014		SSN College of Engineering	
7.	V.Kishore	2014	Circuit Tricks EUPRAXIA 2K14	SSN College of Engineering	I Prize
8.	Ramesh kumar	2014	Treasure Hunt EUPRAXIA 2K14	SSN College of Engineering	I Prize
9.	G.Harish	2014	Circuit Tricks EUPRAXIA 2K14	SSN College of Engineering	I Prize

10.	Vignesh Ravi	2014	EUPRAXIA 2K14 Project Display	SSN College of Engineering	II Prize
11.	R.Ashwath Narayan	2014	ORBITCE WIZARD 2K14	SSN College of Engineering	II Prize
12.	P.Aravind	2014	NEXUS 14 Zero Hour	M.G.R University	II prize
13.	R.Divya Bharathi	2014	Paper Presentation	TJ Institute of Technology	I Prize with cash prize of Rs 750
14.	Geraldene Anita	2014			
15.	Sanjay Kumar	2014	Paper Presentation Zigbee Based Sewerage Blockage Detection	Co curricular and Academic Interaction Council (CAIC), IIT Delhi	II Prize
16.	Pradeep R	2014			
17.	Shanmuga Raja D	2014			

ACADEMIC YEAR 2013-2014					
S.no	**Name**	**Year**	**Event**	**Venue**	**Prize Won**
1	M.S.AneesAhmed P.Ganesh Ram	2013	Design Contest	Easwari Engg College	III Prize
2	M.S.AneesAhmed P.Ganesh Ram	2013	Project Display	Easwari Engg College	II Prize
3	M.S.AneesAhmed P.Ganesh Ram	2013	Paper Presentation	Prathyusha Institute of Tech and Management	III Prize
4	M.S.AneesAhmed P.Ganesh Ram	2013	Project Display	SSN College of Engg	III Prize

5	K.Siddharth	2013	Track-O-Mania	SSN College of Engg	II Prize
6	M.S.AneesAhmed P.Ganesh Ram	2013	Project Display	Sri Venkateswara Institute of Science and Technology	I Prize
7	P.Ganesh Ram	2013	Project Display	Easwari Engg College	II Prize
8	V.Vasuvi Priya.K.N.L S.Sweata	2014	Robotix	Shree Motilal Kanhaiyal Fomra Institute of Tech	I Prize
9	M.S.AneesAhmed P.Ganesh Ram	2014	Paper Presentation	Loyala-Icam College of Engg& Tech	I Prize
10	M.S.AneesAhmed P.Ganesh Ram	2014	Project Display	CIT Chennai	I Prize
11	J.P.Vijay P.Vinodhini Priya	2014	MECHGUCT'14	CIT Chennai	I Prize (Rs 1000)
12	Priya.K.N.L S.Sweata Seetha Lakshmi.M	2014	Indo-US Robo League	Easwari Engg College	I Prize
13	T.Lokesh K.Siddarth	2014	Waves'14 Wall Follower	College of Engineering, Guindy	I Prize
14	K.Yogesh	2014	Waves'14 Wall Follower	College of Engineering, Guindy	I Prize
15	V.Srikumar Sivaram.S	2014	Mock IPL Building	MIT Chennai	Winner

ACADEMIC YEAR 2012-2013

S.no	Name	Year	Event	Venue	Prize Won
1	P.Venkatesh	2012	Paper presentation	Apollo Engineering College	III Prize

2	P.Venkatesh	2012	Paper presentation	Agni College of Technology	II Prize
3	V.SatishKumar	2012	Paper Presentation	Jerusalem College of Engineering	I Prize
4	P.Venkatesh	2012	Technofia	K.Ramakrishnan college of Engineering	I Prize
5	V.Raman	2012	Paper presentation	St. Peters college of Engineering	III Prize
	Ashwin Prashanth R.Barani K.Hari priya	2012	Paper presentation	Madha Engineering College	II Prize
6	P.Venkatesh	2012	Hardware Model Contest	Paavai Engineering College	I Prize (25,000 Rs)
7	Siddharth.K.	2012	ROBOTICS	SSn College of Engineering	III Prize
8	K.Siddarth	2013	Heed the Rules	MIT	II Prize
9	S. Abdul Rahman M.Divyansh Sharma M.Dharani	2013	Project Expo	Adhiparasakthi Engineering College	I Prize
10	S.Abdul Rahman M. Dharani	2013	Circuit Debugging		I Prize
11	M. Dharani M.Divyansh Sharma	2013	Crack to Talk		I Prize
12	S. Abdul Rahman	2013	Treasure Hunt		I Prize
13	M. Dharani	2013	Quiz		II Prize
14	M. Dharani	2013	Ad Zap		II Prize

15	V. Manoj J.Chandramouli	2013	Project Display	MSEC	III Prize
16	V.Manoj J.Chandramouli	2013	Project display	Jeppiar Engg College	II Prize(1500Rs Cash)`
17	V.Manoj J.Chandramouli	2013	Project display (SEEK 2013)	Sathyabama University	II Prize(500Rs Cash)`
18	R.Prem S.Vijayrajan V.raman C.samyuktha R.Sahana S.Sunitha	2013	Business Bulls Event		I Prize
19	K.Sowmya	2013	Cryptex Event		III Prize
20	B.Sriram	2013	Alcatraz Event		II Prize
21	S.Prabhu T.Vignesh V.Srikumar V.Vighneswaran	2013	WPL Auction Event		II Prize
22	J.Gopal swami A.Arun KAnth V.Abhishek Kumar S.Abdul rahman M.Divyansh Sharma	2013	Defuse Detonate		II Prize
23	K.Haripriya R.G.Anusha Shree R.Bharani S.Infant Martina	2013	Defuse Detonate		III Prize

	P.Shankar			Sathyabama University	
24	M.Divyansh Sharma S.Abdul Rahman	2013	Bug to Bag		III Prize
25	S.Jai sam Shyam	2013	Gamin Drome		I Prize
26	J.Chandramouli V.Manoj	2013	Project Display		III Prize
27	K.Hari Priya R.G.Anusha sree	2013	Dumb C	Sri Krishna Institute of Technology	II Prize
			Paper Presentation		I Prize

Participation in Inter Institute events

S.No	Name	Year	Event	Venue
ACADEMIC YEAR 2014-2015				
1.	Adithyan	2015	KRATOS 15 Informals	Easwari Engineering College
2.	N.Kirubakar	2015	Technical Quiz, Circuit Debugging	SURGE 2K15 Vellammal Institute of Technology
3.	S.Sethupathy	2015	Technical Quiz, Circuit Debugging	SURGE 2K15 Vellammal Institute of Technology
4.	P.Murali	2015	Technical Quiz, Circuit Debugging	SURGE 2K15 Vellammal Institute of Technology
5.	P.Indhumathi	2015	Technical Quiz, Circuit Debugging	SURGE 2K15 Vellammal Institute of Technology
6.	D.Ashraf Ali	2015	Technical Quiz, Circuit Debugging	SURGE 2K15 Vellammal Institute of Technology

S.No	Name	Year	Event	Venue
7.	V.Kishore	II/IV/A	AURDINO Workshop	MIT, Anan University, Chennai
8.	Ashok Varadhan	II/IV/A	AURDINO Workshop	MIT, Anan University, Chennai
9.	Aswath.R	2014	Circuit Tricks EUPRAXIA 2K14	SSN College of Engineering
10.	Ramesh Kumar	2014	Treasure Hunt EUPRAXIA 2K14	SSN College of Engineering
11.	Jaganathan S	2014	Bridge Balancing, Circuit Tricks EUPRAXIA 2K14	SSN College of Engineering
12.	Mohammed Asif	2014	Treasure Hunt Circuit Tricks EUPRAXIA 2K14	SSN College of Engineering
13.	s.Gosakan	2014	Circuit Tricks EUPRAXIA 2K14	SSN College of Engineering
14.	G.Harathy	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
15.	Madhimitha	2014		SSN College of Engineering
16.	Harinya	2014		SSN College of Engineering
17.	Saranganivas	2014	Treasure Hunt	SSN College of Engineering
18.	T.N.Karthick	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
19.	Monishaa.SS	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
20.	Vivin Pearl Kishore.KS	2014	EUPRAXIA 2014 Workshop , Spot Events	SSN College of Engineering

S.No	Name	Year	Event	Venue
21.	Hariharan.s	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
22.	Lakshmi Narayanan R	2014	EUPRAXIA 2014 Workshop , Spot Events	SSN College of Engineering
23.	Karthick Sundar.S	2014	Workshop –PCB, Spot Events	SSN College of Engineering
24.	Karthik R	2014	Workshop –PCB, Spot Events	SSN College of Engineering
25.	Govindan.V	2014	Workshop –PCB, Spot Events	SSN College of Engineering
26.	G.Nandha Kumar	2014	Workshop –PCB, Spot Events	SSN College of Engineering
27.	S.Manoj	2014	Workshop –PCB, Spot Events	SSN College of Engineering
28.	I.Keerthana	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
29.	R.V.Athiya	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
30.	S.Vignesh	2014	EUPRAXIA 2014 Circuit Tricks	SSN College of Engineering
31.	B.Kirubakaran	2014	EUPRAXIA 2014 Circuit Tricks, Bridge Balancing	SSN College of Engineering
32.	Vasigaran	2014	EUPRAXIA 2014 Circuit Tricks, Bridge Balancing	SSN College of Engineering
33.	Vivin	2014	Workshop PCB	SSN College of Engineering
34.	Sivaprakash	2014	Workshop PCB	SSN College of Engineering
35.	Ramkumar	2014	Workshop PCB	SSN College of Engineering
36.	Niranjan.B	2014	Workshop PCB	SSN College of Engineering

S.No	Name	Year	Event	Venue
37.	R.Ashwath Narayan	2014	ORBITCE C Program, Circuit Trix, TTT	SSN College of Engineering
38.	Arvind R Prakash	2014	ORBITCE WIZARD Circuit Tricks	SSN College of Engineering
39.	C.Ganesh Arvind	2014	ORBITCE TTT	SSN College of Engineering
40.	C.Akshay	2014		
41.	N.Gobinath	2014		
42.	N.AAkash	2014		
43.	Akilesh	2014		
44.	Kishore.M	2014		
45.	Karthikeyan.S	2014		
46.	S.Dineshkar	2014	NEXUS 14 Paper Presentation	M.G.R University
47.	P.Sreeram	2014	EUPRAXIA 2014 ARDUINO workshop Embedded Systems Workshop	SSN College of Engineering
48.	G.Vignesh	2014	EUPRAXIA 2014 ARDUINO workshop Embedded Systems Workshop	SSN College of Engineering
49.	N.Rajesh Kumar	2014	EUPRAXIA 2014 ARDUINO workshop Embedded Systems Workshop	SSN College of Engineering

S.No	Name	Year	Event	Venue
50.	Mohammad Zeeshan	2014	EUPRAXIA 2014 ARDUINO workshop Embedded Systems Workshop	SSN College of Engineering
51.	B.Prakash	2014	EUPRAXIA 2014 ARDUINO workshop Embedded Systems Workshop	SSN College of Engineering
52.	A.SachindraRahul	2014	EUPRAXIA 2014 ARDUINO workshop Embedded Systems Workshop	SSN College of Engineering
53.	K.T.S Naveen	2014	MATHOMANIA Non Technical Quiz	SSN College of Engineering
54.	M.Subham	2014	MATHOMANIA Non Technical Quiz	SSN College of Engineering
55.	A.Vijayakumar	2014	MATHOMANIA Non Technical Quiz	SSN College of Engineering
56.	S.Prasanth	2014	ARDUINO workshop EUPRAXIA 2014 Embedded Systems Workshop	SSN College of Engineering
57.	V.Vigneswar	2014	ARDUINO workshop EUPRAXIA 2014 Embedded Systems Workshop	SSN College of Engineering

S.No	Name	Year	Event	Venue
58.	K.Murali Krishnan	2014	EUPRAXIA 2014 ARDUINO workshop Embedded Systems Workshop	SSN College of Engineering
59.	S.Balachandar	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
60.	Archana.G	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
61.	Akkshara.C.G	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
62.	AishwaryaB V	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
63.	Akshay Venkatasubramanian	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
64.	Balaji K	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
65.	J.Aravindhan	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
66.	S.Aravind	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
67.	M.Kapil	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
68.	M.Deepak	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
69.	R.Hariharasudan	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering

S.No	Name	Year	Event	Venue
70.	C.Gokul Pandian	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
71.	S.Suresh Kumar	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
72.	R.Surendra Rahul	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
73.	Yuvaraj.j	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
74.	Sreeram.V	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
75.	L.Praveen	2014	Workshop PCB	SSN College of Engineering
76.	B.M.Balaji	2014	Workshop PCB	SSN College of Engineering
77.	Sriram	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
78.	S.Suresh Kumar	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
79.	R.Surendar Rahul	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
80.	Yuvarajan	2014	ARDUINO workshop EUPRAXIA 2014	SSN College of Engineering
81.	A.Kavya	2014	Connexions	TJ Institute of Technology
82.	D.Aarthy	2014	Connexions	TJ Institute of Technology
83.	M.Pooja	2014	Code Hunt	SSN College of Engineering
84.	N.Renuka	2014	Code Hunt	SSN College of Engineering

S.No	Name	Year	Event	Venue
85.	B.Priyanka	2014	Code Hunt	SSN College of Engineering
86.	J.H.Oscar	2014	Code Hunt	SSN College of Engineering
87.	Sathish	2014	Code Hunt	Sathyabama University
88.	Shrivatsav	2014	Code Hunt	Sathyabama University
89.	Sahana	2014	Code Hunt	Sathyabama University
90.	Riyaz	2014	Code Hunt	Sathyabama University
91.	K.Divya Abirami	2014	Paper presentation OPUZELEC 2K14	RMK college of Engineering
92.	Geraldene Anita	2014	Paper presentation OPUZELEC 2K14	RMK college of Engineering
93.	D.Aarthy	2014		RMK college of Engineering
94.	Vaishnavi.D	2014	Battle of Breadboards, Flicker tricker	RMK college of Engineering
95.	Vaishali.S	2014	Battle of Breadboards, Flicker tricker	RMK college of Engineering
96.	Sangeetha.B	2014	AURDINO Workshop	RMK college of Engineering
97.	Sangeetha. T	2014	Battle of Breadboards, Flicker tricker	RMK college of Engineering
98.	Srividhya.S	2014	SRISHTI Treasure Hunt	SSN College of Engineering
99.	Srividhya.S	2014	SRISHTI Treasure Hunt	SSN College of Engineering
100.	Pavatharene.K	2014	AURDINO Workshop	RMK college of Engineering
101.	Varsha C Satish	2014	AURDINO Workshop	RMK college of Engineering

S.No	Name	Year	Event	Venue
102.	P.Vignesh	2014	AURDINO Workshop	RMK college of Engineering
103.	Senthil Selvan	2014	AURDINO Workshop	SSN College of Engineering
104.	K.Sarath Kumar	2014	AURDINO Workshop	SSN College of Engineering
105.	G.Sivaranjani	2014	Battle of breadboard, coding, Multitasking Game of hearts,	SSN College of Engineering
106.	G.Vinodhini	2014	Battle of breadboard, coding, Multitasking, Game of hearts Pixel Voxel,	SSN College of Engineering
107.	D.Ragavi	2014	Math Track, pixel voxel	SSN College of Engineering
108.	M.Vinodhini	2014	Math Track, pixel Voxel	SSN College of Engineering
109.	G.R.Pavithra	2014	Battle of breadboard, coding, Multitasking	SSN College of Engineering
110.	Sandiya.E	2014	Battle of breadboard, Multitasking, Pixel Voxel	SSN College of Engineering
111.	Sowmya.D	2014	Battle of breadboard, Multitasking, Pixel Voxel	SSN College of Engineering
112.	Riti P.Kumar	2014	Battle of breadboard, coding, Multitasking, Game of hearts Pixel Voxel	SSN College of Engineering

S.No	Name	Year	Event	Venue
113.	Sanjay.G	2014	Battle of breadboard, coding, Multitasking, Pixel Voxel,	SSN College of Engineering
114.	Pradeep.R	2014	Battle of breadboard, coding, Multitasking, Game of hearts Pixel Voxel	SSN College of Engineering
115.	vishnuvardhan	2014	Battle of breadboard, coding, Multitasking, Pixel Voxel	SSN College of Engineering
116.	R.Venkatesh	2014	AURDINO workshop	Steibeis solar Research centre for Tech fusion
117.	S.Ramkumar	2014	ZUDEN 2K14 Paper presentation	Sriram Engineering College
118.	Tharani Tharan	2014	ZUDEN 2K14 Paper presentation	Sriram Engineering College
119.	Manimala.M	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
120.	Dineshkar.S	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
121.	Indhumathi E	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
122.	Rohit Srinivasan N	2014	Texas Instruments India Analog Maker	Texas Instruments with Crane software International Limited &

S.No	Name	Year	Event	Venue
			competition	Easwari Engineering college
123.	Vaishnavi D	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
124.	Saranganivas R	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
125.	Yashwanth K S	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
126.	Abilash Unnikrishnan	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
127.	Deepak.M	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
128.	Archana G	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
129.	Aishwarya B V	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
130.	Karthik R	2014	Texas Instruments India Analog Maker	Texas Instruments with Crane software International Limited &

S.No	Name	Year	Event	Venue
			competition	Easwari Engineering college
131.	Nandhakumar G	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
132.	Swathy K	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
133.	Vasuvi V	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
134.	Sweata S	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
135.	Anirudhan K S	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
136.	Karthick T N	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
137.	Akshaya S	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
138.	Aishwariya A	2014	Texas Instruments India Analog Maker	Texas Instruments with Crane software International Limited &

S.No	Name	Year	Event	Venue
			competition	Easwari Engineering college
139.	Devarajan D	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
140.	Akshay Jayakumar	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
141.	Vignesh P	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
142.	Sangeetha B	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
143.	Varsha C satish	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
144.	Vaishali S	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
145.	Senthil Selvan v T	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
146.	Manju S	2014	Texas Instruments India Analog Maker	Texas Instruments with Crane software International Limited &

S.No	Name	Year	Event	Venue
			competition	Easwari Engineering college
147.	Kishore V	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college
148.	Aravind P	2014	Texas Instruments India Analog Maker competition	Texas Instruments with Crane software International Limited & Easwari Engineering college

S.No	Name	Year	Event	Venue
ACADEMIC YEAR 2013-2014				
1.	V.Ajith Kumar R.Hariharasudan	2013	Workshop on Information Security Marathon	SRM University/ Chennai
2.	T.N.Karthick	2013	Robo-Path TESLA'13	Easwari Engg College
3.	N.Renuka	2013	Mini Project Tesla'13,Roba-Race Tesla'13	Easwari Engg College
4.	G.Sivaranjani G.Vinodhini	2013	Mini Project Tesla'13	Easwari Engg College
5.	M.S.Anees Ahmed P.Ganesh Ram	2013	Project Display	Prathyusha Institute of Tech and Management
6.	V.Vasuvi Shruthi.S Priya.K.N.L S.Sweata	2013	Track-O-Mania	SSN College of Engg
7.	S.Sreyas	2013	PCB Workshop MatLab Workshop	SSN College of Engg

S.No	Name	Year	Event	Venue
8.	T.N.Karthick	2013	Circuit Trek Quiz Bridgets C-Programming	SSN College of Engg
9.	T.N.Karthick	2013	Workshop on MATLAB-EUPRAXIA'13	SSN College of Engg
10.	M.S.Anees Ahmed P.Ganesh Ram	2013	Project Display	SSN College of Engg
11.	U.Prathiba SruthiRamachandran Ramya	2013	Techno Management Fest	SRM University
12.	Muthukrishnan.K	2013	Paper Preesentation	St.Xaviers Catholic College of Engg
13.	T.N.KArthick S.Hariharan	2013	Course on AutoCAD 2D	Easwari Engg College
14.	J.P.Vijay P.Vinodhini Priya S.Sweata V.Vasuvi K.N.L.Priya	2014	ROBOTICS in INTECHO 14	MIT Chennai
15.	K.Muthukrishnanan	2014	Paper Presentation Kurukshetra 14	College of Engineering, Guindy Campus
16.	T.N.Karthick M.Lapil K.S.Anirudhan Yamini Ramkishore Priya.K.N.L	2014	CCQCE'14	Easwari Engg College
17.	M.S.Anees Ahmed P.Ganesh Ram	2014	Paper Presentation	CIT Chennai
18.	A.Jeeva S.Balakrishnan p.Aanandram V.Dhaneshwaran	2014	Project Presentation	Meenakshi Sundarrajan Engg College
19.	U.Prathiba Priya.K.N.L	2014	Workshop on Haptic Robotic	Easwari Engg College

S.No	Name	Year	Event	Venue
	S.Sweata Seetha Lakshmi.M N.Renuka		Arm	
20.	K.Yogesh	2014	Technical Quiz Paper Presentation`	Karpagam College of Engg
21.	C.Valli U.Prathiba Sruthi Ramachandran R.Shruthi S.Hariharan	2014	Workshop on Ethical Hacking	Kernel Mind Chennai
22.	C.Valli U.Prathiba Sruthi Ramachandran R.Shruthi	2014	Workshop on Android Development	Kernel Mind Chennai
23.	M.Jeyam Thanga Roselin	2014	Paper Presentation NCREAT'14	Mahakavi Bharathiyar College of Engg & tech
24.	V.Dhaneshwaran A.Jeeva	2014	Waves'14 Project Display	College of Engineering, Guindy
25.	G.Vinodhini M.Vinodhini G.Sivaranjani	2014	Waves'14 Workshop on Robotics	College of Engineering, Guindy
26.	K.Yogesh	2014	Waves'14 Paper Presentation	College of Engineering, Guindy
27.	P.Janaki	2014	Paper Presentation ICRIE'14	Sri Subramanya College of Engg& Tech
28.	K.Siddharth	2014	Ideas Parere	MIT Chennai
29.	U.Prathiba Sruthi Ramachandran	2014	Workshop on research opportunities in Emerging Areas of Electrical Engineering	IIT Madras
30.	S.Visalan P.Ponram	2014	Tremors	IIT-Kharagpur

S.No	Name	Year	Event	Venue
	S.Vignesh Lokesh.V			

S.No	Name	Year	Event	Venue
ACADEMIC YEAR 2012-2013				
1.	E.Pallavi	2012	VASPO-2012	MOP Vaishnava Arts& Science college, Chennai
2.	K. Dhanarasu	2012	Short term course on "High Voltage DC transmission"	NIT, Tiruchirappalli
3.	R. Shravanthi A.V. Shrinivass	2012	Paper Presentation	SSNCE, Chennai
4.	P.Shankar S. Naresh	2012	Paper presentation, Circuit Debugging	R.M.K Engineering college
5.	R. Shravanthi A.V. Shrinivass	2012	Paper Presentation	SVCE, Sriperumbudur
6.	P.Shankar P. Kausik	2012	Paper presentation	SSNCE, Chennai
7.	M.S.Anees Ahmed	2012	EUPRAXIA 2012	SSNCE, Chennai
8.	C.Binodh J.Chandramouli V.Manoj Abishek Hari	2012	Code Fest, Web Craft, Math Aficionado	SSNCE, Chennai
9.	S.Madhunisha B.Kirthana G.Pavithra B.Deepika	2012	EXEBOT'12	Saveetha Engineering College
10.	K. Dhanarasu	2012	NPTEL Workshop	IIT Chennai
11.	Padmaja Sharmila	2012	National Level Techno-Management Fest	SRM University
12.	R. Barani K. Haripriya	2012	Paper presentation	Prathyusha Institute Of Technology And Management

S.No	Name	Year	Event	Venue
13.	R. Barani K. Haripriya	2012	Circuit Maniac	Prathyusha Institute Of Technology And Management
14.	P.Venkatesh	2012	Paper presentation	VIT university, Vellore
15.	P.Venkatesh	2012	Paper presentation	K.Ramakrishnan college of Engineering
16.	P.Venkatesh	2012	Paper Presentation	Paavai Engineering College
17.	R.Bharani K.Hari Priya Meenaloshini	2012	Paper Presentation	SRR Engineering College
18.	Visalan.S	2012	ROBOTICS	Aalin Muhammed Salegh College of Engineering
19.	Siddharth.K.	2012	Technical Event	Rajalakshmi Institute of Technology
20.	Siddharth.K.	2012	Path Tracer	SASTRA University
21.	V.Nandini	2013	Modeling, Debugging, Campus King.	Dhanalakshmi College of Engg&Tech
22.	M.Divyansh Sharma	2013	Paper Presentation	Adhiparasakthi Engineering College
23.	M.Gopinath	2013	Paper presentation	St.Joseph College of Engg
24.	S.L. Narendran Arun Kanth.G Karthic. V Arul Pandian Mohan Babu.R	2013	Pinnacle ‘2013’	Easwari Engg College
25.	S.Srinath V.Vignesh	2013	MEXTREME’13’	Sree Sastha Institute of Engg & Tech
26.	Ramnath Pragadeesh	2013	Paper Presentation	Maamallan Institute of Technology
27.	S.Srinath	2013	SLICE v13	LICET
28.	M.Gopinath	2013	Paper presentation	St.Joseph College of Engg

S.No	Name	Year	Event	Venue
29.	J.GopalSwami M.S.Aravindhan	2013	Waves 2013	Anna University
30.	V.Praveen K.Ramnath J.Prashanth	2013	Spent quiz	Anna University
31.	K.Hari Priya R.G.Anusha sree	2013	Circuit Debugging	Sri Krishna Institute of Technology
32.	Venkatesh.P	2013	Paper Presentation	Jeppair Institute of Technology
33.	S.Visalan & K.Siddharth	2013	KSHITIJ 12, Lumos	IIT, Kharagpur
34.	S.Visalan & K.Siddharth	2013	KSHITIJ 12, Lumos,	IIT, Kharagpur

CRITERION 5	FACULTY INFORMATION AND CONTRIBUTIONS	200

Please refer to Annexure II for faculty information.

5.1. Student-Faculty Ratio (SFR)

Year	X	N	F	SFR=N/F
CAY	144	432	30	14.4
CAYm*1*	144	432	30	14.4
CAYm2	144	432	30	14.4
Average SFR for three assessment years				14.4

The regular faculty calculation was done based on the fractional load given to post graduate programs, I year academics and services offered to other programs. The same calculation is done for the calculation of I year student faculty ratio and subsequently subtracted from the faculty load calculation.

5.2. Faculty Cadre Proportion

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	AvaiLable	Required F2	AvaiLable	Required F3	AvaiLable
CAY	3	4	6	1	20	27
CAY*m*1	3	4	6	0	20	28
CAY*m*2	3	3	6	0	20	27
Average Number	3	3.67	6	0.33	20	27.33

Cadre Ratio Marks = **22.54**

5.3. Faculty Qualification

	X	Y	F	FQ=2.5 x [(10X +6Y)/F)]
CAY	6	26	30	18
CAY*m*1	4	28	30	17.33
CAY*m*2	3	27	30	16
Average Assessment				17.11

5.4 Faculty Retention

No of Regular Faculty Members in

CAY m2 (2012-13) = 30

CAY m1(2013-14) = 20

CAY(2014-15) = 15

Retention: 50%

Item (During the period of assessment keeping CAYm2 as base year)	**Marks Allotted**	**Marks Achieved**
>=90% of required Faculty members retained 25	25	-
>=75% of required Faculty members retained 20	20	-
>=60% of required Faculty members retained 15	15	-
>=50% of required Faculty members retained 10	10	10
<50% of required Faculty members retained	0	-
Marks Obtained: 10		

5.5. Innovations by the Faculty in Teaching and Learning

Instructional Methods:

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

ICT:

- SMART Class rooms and Exclusive seminar halls are avaiLable to have interactive sessions for difficult subjects.
- NPTEL video Lectures are avaiLable in the Department and the Main Library where the students can access to Learning materials at any time.
- Online resources such as Mathworks, W3Schools, IndiaBIX,MOOC etc. are utilized for conducting Quiz demonstrations and Online Test.
- Students attend online EDUSAT video lectures conducted by the affiliating Anna University during the Telecast time in the Audio/ Video Hall in the Central Library
- Web based learning with access to online Journals and E books.
- The learning materials for every Course are avaiLable in the content server of the College which can be accessed by the students through the Intranet facilities avaiLable during the College hours

Model Based Teaching:

- Faculty members use models whereever required to explain the content.
- Models based teaching for every Subject is planned during the beginning of the semester and it is made part of the content delivery.
- Some of the topics in the subject Electrical Machines need models to teach the construction.

- This motivates the students well, makes them interactive and influences them to prepare their own models and mini projects.
- Animation / Graphics are used for explaining complex topics.

Students Projects:

- Term Projects are given for second and third year students apart from the regular curriculum during Holidays to motivate them for group learning and having hands on experience.
- Students are motivated to work on socially relevant projects.

Advanced Tools:

- Students are taught advanced versions in Software like OrCAD, MATLAB, PLC/SCADA etc in every semester

Mentoring:

- Students are formed in groups and a mentor is assigned for each group.
- The mentor motivates their respective Group and ensures each and every member of the group excels both in academics and placement.
- Group discussions, Mind mapping, Flash card types of activities are conducted to make to the students participate actively.

Task Force:

- Special coaching class for students having arrears is conducted exclusively under the direct supervision of the mentors
- The individual subject staff discusses about the concepts, previous year question papers, how to solve the problems in easier methods etc.

Student Seminars and Guest Lectures:

- Student Seminars and workshops are conducted which improves their communication and learning skills.
- Guest Lectures are conducted by inviting eminent persons from Industry and Academics
- Alumni students are invited for technical talk and interact with the students.
- Industrial experts give special lectures and seminars on current topic as a part of MoU with Industries.

Professional Bodies:

- The importance of Professional bodies and their functions are brought to the notice of the students and every student is a member of at least one society.
- The Professional Society like IEEE, IETE, ISTE, IET are active in the Department of Electrical and Electronics Engineering.

Students Symposium:

- An annual National Level Student Symposium SPANGLES is conducted to encourage the Students Organizing and Communication Skill.

Competitive Exams:

- Mock placement and mock online tests are being conducted in line with different company perspectives for the students to learn the interview process.
- Extensive awareness is created among the students about the openings in different public sector undertakings and the national Level examinations for Government services.

Faculty Peer Group:

The faculty members are identified based on their area of specialization and peer groups are formed. Every Group meets regularly and discuss about

- Lesson Plan,

- Content Delivery
- Content Beyond SylLabus
- Course Progress and Review
- Question paper and Assignment
- Research activities
- Conduct of Seminar and Workshops
- Identification of Research / Major/ Mini Projects

Innovative Methods of Teaching Adopted:

- **Mind mapping** - a visual tool is used for disseminating complex information to the students is used for some of the subjects
- **Role playing** - Students are asked to complete the task by role playing by interacting with their peers and try to complete the task assigned to them in their specific role.
- **Brain Storming** -A group of students are given a single problem and asked spontaneously for rapidity of ideas to increase spontaneity of interactions. Creative and Effective thoughts begins to evolve from this group process
- **Discussion Forum -** Discussions sessions are held for enhancing student motivation, fostering intellectual agility, and encouraging democratic habits. These create opportunities for students to practice and sharpen a number of skills, including the ability to articulate and defend positions, consider different points of view, and enlist and evaluate evidence.
- **Webinars** - The instructor challenges around teaching the course to a variety of students with different backgrounds and levels of experience. Methodologies like strategies for putting material in context, teaching difficult parts of the research process, and using applied projects inside and outside the classroom are followed.

Innovative Practices:

- The best practices in teaching learning given by the individual faculty for the welfare of the students are mentioned in KAIZEN report and circulated among the faculty. This report will help the faculty to enhance the delivery content.
- WhatsApp based interaction exits among students and faculty for effective teaching learning process. An official mobile application was developed to view the internal marks of the students.
- Tech talks on recent innovations are discussed among faculty members which enhance the awareness on new inventions.
- Student innovations were updated and shared in the student blog of official website.

Awards:

- Every Academic year a student is selected and awarded the 'Best student of the year' with a Medal and cash prize by the Institution/Industry.
- Every year a project is selected and awarded the 'Best project of the year' with a medal and cash prize by the Institution/Industry.

Class Committee Meeting:

- It is a forum for the staff and the students to discuss openly the issues in the Course Work.
- The feedback about the Course delivery are discussed
- The meeting is conducted thrice in a semester for each class.

Feedback on the Course:

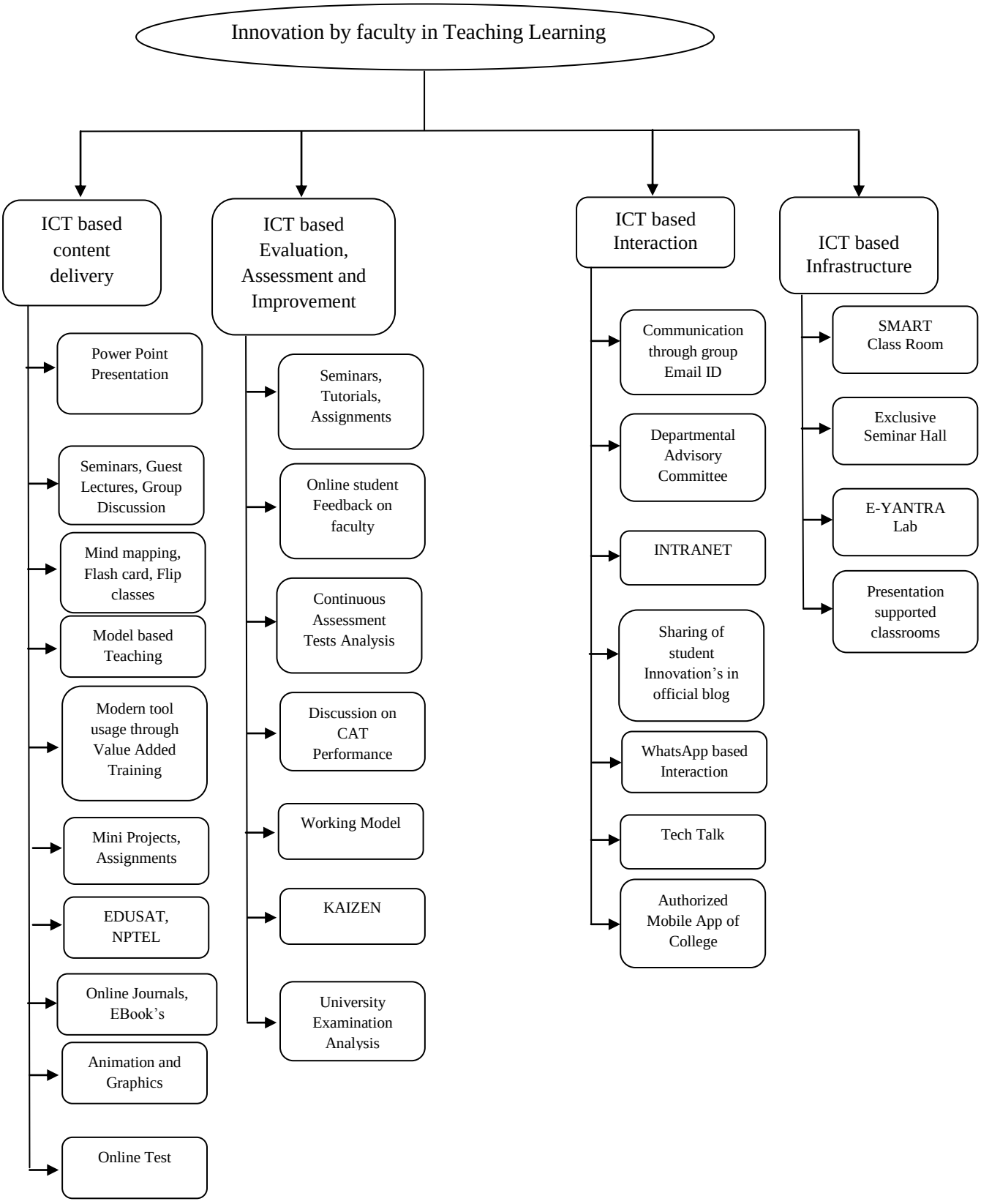
- The students can express their feedback about the subject on different parameters confidentially through online and during the class committee meeting.Students are given opportunity twice for each course

Departmental Advisory Committee:

- Departmental Advisory Committee including an IIT Professor, Industry expert and Anna University Professor (Dr.V. Jagadeesh Kumar, Mr.Suresh Simadri and Dr.P.Vanaja Ranjan) was formed for giving suggestions on innovation in Teaching and Learning Process.

ICT based Infrastructure:

- MHRD sponsored E-YANTRA Lab for improving the video conferencing facility between our faculty members, students with IIT Mumbai Faculties.


Innovation by faculty in Teaching Learning
ICT based content delivery
Power Point Presentation
Seminars, Guest Lectures, Group Discussion
Mind mapping, Flash card, Flip classes
Model based Teaching
Modern tool usage through Value Added Training
Mini Projects, Assignments
EDUSAT, NPTEL
Online Journals, EBook's
Animation and Graphics
Online Test
ICT based Evaluation, Assessment and Improvement
Seminars, Tutorials, Assignments
Online student Feedback on faculty
Continuous Assessment Tests Analysis
Discussion on CAT Performance
Working Model
KAIZEN
University Examination Analysis
ICT based Interaction
Communication through group Email ID
Departmental Advisory Committee
INTRANET
Sharing of student Innovation's in official blog
WhatsApp based Interaction
Tech Talk
Authorized Mobile App of College
ICT based Infrastructure
SMART Class Room
Exclusive Seminar Hall
E-YANTRA Lab
Presentation supported classrooms

5.6. Faculty as participants in Faculty development/training activities/STTPs

Name of the Faculty	Max. 5 per Faculty		
	CAYm2 (2012-13)	**CAY*m*1 (2013-14)**	**CAY (2014-15)**
Dr.K.Kalai Selvi	NA	5	5
Dr.R.Murugan	NA	5	5
Dr.K.Mala	NA	5	5
Dr.A. Peer Fathima	3	NA	NA
Dr. N.O. Gunasekar	5	5	NA
Dr. P. Arunapriya	-	NA	NA
Dr.R.Madhusuthanan	NA	NA	3
Dr.R.Karpagam	NA	NA	3
Dr.C.Umayal	3	-	3
Mrs. S. Prathiba	3	NA	NA
Mrs.A. Joseline Metilda	3	3	3
Mr. C. Gopinath	5	NA	NA
Mr. H. Umesh Prabhu	3	NA	NA
Mrs. N. Venkateswari	3	NA	NA
Mr.T.Chandrasekar	NA	3	NA
Mrs. D. Chandrakala	3	3	3
Mr. K.V. Thilagar	3	3	3
Mr. P. Balamurugan	3	NA	NA
Mrs. J. Lydia	3	3	5

Name of the Faculty	Max. 5 per Faculty		
	CAYm2 (2012-13)	**CAY*m*1 (2013-14)**	**CAY (2014-15)**
Mrs. K.A.Indu Sailaja	3	3	5
Mr.K. Zakir Hussain	-	-	NA
Ms. J. Gayathri	NA	3	3
Ms. Vijayalakshmi.K	NA	NA	-
Mr. Arulvendhan.K	NA	NA	-
Mr. A. Rajasekar	3	3	NA
Ms. V. Abirami	NA	3	3
Mr. P. Marshall Arockia Dass	3	NA	NA
Mr.P.Pushpakarthick	3	3	3
Mrs.T.Santhi	3	3	3
Mrs.S.Reeba	5	3	3
Mr.J.Harinarayanan	3	NA	NA
Mr.S.Ramesh Prabhu	3	NA	NA
Mr.J.Nandhagopal	3	NA	NA
Mr.R.Mohan	NA	3	NA
Mr.N.Saravanan	NA	3	NA
Mr. Moovendan.M	NA	NA	-
Mr. P.Srinivasan	NA	NA	-
Mr. Veerendra Kumar.J	NA	NA	-
Mrs.V.Annie Prema	NA	3	NA

Name of the Faculty	Max. 5 per Faculty		
	CAYm2 (2012-13)	**CAY*m*1 (2013-14)**	**CAY (2014-15)**
Mrs.S.Angala Vaishnavi	NA	3	3
Mr. R. Augustian Isac	NA	3	3
Mr. D. Siva Kumar	NA	3	NA
Mr. Periyasamy	3	NA	NA
Mrs.R.Keerthana	NA	NA	3
Mrs. R.Priyadharshini	NA	NA	3
Mr.E.Poovannan	3	NA	NA
Mr.S.M.Sakthivel	NA	NA	NA
Ms.M.Aruna	NA	NA	NA
Mr.V.Vijeesh	NA	NA	3
Ms.C.K.Subasri	NA	NA	3
Sum	75	74	76
***RF*= Number of Faculty required to comply with 15:1 StudentFaculty ratio as per 5.1**	**30**	**30**	**30**
Assessment = 3 × (Sum/0.5RF) (Marks limited to 15)	**15**	**14.8**	**15.2**
Average assessment over three years (Marks limited to 15) = 15			

5.7 Research and Development

5.7.1 Academic Research

Faculty Publications

Year	National Journal & Conference	International Journal & Conference	Total
2012-2013	18	31	49
2013-2014	29	23	52
2014-2015	30	45	75
Total			**176**

Quality Publications

Sl.No.	Faculty Name	Journal	Impact Factor
1.	Dr.K.Mala	Renewable Energy,2011	2.978
2.	Dr.K.Kalai Selvi	Thin Solid Films 2013	2.038
3.	Dr. R. Karpagam	Applied Polymer Science-2011	1.64
4.	Dr.R.Karpagam	IET Power Electronics 2015	1.63
5.	Dr.K.Kalai Selvi	Jpn. J. Appl. Phys. -2011	1.127
6.	Dr.C.Umayal	IJAET Oct-Dec 2011	0.86
7.	Ms.M.Deva brinda	IJAET July-September 2011	0.86
8.	Dr.R.Murugan	European Journal of Scientific Research	0.713
9.	Dr.C.Umayal	IJATCSE Feb – 2013	0.3780
10.	Ms.M.Devabrinda	IJATCSE Feb – 2013	0.3780
11.	Dr. R. Karpagam	IEEJ-2013	0.327
12.	Ms.D.Chandrakala	ISRJ –April 12- 2013	0.211
13.	Ms.Smilee Mathuram	IJSC- Nov/Dec -2013	0.211
14.	Mrs. A. Joseline Metilda	IJSC- Nov/Dec -2014	0.211
15.	Dr.R.Murugan	PENSEE Journal	0.06

PhD Guidance and faculty receiving Ph.D

Academic Year	No. of Supervisors under Anna University nodal centre	No. of Supervisors under Other University	No. of Research Scholars pursuing Ph.D under Anna University nodal centre	No. of Research Scholars pursuing Ph.D under Anna University	No. of Research Scholars pursuing Ph.D under Other university
2012-13	3	-	9	3	-
2013-14	2	1	5	3	2
2014-15	5	1	11	4	3

Faculties awarded PhD under EEE nodal centre

S.No.	Name of The Supervisor	Name of the Students	Ph.D / M.S	Full Time / Part Time	Year of Registration	Status of the students	Research area of the students
1.	Dr. N. S. Bhuvaneswari	Ms.S.Sumathi	Ph.D	Part-Time	2009	Completed	Noval approach for measurement and simulation for GPS receiver signal accuracy

Faculties awarded PhD under Anna university

S.No.	Name of The Supervisor	Name of the Students	Ph.D / M.S	Full Time / Part Time	Year of Registration	Status of the students	Research area of the students
1.	Dr.Rama Reddy	Ms.C.Umayal	Ph.D	Part-Time	2007	Completed	Special Electrical Machines

Book Chapters

Academic Year	Name of the faculty	Name of the book chapters
2013-2014	Dr.K.Mala	Authored 3 chapters of the book titled "The technical journey of the Indian Wave Energy Plant"in association with Ex. Prof.V.Jayashankar, IIT Madras
2014-2015	Dr.R.Murugan	Authored the book titled "Basic Electrical and Electronics Engineering " in association with G.Rajalakshmi and N Sivanandhanm.

5.7.2. Sponsored Research

Details of Proposalssubmitted

S.No	Name of the Coordinators	Project title	Funding agencies	Proposed budget (Lakhs)
1.	PI :Dr. K. Kalai Selvi Co-I : Dr. V. Elango Co-I : Mr.G. Vignesh	Design and Development of Solar Powered (Three Wheeled Bike) Trike for Meaningful Occupation of Physically challenged and Aged People.	DST-TIDE	29.15
2.	PI :Dr. K.Mala Co-I :	Advanced respiratory alarm and monitoring (ARAM) for elderly	DST-TIDE	23.49

S.No	Name of the Coordinators	Project title	Funding agencies	Proposed budget (Lakhs)
	Dr.K.Kathiravan	and disabled people		
3.	PI :Dr.D.Shiva kumar Co-I : Dr.R.Murugan	Development of smart home for elderly and disabled people	DST-TIDE	29.15
4.	PI :P.Marish Kumar	Design and Fabrication of New Generation Solar Photovoltaic system for Agricultural Irrigation	DST-SYST	19.1
5.	PI :Mr.Agin paul	Design and development of Intelligent LED system for vehicles	DST-SYST	10

5.7.3.Development activities

Laboratory Development

Sl.No.	Name of the Coordinator	Funding Agency	Name of the Programme	Programme Period	Sanctioned Amount
1.	Dr. A. Peer Fathima/ Dr.K.Kalai Selvi	AICTE	Modernization & removal of obsolescence (MODROB) for Integrated Circuits and Microprocessors Lab	2012-14	7,00,00-

Research Facilities

Harmonic AnalyzerCW240F with 4 Current Clamp

Power Analyzer100 MHz, 1 GS/s

MATLAB Version 2006a

PSIM/ Version 6.1

PSPICE Educational suiteVersion 16.6

Ansoft

Working model

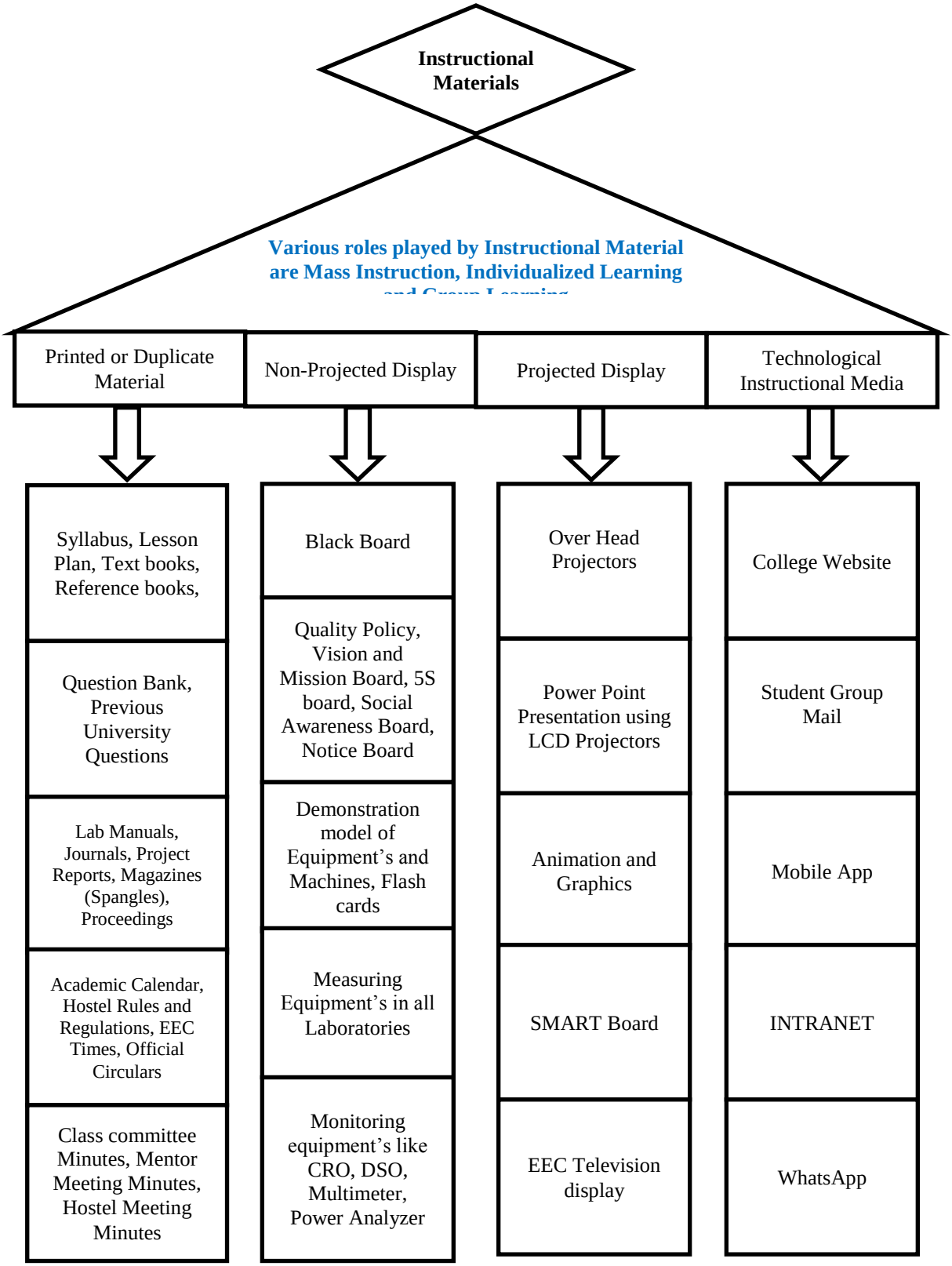
Sl.no	Working model name	Students Name	Project Leader
1.	Farm Corder (Agro advisory system for agriculture)	Vignesh.R Manoj kumar.V Anandhu ajithvijas	Dr.K.Kalai Selvi
2.	Delineation of market structure and frequency related ancillary services in a deregulated environment	Shravanthi.R Shrinivass A.V Sidhant Seth Naveen Roy	Dr.A.Peer Fathima
3.	Reconnoiter Robot for military purposes	Valli Yamini Ramesh Shyam Sundar	Dr.K.Mala
4.	Surveillance Quad rotor	Soundhar.S Sundar.V Vignesh.S Visalan.S	Dr.R.Murugan
5.	Alleviation of harmonics using series power line conditioner	Mirunalni D Jeyashri N Meera .A Arivanandham T R	Mr.C.Gopinath
6.	Image Analysis of Cystic Fibrosis using Neuro Fuzzy and Genetic Algorithm	Raaja Shri.R Saranya.R Shruthi.R	Mrs.A.Joseline Metilda
7.	Stress Monitoring System	P.Aravind N.Aakash S.Dineshkar	Mrs.D.Chandrakala
8.	Sewage Blockage Detection	R.Pradeep Sanjaykumar.G Shanmugharaja.D	Dr.K.Mala

Sl.no	Working model name	Students Name	Project Leader
9.	Single phase hybrid source five level inverter with reduced number of switches	Hari Priya K C. Afsar Basha Infant Martina S S. Rajmohan	Dr.K.Kalai Selvi
10.	Integrated sources powered remote monitoring system	Lavanya S V Dharani Kr Karthik M D.Karthikeyan	Mr.P.Balamurugan
11.	Speed Control Of Dc Motor By PWM Technique	Gosakan.S Jagannathan.S	Mr.K.V.Thilagar
12.	ESKI Guard	N.Rohit Srinivasan Sarath Kumar Senthil Selvan Pavatharene	Mrs.D.Chandrakala
13.	Wearable Asthma Monitoring System	B.Manoj Kumar R.Vignesh Varun	Dr.K.Mala
14.	Analysis of Rail gun design parameter using finite element method	Meenaloshini.R Angelin Priyadharshini Barani.R T.Thirunavukarasu	Dr.R.Murugan
15.	Speed Zap	N.Rohit Srinivasan Sarath Kumar Senthil Selvan Pavatharene	Dr.K.Kalai Selvi
16.	Position Monitoring System	Anandhu AjithVyas Aswath Asif	Mrs.A.Joseline Metilda

Sl.no	Working model name	Students Name	Project Leader
17.	Light fidelity based smart mobile indoor Navigation system for visually impaired	Manoj Chandramouli	Mr.P.Pushpakarthick
18.	Break pad actuation using Electro Magnetic coils	Kirubhahar Praveen P Akshay Jalan Bharath Ram Adithya M Gowtham Ram Ishek T. S. Ganesan	Mrs.D.Chandrakala
19.	Sewage Blockage Detection	Sivakumar.G N.Rohit Srinivasan	Mrs.K.A.Indu Sailaja
20.	Regenerative braking in electric cycle using BLDC motor	Nisha Irudayaraj Pallavi Elango Ranjani A.R Shankaran.B	Mr.K.V.Thilagar
21.	Automation of home appliances using touch screen interface	Ashwin Ravishanker Kapardi.M Krishna M Pranav.G	Dr.K.Mala
22.	Energy Management for Hybrid Generation System	K.Prasanthi V.Praveen A.Vidya	Mrs.J.Lydia
23.	Auto Switch	N.Rohit Srinivasan Sarath Kumar Senthil Selvan Pavatharene	Mrs.K.A.Indu Sailaja
24.	Z Source Inverter with Simple Boost control Technique for energy efficient for solar	K.Sowmya G.Ratha S.Siva	Mr.S.Ramesh Prabu

Sl.no	Working model name	Students Name	Project Leader
	conversion	G.Naveen Kumar	
25.	GRA wind power generation	Muthu Krishnan Dilip	Mr.P.Pushpakarthick
26.	Optimized solar power tricycle for the physically challenged	Anees Ahmed. M. Ganesh Ram. P V. Giri Prasaad S.Gowtham	Dr.K.Kalai Selvi
27.	Maintaining the voltage stability of the grid using electric springs	Bhalamurugan.R Gopinath .M Gunaseelan K A.Pradeep Kumar	Mrs.S.Reeba
28.	Stress Monitoring System	K.Ramesh Kumar L.Keshav Bharddwaj E.Surendar	Mr.V.Vijeesh

Instructional Material



Charts details of various Lab

Sl.no	Chart names
1.	PIN Diagram of Electronic DEVICES
2.	Structure and Characteristics of SCR,TRIAC,DIAC and IGBT
3	Single phase Energy meter and Electro dynamo meter
4	Architecture of Microprocessor 8085 and microcontroller 8051
5	Pin diagram of Microprocessor 8085 and microcontroller 8051
6.	Water level closed loop control
7.	Water level minimum and maximum control
8.	Main components of the control system
9.	Millimeter construction and features
10	3 point and 4 point starters
11.	Rotating magnetic field from a 3 ϕ stator
12.	Parts of a moving coil instruments
13.	Manual STAR/DELTA starter
14.	Artificial respiration-Nelson's ARM-Lift back pressure Method
15.	1ϕhalf controlled converter with R load
16.	1 ϕfull controlled converter with R load
17.	DSP based speed control BLDC motor
18.	Microcontroller based speed control of chopper fed DC motor fully controlled converter
19.	Microcontroller based speed control of chopper fed DC motor half controlled converter
20.	Microcontroller based speed control of VSI fed 3 ϕ induction motor
21.	Self-controlled operation of Synchronous motor(PMSM)
22.	Condition monitoring of 3 ϕ induction motor
23.	IGBT based 1 ϕ and 3 ϕPWM inverter with and without output filter
24.	Semiconductor static characteristics
25.	Amplifier circuits
26.	Basics of Transformer
27.	Cut Section of DC Machine

5.7.4. Consultancy

S. No	Staff Involved	Title of the Consultancy Project	Amount	Duration	Period
1.	Dr.A.Peer Fathima Mr.C.Gopinath Mr.K.Zakir hussain Ms.V.Abirami Mr.A.Raja sekar	Energy Audit and Energy Conservation-Easwari Engg. college	2,00,000	1 year	2012-13
2.	Dr.R.Murugan Mr.C.Gopinath Mr.K.Zakir hussain Mr.P.Pushpa Karthick	Energy Audit and Energy Conservation-SRM Dental college	2,00,000	1 Year	2013-14

5.8. Faculty Performance Appraisal and Development System (FPADS)

The college has a comprehensive Staff performance appraisal and development system**.**

- The self-appraisal form is collected twice a year.
- The self-appraisal report is evaluated by the Head of the Department and forwarded to the Principal.
- The management constituted expert committee reviews the performance of the faculty and provides feedback for further corrections/improvements.

The self-appraisal report consists of the following particulars:

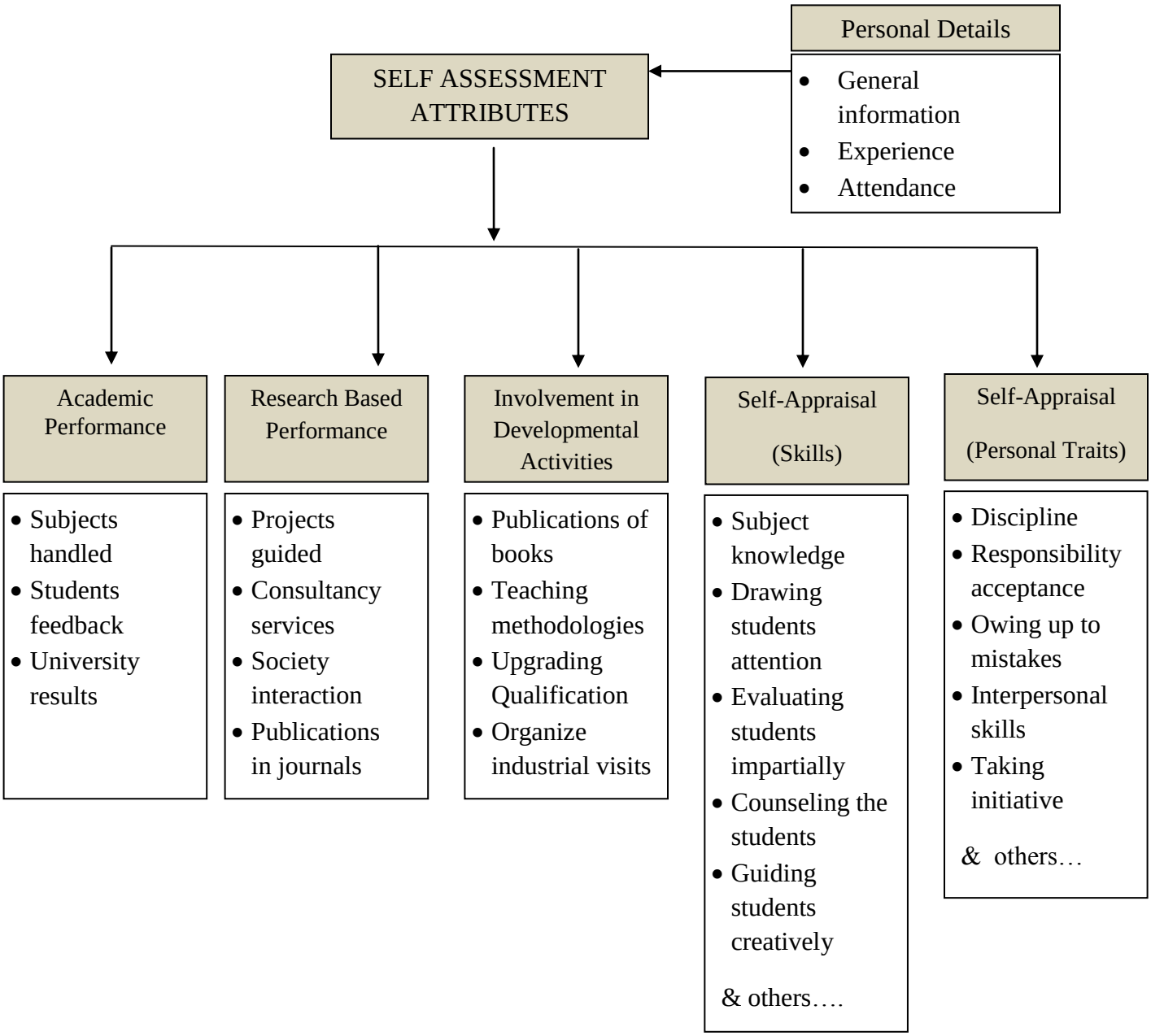
- Beginning with the personal details of the faculty members including their date of joining, scale of pay, present pay and date of appointment to the present post.
- The faculty members have to specify their experience appropriately specifying their designation and duration of their post. They have to specify their total experience indicting their teaching and industry experience separately.

- The leave details for the academic year have to be mentioned including the total number of casual leave, earned leave, on duty, maternity leave, loss of pay and vacation leave individually. They have to provide the effective working days attended and the attendance percentage.
- The faculty members have to mention their contributions made to the department and to the Institution. Faculty members should also mention the percentage of result produced in University examination for both Lab and theory courses.
- The faculty members have to indicate development activities for the growth their department and institution in numbers for the past two years including contribution to curriculum/sylLabi review at college level/university level, development of resource material, publication of books and Laboratory manuals, lectures delivered in faculty induction, development of new teaching methodologies using web based technologies, upgrading their qualification (PhD, Post doctorate etc..), participation in conference /faculty development programmes and in intensive courses organized by industries.
- The faculty members have to indicate the number of UG / PG / Ph.D. projects guided for the last two years in numbers, sponsored projects prepared and submitted, publication of research papers- accepted and presented in journals and conferences, interaction with industries and institutions, interaction with society and membership in professional bodies.
- The faculty members should provide their administrative load at institutional level, department level, national level, contribution to placement, number of Alumni contacts.
- Faculty should honestly give the self-appraisal (poor to excellent i.e. grade from 1 to 5) for the constraints like planning course work, preparation for class work, communication skills and lecturing capability, drawing student attention and

maintaining discipline, subject knowledge, counselling and interaction with students, presence in classroom in time, avoiding leave during course work, guiding students to develop originality and creativity, evaluating the cycle test seriously, providing all information for HOD in time, participation in college development activities with interest, team spirit in department and getting along with other faculty members, participation in organizing workshops and symposiums, participation in cultural / sports / NCC / NSS / ROTARACT activities, interest and participation in planning procurement and maintenance of Laboratory equipment's. HOD's has to cross verify and have to give their rating for the respective faculty members.

- Each faculty members have to give the rating from 1 to 5 for the personality traits like readily accepting the responsibility, taking initiative, self-confidence and positive attitude, punctuality to classes, impartiality, admitting own mistakes, interpersonal skills and relationship, ability to meet target and special achievements, sense of humour and cheerfulness, student feedback rating, health and efficiency, performance rating, discipline, number of KAIZEN.
- Finally all the faculty members have to give their commitments in teaching learning methods, research, industry connect, co-curricular activities for the upcoming academic years.

SELF APPRAISAL FORM



5.9.Visiting/Adjunct/Emeritus Faculty etc.

Interaction with Adjunct faculty from Industry:

Sl.No	Academic year	Year	Name of the course	Name of the Company/Industry	Name of the Industry Expert	Hours
1.	2014-2015	III	PLC/SCADA	Yokogawa	Mr. Senthil	156
2.		IV	MATLAB	HEXDOF	Mr. Nandha	
3.		II	PCB Design	Orbit Edutech Pvt Ltd	Mr. K. Senthil Kumar	
4.		I	Auto CADD	CADD center	Mr. Mani	
1.	2013-2014	IV	MATLAB	Newton Technologies	Mr. Ganesh	156
2.		I	Auto CADD	CADD center	Mr. Mani	
3.		II	PCB Design	Orbit Edutech Pvt Ltd	Mr.K Senthil Kumar	
4.		III	PLC/SCADA	Yokogawa	Mr. Senthil	
1.	2012-2013	II	PCB Design	Orbit Edutech Pvt Ltd	Mr.K. Senthil Kumar	156
2.		III	PLC/SCADA	Yokogawa	Mr. Senthil	
3.		IV	OR-CAD	Newton Technologies	Mr. Ganesh	
4.		I	Auto CADD	CADD center	Mr.Mani	

Interaction with Adjunct faculty from Academic and Industry Expert:

Academic Year 2012-2013

Sl.No.	Name of the Event	Date	Topic of Guest Lecture	Name of the speaker
1.	Guest Lecture	6.5.2013	MAT LAB/Simulink	Mr.K.Shivakumar Technical Consultant Newton Technologies
2.	Guest Lecture	14.3.2013	PLC And SCADA	Mr.N.Gopalan Assistant Manager, Business development, Prolific Systems and Technologies Pvt.Ltd. Chennai
3.	Guest Lecture	8.3.2013	Opportunities For Higher Studies	Mr.Atiq Managing Director, SCOREGETTER, Chennai.
4.	Guest Lecture	6.02.2013	Embedded System	Mr.S.Sampath Associate Technical Support, Accel IT Academy,Chennai. Mr.Bakyaraj Associate Technical Support, Accel IT Academy,Chennai.
5.	Guest Lecture	24.01.2013	Importance Of Higher Studies In MBA	Mr.A.AbdulNavas Assistant Manager, T.I.M.E. Pvt.Ltd. Chennai
6.	Guest Lecture	11.01.2013	Importance Of GATE	Mr.A.JamesDhanasamy Business Development Executive GATE AcademyPvt.Ltd. Chennai
7.	Seminar	21.11.2012	Technical Seminar On Research Methodologies And Issues In Power Quality	Dr.UshaNatesan Director,Centre for Research, AnnaUniversity,Chennai Dr.G.Uma,Associate Professor, Dept Of EEE,AnnaUniversity,Chennai Dr.C.Sharmeela,Asst.Prof, Dept of EEE,AC Tech,Annauniversity,Chennai

Sl.No.	Name of the Event	Date	Topic of Guest Lecture	Name of the speaker
8.	Workshop	22.11.12 to 23.11.2012	2 days hands on training in Electrical Engineering and simulation in MATLAB for non teaching staffs	Dr.K.Abdul Khani Dean SRM University, Ramapuram,Chennai
9.	Guest Lecture	26.9.2012	Real Time Embedded System	Mr.GaneshMoorthy Project Manager Newton Technologies Chennai
10.	Guest Lecture	25.09.2012	Power Electronics Application In Power Systems	Mr.K.Sathiyanarayanan Group Head Sales and Service EMT MEGATHERM Electronics Pvt.Ltd. Chennai.
11.	Guest Lecture	24.09.2012	Real Time Embedded System	Mr.V.Kandasamy Head Technical Newton Technologies Chennai.
12.	Guest Lecture	12.09.2012	Higher Studies On Management	Mr.Mark North Deputy General Manager, T.I.M.E. Pvt.Ltd. Chennai.
13.	Guest Lecture	12.09.2012	Erection,Testing and Design Of 11kv/33kv Sub-Station	Mr.Athisiyaraj Immanuel Senior Team Leader, Navayuga InfoTech, Chennai.
14.	Guest Lecture	16.07.2012	Carrier Guidance For Higher Education	Mr.Ragunath Director Academics, VISTAMIND, Chennai.

Academic Year 2013-2014

Sl.No.	Name of the Event	Date	Topic of Guest Lecture	Name of the speaker
1.	Conference	21.04.2014	One Day National Conference	Guest of HonourCol(Retd.) K.S.Chakravarthi, Chairman, IETE & Chief Guest,Mr.N.Thiyagarajan, Additional Director General(Engg) South Zone, Doordharshan& All India Radio, SR Bharathi.
2.	Guest Lecture	4.3.2014	Control Systems Applications in Elect.Engg.	Er.S.Uma Research and Development Engineer, VI Micro Systems,Chennai
3.	Guest Lecture	3.3.2014	ETAP Applications In Power Systems	Mr.K.Vinoth Kumar Electrical Engineer, ETAP Automation Private Ltd.
4.	Guest Lecture	3.3.2014	ETAP Applications In Power Systems	Mr.K.Vinoth Kumar Electrical Engineer, ETAP Automation Private Limited,Chennai.
5.	Guest Lecture	17.2.2014	Carrier Guidance Programme In Management Studies	Mr.R.Balasubramanian Director, Vista mind solutions limited
6.	Guest Lecture	3.2.2014	Solar Applications In Power System	Mr.K.Kumar, ViceP resident Engineering Project Department,Zynergy Solar System,Chennai

7.	Guest Lecture	30.1.2014	Recent Trends In electrical Power Systems	Mr.A.Selvakumar, Snior Design Engineer, ABB Global Industries Ltd.,Chennai.
8.	Workshop	21.10.2013.	One day national workshop on Design, Analysis and operation of power systems	Er.Manonmani,DivisionalEngineer,ElectricalMaintenance,TNEB,ETPS, Chennai-57
9.	Guest Lecture	27.8.2013	Evolving Trends In Electric Power Conversion	Mr.S.Thiruvikraman MATLAB Programmer SPIRO solution Pvt.Ltd. Chennai Mr.J.Vigneshwaran MATLAB Programmer SPIRO solution Pvt.Ltd. Chennai
10.	SEEE	26.8.2013	Inauguration	Mr.A.Santhosh Kumar Manager GIS,R&D Centre GEC Alsthom T& D India Limited. Mr.M.Azhagar Raj Director Engg Services Hibrise Technologies Private Limited.
11.	Guest Lecture	26.8.2013	Recent Trends And Way Forward In Power Industry	Mr.A.Santoshkumar Sr.Manager and Head,GISS R&D Centre, Alstom T&D India Ltd. Chennai

12.	Guest Lecture	23.7.2013	Carrier Guidance For Higher Education	Mr.G.Muthu Deputy Manager-Mkt and sales, VistaMind Education Pvt.Ltd. Chennai.

Academic Year 2014-2015

Sl.No.	Name of the Event	Date	Topic of Guest Lecture	Name of the speaker
1.	Conference	17.4.2015	Technological Advancements in Power System and Power Electronics Engineering	Prof.Ajit Kumar Kolar, (Former) Professor, Indian Institute of Technology Madras
2.	FDTP	29.6.2015 and 30.6.2015	Design and simulation tools for mitigation of problems in power system protection and power quality	Mr.R.S.Muralidharan Director, Newton Technologies Pvt., Ltd., Mr.S.Ravi General Manager Newton Technologies Pvt., Ltd.,
3.	Guest Lecture	29.7.2015	Advanced microprocessor ,microcontroller and its applications	Mr.Parthiban Senior physical design engineer NVIDIA Graphics Private Limited bangalore

4.	Guest Lecture	12.8.2015	Recent trends in power system protection and switch gear	Dr.D.Santhosh kumar Deputy general manager-R&D,GIS Competance Centre Alsthom T&Ddia Limited Chennai
5.	SEEE& IETE	17.9.2015	Tsunami Hazard mapping	Mrs. Tune Usha Scientist F Integrated Coastal And Marine Area Management (Ministry Of Earth Sciences)
6.	IET Workshop	28.9.2015	Finite Element Analysis Of Electrical Apparatus Using Magnet-Basic Approach	Mr.Lenin VIT University, Chennai
7.	Guest Lecture	26.3.2015	Microprocessor, Microcontroller and its application	Mr.S.Suresh Senior Embedded Software Engineer, Visteon Technical services centre chennai
8.	Guest Lecture	17.3.2015	Smart Grid and FACTS	Mr.R.Subramani , Senior Design Engineer, Coastal Energen Pvt Limited, Chennai.

9.	Guest Lecture	16.3.2015	Principles Of MHD Generation, Co-generation And Distributed Generation	Er.V.R.Ramakrishnan, Rtd Deputy General Manager, BHEL Trichy
10.	Guest Lecture	6.03.2015	Design of 410KV Substation and Transmission System	Er. V. Karunakaran, M.E., M.I.E., Executive Engineer / Operation, 400 KV Sunguvar Chatram SS
11.	Guest Lecture	05.2.2015	Introduction To Solar Photo Voltaic Cell	Mr.R.Santhosh Design Engineer Mrs.A.FathimaNargis Project Engineer Steinbeis Solar Research Centre,Chennai.
12.	Spangles 2015	3.2.2015	Inaguration	Mr.SureshSimadri,Smart grid solutions architect,simens
13.	Guest Lecture	22.1.2015	Recent Trends In Transmission And Distribution	Mr.A.Raj Kumar Senior Design Engineer Larsen and Tourbo Private Ltd
14.	Guest Lecture	25.9.2014	Electrical Engineering In Petro Chemical Industries	Mr.L.Saravanan Design Engineer, SAIPAM, Chennai
15.	Guest Lecture	22.8.2014	Industrial Automation Using PLC &SCADA	Mr.E.Sathyamoorthy, Application Engineer, Technocrat Automation, Chennai

16.	SEEE	19. 8. 2014	Inauguration	Mr.S.Gunasekaran, Secretary, and Tamil Nadu Electricity Regulatory commission
17.	Guest Lecture	14.8.2014	Applications Of LIC In Control Equipment's	Mr.D.Karthick, Design Engineer, Hexsourcetechnology Chennai.
18.	Guest Lecture	13.8.2014	Applications Of LIC In Control Equipment's	Mr.D.Karthick, Design Engineer, Hexsourcetechnology Chennai.
19.	Guest Lecture	17.7.2014	Energy Scenario And Grid Operations	Mr.A.Nallasivan Senior deputy manager, TEDA, Chennai.
20.	FDP	25.6.2014-1.7.2014	One day FDP on Transmission and Distribution	ThiruC.KaliaPerumal B.E F.I.E, Chief Engineer (Operations), TANTRANSCO

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
1.	Control System Laboratory	5(34)	• AC &DC Servo motor • DC motor & Generator • DSO,CRO • P-PI-PID Controller • Lead-Lag Compensator • Personal Computer • Stepper motor • Digital LCRQ bridge Meter • Ward leonard speed control system	100%	Mr.P.Mariappan	Lab Instructor	D.E.E.E
2.	Electrical Machines –II Laboratory	5(35)	• 3ϕ Alternator • 3ϕSynchronous motor • 3ϕinduction motors	100%	Mr. C.Raja	Programmer	B.E

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
			-Squirrel cage, Slip ring • 1ϕinduction motor • Inductive Load • 1ϕauto transformer • 3ϕauto transformer • D.C motor (Series, shunt, compound) • D.C Generator(shunt, compound) • 1ϕand 3ϕ transformers				
3.	Power Electronics Laboratory	5(35)	• DSO,CRO • 1ϕ Cyclo Converter. • 1ϕSCR Bridge Rectifier. • SCR Three Phase AC Regulator. • DC Shunt Motor. • Harmonic analyzer. • Dual regulated power supply • Photo transistor	100%	Mr. S.Guhan	Programmer	B.E

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
			and diode kit				
4.	Power System Simulation Laboratory	1(30)	• Personal Computer-36Nos. • LCD projector • Laser Printer, • MAT Lab (5users)	100%	Ms.S.Suganya	Programmer	B.E
5	Electrical Machines-I Laboratory	5(34)	• DC motor(shunt, series, compound) • DC generator(shunt, series, compound) • Synchronous induction motor • Alternator • 3ϕ slip ring induction motor • 3ϕ squirrel cage induction motor • 1ϕ squirrel cage induction motor • 3ϕ induction generator set • 3ϕ slip ring induction generator	100%	Mr.S.Nagaraj	Programmer	B.E

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
			• Megger • Power factor meter • Energy meter				
6.	Integrated Circuits Laboratory	5(34)	• Function generator • 8085 microprocessor trainer kit • 8051 microcontroller trainer kit • 8086 microprocessor trainer kit • Interface board(8255, 8251, 8259,8279) • 8254 Timer counter • Analog to digital Converter kit • Digital to Analog Converter • Traffic light control kit • PSPICE 16.6 Software(5 users) • Personal Computer • DSO,CRO	100%	Mrs.M.Suvitha	Programmer	B.E

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

Sr. No.	Facility Name	Details	Reason (s) for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to PO's/ PSO's
1.	Modernization of integrated circuits Laboratory	AICTE Funded Projects	Modernization of Integrated circuits	100%	Linear and digital integrated circuits design	**POs:**1,2,5, 6, 12 **PSOs:**1,2
2.	3ϕSynchronous generator	3ϕAlternator 375VA coupled with 1 HP DC shunt motor.	To gain knowledge in closed loop drive system	100% (Power Electronics Laboratory)	Power Electronics and Drives	**POs:**1,2,5, 6, 12 **PSOs:**1,2,3
3.	Power Analyzer	100MHZ, 1GS/s	To learn about the quality of real and reactive power and waveforms	100% (Power Electronics Laboratory)	Power Quality	**POs:**1,2,5, 6,12 **PSOs:**1,2,3
4.	Harmonic analyzer	Harmonic analyzer CW240F-with 4 nos of current clamps.	Measurement of switching losses and harmonics	100% (Power Electronics Laboratory)	Power quality and Electronic measurements	**POs:**1,2,5, 6,12 **PSOs:**1,2,3
5.	PSPICE16.6, PSIM6.1	PSPICE Version 16.6 (With 10 user) & PSIM Version 6.1 (With 6 user)	Able to design , and simulate and implement Electronic Circuits.	100% (Power Electronics Laboratory)	Electronic devices and circuits	**POs:**1,2,3, 5,6,12 **PSOs:**1,2

Sr. No.	Facility Name	Details	Reason (s) for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to PO's/ PSO's
6.	Open source softwares	Xcircuit VeeCAD Eagle RETScreen UWPFLOW MatPower MatDyn MatACDC ANSOFT	Wide knowledge in the domains of power systems, analog simulation, digital simulation, PCB Design, Renewable Energy Management	100% (Power system simulation Laboratory)	Programming and simulation in Electrical and Electronics Engineering	**POs:**1,2,5, 6, 12 **PSOs:**1,2,3
7.	Online aptitude test	Conducting online aptitude test for final years & pre final years to train them for placement	For preliminary assessment of students aptitude for placements	100% (Power system Simulation Laboratory)	Soft skill, Time management & technical skills	**POs:**1,2,10 **PSOs:**1
8.	e-Yantra Lab	Robotics development Laboratory	Learn to design robots for special applications	100% (e-Yantra Lab)	Design skills of Robotics	**POs:**1,2,3, 5,6,12 **PSOs:**1,2

6.3. Laboratories: Maintenance and overall ambience (10)

Daily maintenance:

- Lab technician checks the working condition of the equipments/systems on daily basis.
- Apparatus required form is maintained in each Lab to track the breakage of equipments & non working of the equipments.
- Every day cleaning of equipments and work tables are done .
- Floor cleaning of Labs are done every day by housekeeping department of the college.

Weekly maintenance:

- Floor mopping of Labs are done twice in a week by housekeeping department of the college.
- The fault is identified with the help of the Lab technician and the faculty Incharges weekly maintenance report is prepared and sent to the manager for action.

Monthly maintenance:

- The monthly maintenance report is generated in which the current condition of the equipments (Both consumables, non consumables and the furnitures) are mentioned and submitted to the principal.
- After checking by a scrutinizing committee, the problems identified are rectified.
- Every month 5S audit (Sort, Set in order, Shine, Standardize, and Sustain) is conducted by a team of members to verify cleanliness. The compliance report or feedback is sent to department incharges for rectification.
- Every month the earth leakage current of the power cables is checked using megger.

- Calibrations of equipments are done for every six months and a separate file is maintained for calibration reports.

Yearly maintenance:

- Scrap items in the Laboratories are identified with the concern of the Lab incharges, HOD and inspection committee.
- After decision by the inspection committee members the scrap items are sent to the scrap yard.
- Fire extinguishers are regularly refilled.

Preventive maintenance:

- The working conditions of the equipments are periodically checked.
- The students are given instructions in handling the equipments before doing the experiments
- Laboratory manual is given to students which include Do's and Don'ts of the Laboratory, list of experiments and the procedure of doing the experiments.
- Stock register is maintained in Laboratories and audits are conducted by stock verification committee to check the avaiLability and working of the equipments.
- Proper painting is done in the brake drum of the motors to avoid rusting.
- By pouring water inside the brake drum, excessive heating of the machines can be reduced in the loaded conditions.
- Suitable thickness of the wire based on current rating is used in the fuses to avoid the malfunctioning and breakdown of machines.
- The working condition of passive elements and transistors is checked by using Multi meter and LCR Meter in all Laboratories.

- The working condition of the ICs is checked using IC tester.
- UPS back up is provided for all system based Laboratories.
- Regular Antivirus software updation for proper working of the systems.

Breakdown maintenance

- Minor repairs are carried out by the Lab technicians. When there is a Major repair, service report is obtained from industry person. Approval for Service of equipments is obtained from HOD, Principal, Purchase Manager, Chairman and fault is rectified.
- Service register is maintained in each Laboratory.
- Breakdown maintenance of the personal computer is done by Computer Maintenance Cell of the College.

UPS Maintanance

The department of Electrical and Electronics Engineering is maintaining, UPS maintenance for the entire campus. The procedure for the UPSmaintenance is given below.

- The batteries of the UPS are cleaned regularly to prevent corrosion, removal of dust and are recorded in service register by UPS incharge.
- Every monthly UPS incharge checks the water level, voltage level, loose connections in battery terminals and back up of UPS. If there is any deviation it is rectified by UPS incharge and is recorded in the service register.
- Minor problems like input MCB tripping, charger LED not glowing, battery low beep etc.. are carried out by UPS incharge.
- When there is a major failure in UPS, service person from industry is called and fault is rectified.

Overall Ambience:

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

- Spacious and well furnished Laboratories with good ventilation and lighting facilities are avaiLable.
- All Laboratories are equipped with essential equipments to meet the requirements ofcurriculum.
- For maintaining the overall good ambience, weekly cleaning of equipments and 5S are carried out with regular inspection by teams.
- History cards are displayed in all equipments.
- Number of each equipment is marked on the devices/Equipments/furnitures/tables.
- Working models of machines and devices in form of charts are placed on the walls.
- Do's and Don'ts are displayed in the Laboratory.
- List of experiments are placed in the Laboratory.
- Laboratory manuals are prepared and are avaiLable in soft and hard copy.

6.4 Project Laboratory

Facilities:-

1. The control system Lab, power system simulation Lab and power electronics Labare utilized by the students for project work.
2. The mini projects are done by our students with the avaiLable facilities in all the Laboratories.
3. The personal computers are avaiLable for students to do project work.
4. Project Labs are furnished with required equipments and modern software tools such as

MATLAB 2006a, PSPICE16.6, and PSIM 6.1 are avaiLable for the students.

5. The project Laboratory consists of modern equipments like Harmonic analyzer, Digital storage oscilloscope and power analyzer are used for project work.
6. 155 Mbps internet connection is made avaiLable in the project Labs.
7. Wi-Fi connection is provided in the project Laboratory.
8. The students were using the reputed journals & papers through internet facility for their project work.

Utilization:-

1. Utilization for Project Labs start from 7.45 A.M-3.45 P.M during working hours and from 3.45 P.M – 4.30 P.M after the working hours.
2. On prior request and permission by the students can access the facility during non-working days also.
3. Laboratories are operated beyond the college hours for the convenience of the students.
4. Students can utilize the project Labs for final year projects and mini projects.

6.5. Safety Measures in Laboratory

Common Safety measures in the Laboratories:

1. First Aid kit is avaiLable in the entrance of the Laboratory in case of emergency.
2. Fire Extinguisher is avaiLable in the Laboratory in case of fire emergency.
3. Students are instructed to avoid direct contact with any voltage source and Power line voltages.
4. Students must assure that their hands are dry and not standing on wet floor.
5. Students are advised to wear rubber-soled shoes, Laboratory-coat and avoid loose clothing.

6. Students are advised not to switch ON the experiments without the permission from the faculty/Lab technician.
7. Students must make sure that the electric supply is OFF before giving connections.
8. Examine earthing of line circuits periodically and always prior to use.

Sr. No.	Name of the Laboratory	Safety measures
1.	**Integrated Circuits Laboratory**	1. Lab technician ensures that connection leads do not have any insulation damage in the leads and avoid such defective leads. 2. Students if they notice any abnormal conditions in the trainer kit (like insulation heating up, resistor heating up, circuit connection open etc.), immediately switch off the electric supply and inform the staff member.
2.	**Control systems Laboratory**	1. Students are restricted not to wear any metallic rings, bangles, bracelets, wristwatches and neck chains. 2. Ensure that the power is OFF before you start connecting up the kit. 3. Students if they notice any abnormal conditions in the trainer kit (like insulation heating up, resistor heating up, circuit connection open etc.), immediately switch off the electric supply and inform the staff member. 4. Always disconnect a plug by pulling on the connector body not the cable. 5. Disconnect any device from the circuit before service.
3.	**Power Electronics Laboratory**	
4.	**Electrical Machines-I Laboratory**	1. Girl students should have their hair tucked under their coat or have it in a knot. 2. Students are not encouraged to wear any metallic rings, bangles, bracelets, wrist watches and neck chains. 3. When using connection leads, check for any insulation damage in the leads and avoid such defective leads.
5.	**Electrical Machines– II Laboratory**	

Sr. No.	Name of the Laboratory	Safety measures
		4. To avoid the brake-drum from getting too hot enough water should be put into the brake-drum at regular intervals. 5. Students are instructed not to stand in front of the brake-drum, when the supply to the load-test circuit is switched off.
6.	**Power system Simulation Laboratory**	1. Always disconnect a plug by pulling on the connector body not the cable. 2. Students must keep all cords and wires out of foot traffic areas and do not roll chairs over electrical cords or wire. 3. Students must shutdown personal computer properly to avoid system failure.

CRITERION 7	CONTINUOUS IMPROVEMENT	50

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

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Level Attained (3 Point Scale)	2.44	2.35	2.40	2.36	2.44	2.27	2.35	2.46	2.52	2.61	2.39	2.41
Attainment %	**81.3**	**78.3**	**80**	**78.6**	**81.3**	**75.6**	**78.3**	**82**	**84**	**87**	**79.6**	**80.3**

PSO	PSO1	PSO2	PSO3
Level Attained (3 Point Scale)	**2.43**	**2.38**	**2.25**
Attainment %	**81**	**79.3**	**75**

The set attainment level for all the POs and PSOs is kept as 75% of the target for the completed batch of students. It is observed here, all the POs are met with the set attainment level. How ever for continuous improvement, the set attainment level will be increased to 78% for the next batch of students.

For reaching the revised the set attainment level, action plan is required for the courses for the next year. The detailed sample observations and action plans for the courses which improves the PO and PSO attainment are listed below.

POs & PSOs Attainment Levels and Actions for improvement – CAY (2014-2015)

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	3	2.44	1. In **EE2202-Electromagnetic Theory**, attainment level is moderate due to inadequate knowledge in vector basics that require three dimensional imaginations. 2. In **EE2254-Linear Integrated Circuits**, expectations on PO1 is moderately obtained with respect to some course outcomes. 3. In **EE2255-Digital Logic circuits**, students have difficulty in simplification of Boolean functions.
Action 1: In **EE2202-Electromagnetic Theory**, visualization of vector basics that requires three dimensional imaginations will be facilitated by means of ICT based teaching aids. Additional hours will be allotted to train the students in vector basics. **Action 2:** In **EE2254-Linear Integrated Circuits**, model based assignments will be given related to the topics such as Regulator Circuits, Multivibrators, Waveform Generators and Timers for clearvisualization of concepts thereby implementing their gained knowledge in an effective manner. **Action 3:** In **EE2255-Digital Logic circuits**, more number of problems will be solved and the basicknowledge regarding the theorems will be taught.			
PO2: **Problem analysis**: Identify, Formulate, review research literature, and analyze complex engineering problems reaching substantiated	3	2.35	1. In **EE2202-Electromagnetic Theory**the attainment of PO2 is moderate due to lack of mathematical knowledge to solve problems. 2. In **EE2303-Transmission and Distribution** the student performance ismoderate in relating the concepts with the problems.

conclusions using first principles of mathematics, natural sciences, and engineering sciences.			3. In **EE2401-Power System Operation and Control**, the students find it difficult to analyze different types of problems.
Action 1: In **EE2202-Electromagnetic Theory**, basic mathematics will be revised during mathematics classes and problems will be discussed and solved. **Action 2:** In **EE2303-Transmission and Distribution**, various problems will be given as assignments to improve the performance. **Action 3**: In **EE2401-Power System Operation and Control**, more practice will be given to solve more problems using simple methods. Peer learning will be done to solve more problems and guest lectures will be arranged.			
PO3: **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate solutions for public health and safety and the cultural and societal and environmental solutions.	3	2.40	1. In **EE2303-Transmission and Distribution,**PO3 is contributing only a little to the attainment as the student has difficulty in understanding the basic concepts behind the design. 2. In **EE2354-Micro Processor and Micro Controllers**, students have difficulty in understanding the design process. 3. In **EE2355-Design of Electrical Machines**, the understanding and solving complex problems is tedious for students. 4. In **EE2451-Electrical Energy Generation utilization and Conservation**, since the design and development solutions of certain

			industrial needs are growing rapidly, students are not able to adapt to it easily.
Action 1: In**EE2303-Transmission and Distribution** ICT based teaching will be enhanced to explain and solve complex problems and continuous monitoring is done. **Action 2:** In **EE2354-Micro Processor and Micro Controllers**, more coaching will be given and the students will be exposed to many design solutions by encouraging them to participate in various technical events like Paper presentations and publications to gain knowledge. **Action 3:** In **EE2355-Design of Electrical Machines**, extra classes will be handled to make the student understand better. Power point presentations will be done to make the student understand better. **Action 4:** In **EE2451- Electrical Energy Generation utilization and Conservation**, discussion among students about the recent trends in the industries help them to overcome such hurdles.			
PO4: **Conduct investigations of complex problems**: Use research based knowledge and research methods including design of experiments, analysis and interpretation of data, and the synthesis of information to provide valid conclusions.	3	2.36	1. In **EE2451- Electrical Energy Generation utilization and Conservation**, the student is unable to interpret complex problems like energy audit.
Action 1: In **EE2451- Electrical Energy Generation Utilization and Conservation**, the energy auditinvestigations will be taught with the help of certain professional energy audit reports.Guestlectures will be arranged to improve their research based knowledge.			
PO5: **Modern tool**	3	2.44	1. In **EE2255-Digital Logic Circuits**, PO5 is achieved only to certain extent as the students find difficult to visualize and understand VHDL

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.			coding. 2. In **EE2354-Micro Processor and Micro Controllers**, students have difficulty in understanding the programming of the Microcontrollers.
Action 1: In **EE2255-Digital Logic Circuits**, VHDL coding will be taught using ModelSim and XILINX for better understanding **Action 2:** In **EE2354-Micro Processor and Micro Controllers**, the instruction set will be eLaborated and more programming examples will be solved			
PO6: **Engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and consequent responsibilities relevant to the professional engineering practice.	3	2.27	Since the attribute in applying the contextual knowledge to assess societal, health, safety, legal and cultural issues has weak mapping, the programme outcome is strengthened by conducting Guest Lectures, Seminars, and Presentations etc.
Action1: Students are motivated to carryout projects which caters to societal needs, health monitoring, safety aspects in hazardous environments etc. **Action 2:** Students are advised to participate in Rotaract, Student Associations and Professional Societies and do more social activities. **Action 3:** Students are advised to be members in professional societies like IEEE, IETE society etc. to build a rapport with outside world and contribute to the needs of society.			

Action 4: Programmes will be conducted on a frequent basis to create social awareness. **Action 5:** Guest lectures and seminars by experts from reputed institutions and industries arearranged on regular basis. **Action 6:** Students host and also participate in cultural events, debates on health and cultural issues and various awareness programmes that benefit the society. **Action 7:** Students are encouraged to read newspapers, magazines, technical and non-technical articles daily to know about societal, health, safety, legal and cultural issues and share the information among other students.			
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.	3	2.35	In **GE2211—Environmental Sciences and Engineering**– the set attainment level is reached. Hence, the target level will be revised for the next batch of students.
Action: In **GE2211—Environmental Sciences and Engineering**, effort will be put to reach the target. Guest lectures will be arranged for improving the knowledge and students will be motivated to do projects related to environment.			
PO8: **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.	3	2.46	The course **GE2025-Professional Ethics** has reached the target level and it is found that the students would dedicate themselves as responsible engineers to meet the norms of engineering practices.

Action 1: In the course **GE2025-Professional Ethics**, more case studies and presentations are made toenhance ethical principles and exhibit high degree of professionalism. **Action 2:** Students are motivated and mentored to undertake projects which will cater to societal needs. **Action 3:** Students are advised to participate in Rotaract, Student Associations and Professional Societiesand do more social activities.			
PO9: **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	3	2.52	In the courses**EE2452-Project Work** and **EE2357 Presentation Skills and Technical Seminar,**it has reached the target level and it is found that the students will function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
Action1: In the course **EE2452-Project Work**, students are mentored and guided to do projects forvarious social and real time issues. **Action 2:**In the course**EE2357 Presentation Skills and Technical Seminar,** more sessions of soft-skill trainingare given to the students.			
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	3	2.61	. 1. In**EE2405-Comprehension Laboratory, GE2321 Communication Skills Lab and EE2357 Presentation Skills and Technical Seminar,**it has reached the target level and it is found that the students communicate effectively, write effective reports,design documentation, make effective presentations, and give and receive clear instructions.

presentations, and give and receive clear instructions.			
Action 1: In **EE2405-Comprehension Laboratory, GE2321- Communication Skills Lab and EE2357-Presentation Skills and Technical Seminar**, this observation is attained by concentrating more in the vocabulary and grammar and students are motivated to participate in various presentations . The students with good soft skills formed a groupwith average students and helped them out in their weak areas and sessions like aptitude and group discussions.More sessions of soft-skill trainingaregiven to the students.			
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.	3	2.39	In **GE2022-Total Quality Management**, analyzing and understanding the different management principles is difficult as many steps are involved.
Action: In**GE2022-Total Quality Management,** leadership qualities will be inculcated to students by allowing them to participate in Project expo and other events in technical symposiums. Case studies and many practical examples will be discussed through PPT's, Video.			
PO12: **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in	3	2.41	As life-long learning attribute has weak mapping with university curriculamit will be bridged by making effective use of library hours and facilitating the students to develop

independent and life-long learning in the broadest context of technological change.			models, kits and prototypes independently.

Action1 : Library hours are properly utilized by monitoring the students to ensure the effective use of journals, Magazines, Reference Books, NPTEL videos and internet facilities to browse and update the latest technological developments and current happenings in the industries and society.

Action 2: Faculty members may adopt ICT based teaching to improve the teaching-learning process. Number of library hours for students may be increased to facilitate them to update and upgrade their knowledge.

Action 3: Students are encouraged to read newspapers, magazines, technical and non-technical articles daily to know about societal, health, safety, legal and cultural issues and share the information among other students.

Action 4: Value added courses are conducted to equip themselves to enhance their curriculum.

Action 5: Content beyond sylLabus is incorporated to generate self-learning facilities, and avaiLability ofmaterials for learning beyond sylLabus. These processes provide the core content objectives andmeaningful career applications.

Action 6: Students are advised to be members in professional societies like IEEE, IETE society etc. tobuild a rapport with outside world and contribute to the needs of society.

Action 7: Students are encouraged to do projects to be aware of the research based ideas and go through various Electrical magazines and journals

Action 8: Students are motivated to publish papers in National and International journals.

PSO1: Use logical & technical skills to model, simulate and analyze electrical components and systems.	3	2.43	1. In **EE2202-Electromagnetic theory**, the gap in applying problem solving skills is more due to vast syllabus. 2. In **EE2255-Digital Logic Circuits**, the students have difficulty in understanding the design of

			synchronous and asynchronous sequential circuits. 3. In **EE2303-Transmission and Distribution**, the student performance in attaining PSO1 is moderate as it requires complex problem solving skills.
Action 1: In **EE2202-Electromagnetic theory,** assignments will be given to students to analyze themethods which are used to solve and arrive at solutions. Slow learners will be monitored duringtutorial hours. Extra classes will be taken to solve more problems. **Action 2:** In **EE2255-Digital Logic Circuits**, to understand the analysis of synchronous & asynchronoussequential circuits, better programming will taught to the students using ModelSim& XILINX. **Action 3:** In **EE2303-Transmission and Distribution**, the basic concepts will be concentrated accordingto the technological requirement by Value added courses.			
PSO2: Integrate the knowledge of fundamental electronics, power electronics and embedded systems for the controlLability, reliability and sustainability of electrical systems.	3	2.38	1. In **EE2203-Electronic Devices and Circuits**, the students attainment level is moderate in understanding the practical use of electronics for electrical systems. 2. In **EE2451- Electrical Energy Generation utilization and Conservation,**the students lack the sequence to proceed with modeling of systems. As the study about non-conventional methods of power generations requires the effective integrations of the knowledge of the fundamentals of electrical and electronics, students face difficulties in understanding them.

<table>
<tr><td colspan="4">Action 1:In EE2203-Electronic Devices and Circuits, real time examples will be taught for better understanding of concepts and the design process will be taught to the students.
Action 2: In EE2451- Electrical Energy Generation utilization and Conservation, the design and modeling of the various systems will be discussed and the simulations will be done.Simulationtools will be used to enable lifelong learning. Illustration about the non-conventional methods of generation was made through certain real world video clips.</td></tr>
<tr><td>PSO3:
Contribute for the development of smart power grid and integrating green energy on it to meet the increasing demand of the society.</td><td>3</td><td>2.25</td><td>1. In EE2252-Power Plant Engineering, the students contribution is moderate for the newly developed technologies.
2. In EE2303, Transmission and Distribution, students find it difficult to contribute to the attribute.
3. In EE2451- Electrical Energy Generation utilization and Conservation, the students are not able to realize the increasing demand of the society and meeting those challenges.</td></tr>
<tr><td colspan="4">Action 1: In EE2252-Power Plant Engineering, the basic concepts will be concentrated according to the technological requirement by guest lectures, seminars and industrial visits.
Action2: In EE2303, Transmission and Distribution, Students will be encouraged to develop and createnew ideas in renewable energy sources under their project work. Research papers are surveyedand presented to students.
Action3: In EE2451- Electrical Energy Generation utilization and Conservation, the knowledgeabout some basic statistics of world’s energy demand and recent developments in industrial heating and lighting will be imparted to the students.</td></tr>
</table>

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

Assessment criteria

- Academic Audit

Frequency

- 2 Academic Audits per semester

Conduct mechanism

- Subject Course files (sylLabus, lesson plan, university question paper, question bank with answers) log books, track records and Lab manuals are checked during the academic audit by the auditors.
- Non compliance report is filed.

Action plan

- Non compliance reports are given for the deviations and corrections are made for closing the report.

Implementation and effectiveness

- University sylLabus and lesson plan of the corresponding subjects will be verified.
- Hand written notes of the corresponding subjects may be verified.
- Three years previous university question papers will be verified.
- Log book of the subject will be verified.
- The sylLabus coverage by the staff will be checked according to the lesson plan and the time table.
- Internal assessment marks and question papers will be checked.
- Special class related information will be checked.
- The log book of the Lab sessions will be verified.

- The sylLabus coverage of the Lab classes will be verified according to the sylLabus and the time table.
- It helps the teaching and learning process effectively.

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

Placement:

- Students are encouraged to enroll with B.Tech guru portal for taking up N number of online tests.
- Soft skills trainings (Aptitude training, Group discussions, etc) are conducted by alumni.
- Technical training for core subjects will be conducted by faculty members.
- For improvement in the communication skills, comprehension classes will be conducted for the students.
- Mock interviews will be conducted by the faculty members.
- Special coaching for slow learners regarding placement training will be given by the toppers.
- For better performance in Aptitude tests, repeated test and coaching are given.
- Six students are assigned to individual faculty. The faculty monitors the progress of the students in placement activities.

2014-2015

S.No	Name of the Company	Nature of Company	Pay Package(LPA)	No of students placed
1.	TCS	IT	Rs.3.18	59
2.	WIPRO	IT	Rs.3	01
3.	L&T INFOTECH	IT	Rs.3	13
4.	i-GATE	IT	Rs.3.5	17
5.	CSC	IT	Rs.3.4	03
6.	NTT DATA	IT	Rs.2.3	01
7.	HP	IT	Rs.3.4	01
8.	TECHNIP	IT	Rs.3.25	01
9.	INFOVIEW	CORE	Rs.4.4	02
10.	DOODLEBLUE	IT	Rs.3.20	01
11.	SYMANTEC	IT	Rs.3.25	02
12.	SUTHERLAND	Voice/Non Voice Process	Rs.2.25	16
13.	CSS CORPORATION	Voice/Non Voice Process	Rs.2.25	03
14.	EMBED UR SYSTEMS	IT/CORE	Rs.3.25	02
15.	HCL Bserv	IT	Rs.3.25	01
16.	TURBO ENERGY	CORE	Rs.3.25	01
17.	HEXAWARE TECHNOLOGIES	IT	Rs.3	02
18.	MAGNETIC AUTO CONTROL	CORE	Rs.2.5	03
19.	MICROFLOW STERILE CONCEPTS INDIA PVT. LTD.	CORE	Rs.2.5	01

20.	FIVES CAIL-KCP LIMITED	CORE	Rs.2.5	01
21.	INDIAN AIR FORCE	AIR FORCE	Rs.2.5	01
22.	INSER HITECH ENGINEERS PVT. LTD.	CORE	Rs.2.5	01
23.	ARDELYSIS TECHNOLOGY	IT	Rs.2.5	02
Total No of offers				**135**

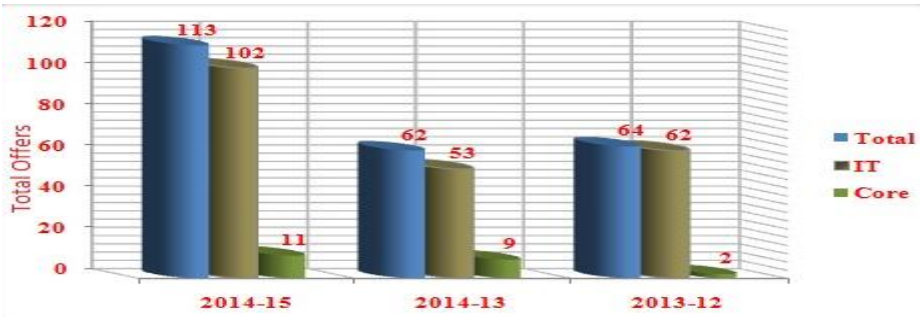
2013-2014

S.No	Name of the Company	Nature of Company	Pay Package(LPA)	No of students placed
1.	TCS	IT	Rs.3.18	26
2.	WIPRO	IT	Rs.3	05
3.	INFOSYS	IT	Rs.3.30	07
4.	HCL	IT	Rs.2.3	04
5.	CTS	IT	Rs.3.30	03
6.	V-TECH	CORE	Rs.2.5	03
7.	TECHNIP	CORE	Rs.3.25	02
8.	VISUAL BI	IT	Rs.3.25	01
9.	MICROCHIP	CORE	Rs.5.75	01
10.	L&T INFOTECH	IT	Rs.3	01
11.	ENMAS GB POWER SYSTEMS	CORE	Rs.2.5	03
12.	COMPUTER SCIENCE CORPORATION	IT	Rs.3.4	01
13.	SIFY	IT	Rs.3.25	01

S.No	Name of the Company	Nature of Company	Pay Package(LPA)	No of students placed
14.	DELL	IT	Rs.3	01
15.	ACCENTURE	IT	Rs.3.25	01
16.	INAUTIX	IT	Rs.3.30	01
17.	DEMENS SYSTEM	IT	Rs.2.5	01
Total No of offers				**62**

2012-2013

S.No	Name of the Company	Nature of Company	Pay Package(LPA)	No of students placed
1.	TCS	IT	Rs.3.18	33
2.	WIPRO	IT	Rs.3	22
3.	L&T INFOTECH	IT	Rs.3	02
4.	ERNST & YOUNG	CORE	Rs.3.25	02
5.	CTS	IT	Rs.3.30	02
6.	MAVERIC SYSTEM	IT	Rs.3.24	01
7.	SRM TECHNOLOGIES	IT	Rs.2.5	02
Total No of offers				64



Placement Details

Higher Studies:

- Career guidance programmes are conducted.
- Students are motivated to go for higher studies.
- Students are guided to prepare for competitive exams like GRE, GMAT, GATE and TOEFEL.
- The students are motivated through guest lectures to go for higher studies in India and abroad.
- The Letter of Recommendation is verified and given by the faculty members to students to pursue their higher studies in various Universities.

2014-2015

S.No.	Name of The Student	University/College	Degree
1	Pavithra G	University of Houston	M.S
2	Aishwarya Gupta	UIC College of Engineering	M.S
3	Aarthy N	University of Illinois,Chicago	M.S
4	Deepika B	University of Chemnitz	M.S
5	Kartik R	San Francisco State University	M.S
6	Vinodhinipriya P	Wayne State University	M.S
7	Kapardi M	SSN College of Engineering	M.E
8	Aaron.G	Easwari Engineering College	M.E
9	Deva Keerthana	Anna University	M.E

2013-2014

S.No.	Name of The Student	University/College	Degree
1	Abishek Kumar V	Texas A &M university, Kingsville	M.S
2	Samyukta Chandrasekran	Nanyang Technological University	M.S
3	Nandini V	San Diego State University	M.S
4	Vivek Saravanan S	North Eastern University	M.S
5	Naresh	SRM University	M.E
6	Praveen.V	IIT Delhi	M.E(NTPC)

2012-2013

S.No.	Name of The Student	University/College	Degree
1	Shrinivass AV	University of Florida	M.S
2	Lakshminarasiman Vedanarayanan	Rutgers University Graduate Schooling	M.S
3	Ilamaran Mamallan	UAHuntsville University	M.S
4	Aishwarya Chakravarthy	Arizona State University	M.S
5	Andrew John Winney.H	IIM Ahmedabad	PGP
6	Manikandan	Anna University	M.S

Entrepreneurship:

- To develop a base for students to identify their area of interest, to kindle the spirit of ownership and to develop their skills to become a good entrepreneur.
- Guest lectures are organized to provide information to students as to how to develop a strategy and acquire a knowledge base.
- Industrial visits will be arranged to enhanced entrepreneurship.

Entrepreneurship Details:

2011-2015

S.No	Student name	Class/Batch	Details
1.	M.S. Anees Ahmed	Final Year A/2011-2015	Colorz – Designs 4 Life
2.	B. Jaisaishyam	Final Year A/2011-2015	S.S Electricals India Pvt. Ltd.

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

Item		CAY (2014-2015)	CAY*m*1 (2013 -2014)	CAY*m*2 (2012-2013)
National Level Entrance Examination	No. of Students admitted	-	-	-
	Opening Score/Rank	-	-	-
	Closing Score/Rank	-	-	-
State/University/Level Entrance Examination/Others	No. of Students admitted	123	111	107
	Opening Score/Rank	194.5	194	193.25
	Closing Score/Rank	111.66	96.34	118.32

Item		CAY (2014-2015)	CAY*m*1 (2013 -2014)	CAY*m*2 (2012-2013)
Name of the Entrance Examination for Lateral Entry or lateral entry details	No. of Students admitted	14	18	18
	Opening Score/Rank	92%	93.75%	95.08%
	Closing Score/Rank	63%	66.8%	65.75%
Percentage CBSE/Any other Board Result of admitted students (hysics, Chemistry & Maths)		40.2%	40.5%	40.5%

CRITERION 8	FIRST YEAR ACADEMICS	50

8.1. First Year Student-Faculty Ratio (FYSFR)

Year	Number of students (approved intake strength)	Number of faculty members (considering fractional load)	FYSFR
CAY	1020	71	14.37
CAY*m*1	960	64	15
CAY*m*2	960	64	15
Average	14.79		
Assessment= (5 × 15)/Average FYSFR (Limited to Max. 5)	5		

The regular faculty calculation was done based on the fractional load given to post graduate programs, I year academics and services offered to other programs. The same calculation is done for the calculation of I year student faculty ratio and subsequently subtracted from the faculty Load calculation.

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

Year	*X*	*Y*	*RF*	Assessment of faculty qualification (5*x* + 3*y*)/*RF*
CAY	19	52	68	3.69
CAY*m*1	12	52	64	3.38
CAY*m*2	12	52	64	3.38
Average Assessment			3.48	

8.3. First Year Academic Performance

Academic Performance	CAY (2014-2015)	CAY*m*1 (2013-2014)	CAY*m*2 (2013-2012)
Mean of CGPA or Mean Percentage of all successful students (X)	7.224	7.428	8.089
Total no. of successful students (Y)	123	111	107
Total no. of students appeared in the examination (Z)	123	111	107
API = x* (Y/Z)	7.224	7.428	8.089
Average API = (AP1 + AP2 + AP3)/3	7.58		

Academic Performance Level=1× Average API=7.58

8.4 Attainment of Course Outcomes of first year courses

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

Assessment Process	Evaluation
Theory	
Class tests	Class tests are conducted every day during 1st hour for 25 marks.
Continuous Assessment tests	Three continuous assessment tests will be conducted. The first two will be conducted for 50 marks for the duration of 1.30 Hrs covering 4 units (2 units each). The last assessment will be a model exam for 100 marks for a duration of 3 Hrs.
End Semester Examination	Will be conducted as per Anna University schedule
Laboratory	
Model Exam	Lab model exam will be conducted after completion of all the experiments for 100 marks for a duration of 3 Hrs
End Semester Exam	Will be conducted as per Anna University schedule

Others	
Assignments	Three Assignment topics per subject will be given to students
Tutorials	The entire class will be divided into three batches where each batch will have 20 to 23 students. A faculty will be allotted for each batch. Every week an hour will be conducted for tutorials wherein the faculty will make the students solve more problems.
Seminars	One hour per week will be allotted for the seminar session wherein students present topics of their interest.

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

Semester	**Course**	**University**		**Internal**		**Total Attainment level**
		Target %	**Attainment level**	**Target %**	**Attainment level**	
1	HS 2111 -Technical English I	70	3	80	2	2.80
	MA 2111 -Mathematics I	60	1	70	3	1.40
	PH 2111 -Engineering Physics I	70	2	80	2	2.00
	CY 2111 -Engineering Chemistry I	70	3	80	2	2.80
	GE 2111 -Engineering Graphics	70	3	80	2	2.80
	GE 2112 -Fundamentals of Computing and programming	55	3	60	3	3.00
	GE 2116 -Engineering Practice Lab	90	3	95	3	3.00
	GE 2115 - Computer Practice Laboratory I	80	2	90	3	2.20

Semester	Course	University		Internal		Total Attainment level
		Target %	Attainment level	Target %	Attainment level	
II	HS 2161 -Technical English – II	70	3	80	2	2.80
	MA 2161 -Mathematics – II	65	1	75	3	1.40
	PH 2161 -Engineering Physics – II	65	1	75	3	1.40
	CY2161 -Engineering Chemistry – II	70	1	80	2	1.20
	EE 2151 -Circuit Theory	55	3	60	3	3.00
	GE 2152 -Basic Civil & Mechanical Engineering	60	3	70	3	3.00
	GE2155 -Computer Practice Laboratory-II	80	2	85	3	2.20
	GS2165 Physics & Chemistry Laboratory – II	80	3	90	3	3.00
	EE2155 -Electrical Circuits Laboratory	90	3	95	3	3.00

8.5. Attainment of Program Outcomes of all first year courses (20)

8.5.1. Indicate results of evaluation of each relevant PO and/or PSO, if applicable (15)

SEM	COURSE TITLE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
I	HS2111:Technical English – I	-	-	-	2	-	1	1	1	2	3	1	1
	MA2111: Mathematics – I	3	3	2	2	2	1	1	-	2	1	-	1
	PH2111: Engineering Physics – I	3	3	2	2	1	1	1	-	1	1	-	1
	CY2111: Engineering Chemistry – I	3	2	2	2	2	2	1	-	1	2	-	1
	GE2111: Engineering Graphics	3	3	2	2	2	1	1	1	1	3	-	1
	GE2112: Fundamentals of Computing and Programming	3	3	2	2	3	-	-	-	1	2	-	1
	GE2115 : Computer Practice Laboratory- I	3	3	2	2	3	-	1	-	1	2	-	1
	GE2116: Engineering Practices Laboratory	3	1	2	2	2	1	1	1	1	2	-	1
II	HS2161: Technical English – II	-	-	-	2	-	1	1	1	2	3	1	1
	MA2161: Mathematics – II	3	2	2	1	2	1	-	1	1	1	-	1
	PH2161: Engineering Physics – II	3	3	2	2	1	1	1	-	1	1	-	1
	CY2161: Engineering Chemistry – II	3	2	2	2	2	2	1	-	1	2	2	1

SEM	COURSE TITLE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	EE2151: Circuit Theory	3	2	1	1	3	-	1	-	1	-	1	2
	GE2152: Basic Civil & Mechanical Engineering	3	2	2	2	1	1	-	-	2	-	2	2
	GE 2155 Computer Practice Lab	3	2	2	2	1	2	1	1	1	1	-	1
	GS2165: Physics & Chemistry Laboratory – II	3	2	2	2	2	1	1	1	2	2	2	1
	EE2155: Circuit Theory Laboratory	3	2	2	2	2	1	1	1	2	1	-	1

SEM	COURSE TITLE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
I	HS2111:Technical English – I	-	-	-	1.87	-	0.93	0.93	0.93	1.87	2.80	0.93	0.93
	MA2111: Mathematics – I	1.40	1.40	0.93	0.93	0.93	0.47	0.47	-	0.93	0.47	-	0.47
	PH2111: Engineering Physics – I	2.00	2.00	1.33	1.33	0.67	0.67	0.67	-	0.67	0.67	-	0.67
	CY2111: Engineering Chemistry – I	2.80	1.87	1.87	1.87	1.87	1.87	0.93	-	0.93	1.87	-	0.93
	GE2111: Engineering Graphics	2.80	2.80	1.87	1.87	1.87	0.93	0.93	0.93	0.93	2.80	-	0.93
	GE2112: Fundamentals of Computing and Programming	3.00	3.00	2.00	2.00	3.00	-	-	-	1.00	2.00	-	1.00
	GE2115 : Computer Practice	2.20	2.20	1.47	1.47	2.20	-	0.73	-	0.73	1.47	-	0.73

SEM	COURSE TITLE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	Laboratory- I												
	GE2116: Engineering Practices Laboratory	3.0 0	1.0 0	2.0 0	2.0 0	2.0 0	1.0 0	1.0 0	1.0 0	1.0 0	2.0 0	-	1.0 0
II	HS2161: Technical English – II	-	-	-	1.8 7	-	0.9 3	0.9 3	0.9 3	1.8 7	2.8 0	0.9 3	0.9 3
	MA2161: Mathematics – II	1.4 0	0.9 3	0.9 3	0.4 7	0.9 3	0.4 7	-	0.4 7	0.4 7	0.4 7	-	0.4 7
	PH2161: Engineering Physics – II	1.4 0	1.4 0	0.9 3	0.9 3	0.4 7	0.4 7	0.4 7	-	0.4 7	0.4 7	-	0.4 7
	CY2161: Engineering Chemistry – II	1.2 0	0.8 0	0.8 0	0.8 0	0.8 0	0.8 0	0.4 0	-	0.4 0	0.8 0	0.8 0	0.4 0
	EE2151: Circuit Theory	3.0 0	2.0 0	1.0 0	1.0 0	3.0 0	-	1.0 0	-	1.0 0	-	1.0 0	2.0 0
	GE2152: Basic Civil & Mechanical Engineering	3.0 0	2.0 0	2.0 0	2.0 0	1.0 0	1.0 0	-	-	2.0 0	-	2.0 0	2.0 0
	GE 2155 Computer Practice Lab	2.2 0	1.4 7	1.4 7	1.4 7	0.7 3	1.4 7	0.7 3	0.7 3	0.7 3	0.7 3	-	0.7 3
	GS2165: Physics & Chemistry Lab – II	3.0 0	2.0 0	2.0 0	2.0 0	2.0 0	1.0 0	1.0 0	1.0 0	2.0 0	2.0 0	2.0 0	1.0 0
	EE2155: Circuit Theory Lab	3.0 0	2.0 0	2.0 0	2.0 0	2.0 0	1.0 0	1.0 0	1.0 0	2.0 0	1.0 0	-	1.0 0

8.5.2. Actions taken based on the results of evaluation of each of relevant POs (5)

The set attainment level for all the POs is kept as 75**%** of the target for the completed batch of students. It is observed here, all the POs are met with the set attainment level. However for continuous improvement, the set attainment level will be increased to 78% for the next batch of students.

For reaching the revised set attainment level, action plan is required for the courses for the next year. The detailed sample observations and action plans for the courses which improves the PO attainment are listed below.

PO Attainment levels and Actions for improvement

Pos	Target Level	Attainment Level	Observations
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineeringfundamentals, and an engineering specialization to the solution of complex engineering problems.	3	2.24	1. In **MA2111 – Mathematics I**, expectations on PO1 is moderately obtained due to the weaker knowledge on basic concepts. 2. In **MA2161 – Mathematics II**, attainment level is slightly attained due to lack of understanding 3. In **PH2161 – Engineering Physics II**, PO1is achieved only to certain extent due to lack of understanding. 4.**CY2161- Engineering**

			Chemistry IIis contributing only a little to the attainment of PO1due to difficult question paper.
Action 1: In **MA2111 – Mathematics I,** extra tutorial hours will be planned for the complex topics like three dimensional analytical geometry, functions of several variable, multiple integrals etc. **Action 2:** In**MA2161 – Mathematics II**, students will be taught with application of mathematics to engineering. Also tutorial hours will be increased. **Action 3:** In**PH2161 – Engineering Physics II**, students will be taught with application of physics to engineering. **Action 4:** In**MA2161 – CY2161- Engineering Chemistry II**, students will be trained to face tough questions to match with the difficult level of question paper.			
PO2: Problem analysis: Identify, formulate, review research literature, and analyze complexengineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	3	2.20	1. **MA2111 – Mathematics I and MA2161- Mathematics II**, is contributing only a little to the attainment of PO2due to the lack of practice in solving problems. 2. **PH2111- Engineering Physics I**and PH2161- **Engineering Physics II**, is slightly contributing to attainment of PO2 due to inadequate knowledge of doing derivations.
Action 1: In **MA2111 – Mathematics I and MA2161- Mathematics II,** students will be motivated by explaining the mathematical application to engineering subjects. **Action 2:** In **PH2111- Engineering Physics I**, Power point presentations and ICT teaching method will be adapted for better understanding. **Action 3:** In **PH2161- Engineering Physics II**, Bridge course will be conducted for basic calculus used in theoretical derivations.			
PO3: Design/development of	3	2.28	This attribute will be

solutions: Design solutions for complex engineering problems anddesign 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			strengthened in the higher semesters.
PO4: Conduct investigations of complex problems: Use research-based knowledge and researchmethods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.	3	2.37	In **MA2111 – Mathematics I and MA2161- Mathematics II**, attainment level is slightly attained due to the lack in ability to analyse and interpret the data.
Action 1: In **MA2111 – Mathematics I and MA2161- Mathematics II**, students will be motivated to design some basic electronic devices. They will be trained to solve the problem independently.			
PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modernengineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	3	2.29	**In GE2112 Fundamentals of Computer and Programming and GE2115 Computer PracticeLab I**attainment level is marginally attained. In the theory the attainment level is reached. So the attainment level is revised

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assesssocietal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.	3	2.34	This attribute will be strengthened in the higher semesters.
PO7:Environment and sustainability: Understand the impact of the professional engineering solutionsin societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	3	2.27	This attribute will be strengthened in the higher semesters.
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms ofthe engineering practice.	3	2.62	This attribute will be strengthened in the higher semesters.
PO9: Individual and team work: Function effectively as an individual, and as a member or leader indiverse teams, and in multidisciplinary settings.	3	2.36	**HS2111 Technical English I and HS2161 – Technical English II**, is marginally contributing to attainment of PO9. This attribute will be strengthened in the higher semesters.

Action 1: In **HS2161 – HS2111 Technical English I and Technical English II**, students will be involved in group discussion, seminar, resume writing so that the students can develop their soft and interpersonal skills which will make their transition from college to workplace smoother and help them excel in their job.			
PO10: Communication: Communicate effectively on complex engineering activities with the engineeringcommunity 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.	3	2.45	In the course **HS2111-Technical English I and HS2161 – Technical English II** set attainment level is reached and hence the target level will be revised for the next batch of students.
Action 1: In HS2111 - Technical English – I and HS2161 – Technical English II,effort will be taken to reach the target**.** **Action.2:**. In the courses **"HS2111 - Technical English – I,** many books will be suggested for extensive reading, so that the students can inculcate the habit of reading and also will develop their communication skills. **Action 3:** In **HS2161 – Technical English II**, logical method of writing the presentations and report will be taught to students.			
PO11: Project management and finance: Demonstrate knowledge and understanding of theengineering 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.	3	2.17	This attribute will be strengthened in the higher semesters.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage inindependent and life-long learning in the broadest context of technological change.	3	2.28	This attribute will be strengthened in the higher semesters.

CRITERION 9	STUDENT SUPPORT SYSTEMS	50

9. STUDENT SUPPORT SYSTEMS (50)

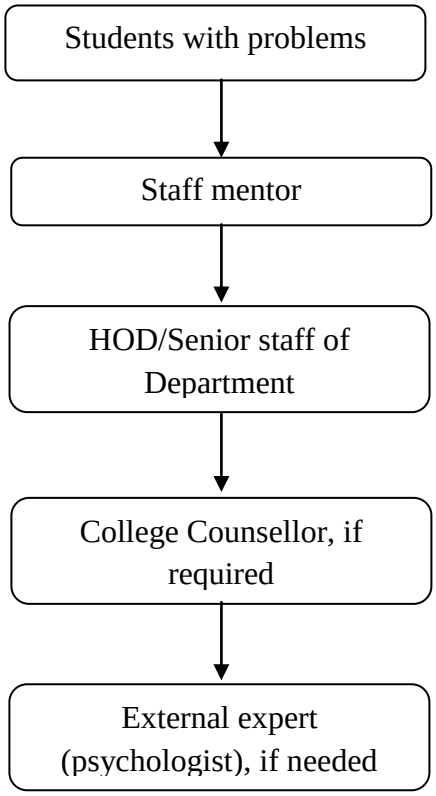
9.1 Mentoring system to help at individual level (5)

Type of Mentoring : students are counseled for academic improvement, career improvement and personality development

Number of faculty mentors : 32

Number of students per mentor : 20

Frequency of meeting : Once in two weeks



The students' personal detail along with their academic performance and progress is updated in history cards maintained by the mentor. Counselling is provided on the following parameters:

- **Professional/Academic/Course work specific**-The faculty mentors discuss issues related to academics and grades with the assigned students every 2 weeks leading to improved academic achievement in both theory and lab subjects. The student mentors also contribute in the academic and personal growth of peers/ juniors by providing them assistance as and when required. Also mentoring is provided on the choice of electives. Further, mentoring is provided on all co-curricular related activities like attending conferences, paper presentations, publications etc. For first year students, especially first generation learners, counseling is provided on all academic related activities. Also, information is provided by mentors on details related to the availability of scholarships.

  Outcome: It helps students to learn and hone their study skills. Also, dropout rates have been reduced to a great extent due to the counselling provided

- **Personal**-Personal problems among peers, junior or senior students, emotional disturbances, family related problems etc. are discussed on a case – to- case basis as and when required by the individual teacher mentors. Wherever required parents are also called and counseled by the professional counselor available on campus and if required they are referred to psychologists outside. For first year students, counseling is provided to give them confidence, assist in effective transition to college life and reduce home-sickness as most hostel students may be staying away from home for the first time.

Outcome: Both students and parents are able to become aware of and realize each other's needs and problems and make efforts to overcome them. So students are able to focus more on academics.

- **Skill based**- Mentoring is provided by assigned faculty to guide students to enroll for additional courses and help them to develop skills and behaviors necessary to succeed professionally.

  Outcome: It helps students become aware of the current trends and equip them suitably.

- **Career advancement/ Higher studies** -Mentoring is also provided on the various companies visiting the campus and kind of skill sets and preparation required for each company. Mentors and alumni counsel students on the opportunities for higher studies and the preparations required for the same.

  Outcome: Such a mentorship helps students identify new options and opportunities for placement and higher studies.

- **All round development/Attitude**- The mentoring provided by faculty and the professional counselor enables a change in attitude of certain students affected by behavioral/habitual disorders. If any student is subjected to social isolation, it also taken care of. Counselling on extracurricular activities is also provided depending on the students' interest and creativity.

  Outcome: This helps students to develop positive attitude, improve their social skills and also set goals for the future.

A professional counselor is available in the campus on all the working days and during the college working hours. The counselor counsels students/faculty in a private confidential environment. The Institution provides professional counseling and psychological assistance for all students and staff to ensure healthy environment and emotional well being. In addition to college counselor and faculty counselors, student mentors are also identified. These student mentors also provide counseling to their peers or juniors.

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

Feedback collected for all courses: YES

Feedback collection process: Feedback is collected Online. Software with the parameters to be considered, the name of the faculty handling the subjects for each class is prepared. A schedule is prepared for feedback to be given by all classes. The students of each class go to the laboratories assigned for them, use their log in ID and password and give confidential feedback for each faculty handling class for them based on a standard questionnaire.

Percentage of students who participated: 95% to 98%

Feedback analysis process: The software is so designed that the rating for each parameter is cumulatively calculated for a total of 5 points

What metrics are calculated? :

1. Teaching Methodology
2. Communication Skill
3. Technical Skill
4. Punctuality

5. Class control
6. Student Evaluation process

What is inferred from the metrics?

1. Faculty Performance
2. Attitude of Faculty
3. Course Delivery
4. Interactive learning of students
5. Interpersonal Skills
6. Student satisfaction

How are the comments used ?

The comments are used to

1. To appreciate efforts of faculty
2. To rectify deficiencies through counseling
3. To improve teaching effectiveness
4. To motivate faculty to support professional development planning

Basis of reward / corrective measures

Reward:

1. Appreciation Certificate
2. Performance is recorded in the faculty appraisal.

Corrective Measure:

1. Mid semester feedback helps to make appropriate changes in the teaching methodology
2. Corrective action for feedback score < 2.5 (out of 5) –The faculty concerned is appropriately counselled, assistance is provided wherever needed for improving teaching

Indices used for measuring quality of teaching and learning:

Summary of index values for all courses/teachers:

Available for all individual faculties at the department level.

Number of corrective actions taken: 4

9.3. Feedback on facilities (5)

Infrastructure - class rooms/Laboratories/ Internet facilities - In Class committee meetings held thrice a semester, students provide feedback on any issues related to classrooms, lab equipment etc. which is passes on to the authorities concerned and rectified.

Library- Library committee meetings are held thrice a semester where faculty and students provide feedback on the adequacy of titles and volumes of books and e-learning facilities. Appropriate corrective actions are taken to rectify deficiencies whenever pointed out.

Housekeeping- Students and faculty provide feedback on various aspects of housekeeping at class committee meetings and other occasions like department meetings, HOD meetings which are passed on to the maintenance department and problems are sorted out.

Transport- Any issues related to adequacy and punctuality of buses that are brought forth by students / faculties are passed on to the transport department and corrections are made.

Hostel- Hostel committee meetings are held at department level where hostellers raise problems, if any, related to hostels. Also HODs, teaching and non teaching staff visit hostels on a daily basis and provide feedback on the food and other maintenance related issues , if any. There are brought to the notice of the wardens and maintenance department and rectified immediately. Anti-ragging squads consisting of teaching staff visit all hostels every evening and interact with students to aquaint themselves of any issue. If any complaints are received , they are immediately addressed.

Others- Any issues related to food courts, bank facilities, medical facilities etc. when reported to faculty, Dean or Principal, are solved immediately.

In addition, feedback is collected from Alumni during Alumni meet and annual general body meetings on all the above areas. Feedback analysis is done and corrective actions are taken.

Feedback is collected from the parents during time of admissions to know their expectations.

Feedback is also taken from the Industry people. Based on their Feedback Bridge courses and Value Added Courses are arranged to bridge the gap between curriculum and Industry. Also, MOUs are signed, guest lectures, seminars, workshops and industrial visits are arranged for the students.

9.4. Self-Learning (5)

Facilities/materials:

1. The library is equipped to provide Web based learning with access to online journals, open access resources, open access E-journals and open access directories
2. EDUSAT Programs of Anna University
3. NPTEL – Study materials
4. Language lab equipped for autonomous learning
5. In plant Training in Industries
6. Industrial visits
7. Technical students symposium
8. Study materials from professional bodies
9. Student Seminar Presentation and assignment
10. Paper presentation in the conferences
11. Lab accessibility
12. Online Technical/Aptitude Training and Test
13. Library Hour in the Time Table
14. Guidance for Mini Project
15. Making the students to answer online technical/aptitude training
16. Mentoring, Industry Institution Interaction, so as to enhance the learning

process beyond the structured syllabus

17. Students encouraged and guided to enroll for MOOCs, webinars

Evaluation:

The initiatives and facilities for self learning are appropriately evaluated by distributing evaluation forms which are created with rubrics to obtain COs and POs.

9.5 Career Guidance, Training, Placement (10)

Effective career guidance services are provided including counseling for higher studies.

Higher Education Cell (HEC)

The Higher Education Cell promotes the interests of students who wish to pursue higher education after their undergraduate studies. The Cell conducts programmes to:

- create an interest in higher education as a necessity to meet career aspirations that a student can potentially achieve
- make the students realize the prospect of higher studies and guide them to identify their area of interest, course, college and university within India and abroad
- provide students with up-to-date information about their career growth and kindle their interest towards investing in hard work, optimum use of time and financial resources to shape their future
- Ensure latest books for preparing for international and national qualifying examinations such as GRE,GMAT, IELTS, TOEFL, CAT, MAT,GATE, etc. are available in the library
- Provide guidance to prepare and approach such examinations confidently

- Conducts annual fair on Higher Education with reputed foreign universities' participation

The Placement & Training Cell -Facilities:

- The Placement and Training Cell is functioning under the leadership of a Placement Officer and Department Coordinators.
- Well Equipped Placement Cell
- Fully Air-conditioned and acoustically designed Two Hi-Tech Halls to conduct Training and Pre-Placement Meetings / Briefings.
- Well furnished / Air-conditioned Hi-Tech Auditorium and Seminar Halls.
- Facilities to conduct Interviews / GDs / On-line tests

Activities for career guidance:

- The Placement & Training Cell liaises with SAI Career Visions to provide training in soft skills, personality development, Presentation skills, Group discussions, Aptitude and facing the interview board.
- The cell, after constant interaction with industries, gives feedback on the value added courses to be offered for various branches of Engineering.
- The Placement Cell arranges for Campus Recruitment by leading Companies through continuous Industry Institute Interaction, Company visits and excellent Partnerships.
- Coordinates with Industries for enhancing employability through intense Training in appropriate skills

- Students are referred to different Companies as well, for undergoing In-plant Training, Internships and for acquiring Practical Knowledge through exposure to industry environment; e.g., Infosys Campus Connect Foundation Program.
- The Cell motivates and counsels the students to realize their potential.

9.6. Entrepreneurship Cell (5)

In order to nurture the entrepreneur skill among the students, the institution is having a full-fledged Entrepreneurship Development Cell (EDC). This cell periodically

- Arranges motivational lectures by personnel in the name of Popular Lecture series by young entrepreneurs
- Guest Lectures are arranged by personnel from industries to highlight the process of how to go about starting an enterprise.
- Encourages the student members to participate in B-Plan competitions organized by various educational institutions and organizations

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

Co-curricular Activities:

A number of professional societies are functioning in the college which conducts regular programmes. The list of student chapters of professional societies include- IEEE, ISTE, IET, IE, IETE,ISHRAE, SAE, ISA, CSI, ACM, QCFI, Indian Concrete Institute Student Chapter, Club Robotica. In addition, every department has a student association such as Association of Civil Engineers, Association of Mechanical Engineers, Society of EEE, Society of EIE, IT

Association, CSE Association, Society of ECE, Science Association, Maths Colloquium, English Association and All India Management Association.

Students are encouraged and guided to participate in design contests at national and state level, paper presentations, attending national and international conferences and participate in competitions conducted by IITs, NITs, other engineering and Arts and Science colleges.

Extra-curricular activities:

1. National Service Scheme

2. National Cadet Corps

3. Youth Red Cross

4. Rotaract Club

5. Cultural Commitee

6. Citizen Consumer Club

7. YUGA Club

8. Tamil Mandram

NSS – National Service Scheme

NSS Unit strives to inculate among students, the concept of social responsibility and service to the needy. Our NSS Unit regularly conducts awareness programmes on Road Safety, AIDS, hazards of Smoking and Alcohol Consumption etc. It also organizes Blood Donation Camps and supports in Polio Vaccination Camps. NSS Unit visits orphanages and special school for differently abled children to motivate them and to offer support.

NSS Unit conducts an annual Seven Day Special Camp in remote village for the upliftment of that village. Some of the activities during the camp are General Medical Camp in association with SRM General Hospital, Dental Camp with SRM Dental Hospital, Nursing Camp focusing on Maternal Care, importance of rain water harvesting and preventing water-borne diseases, awareness on First Aid and 'Say No to Polythene Bags', visit to schools for mentally retarded, Orphanage, Old Age homes, First Aid Training etc. During special camp, care is taken to motivate the young school children of the village for their betterment in the educational career, sports activities, talks on environment pollution and safety. It also provides training like tailoring, making decorative items to the village people.

NCC - National Cadet Corps

We have started NCC for girls with 40 students in the year 2010. It is recommended by Director National Cadet Corps of Tamilnadu and the Director of Public Instructions. During one week camp conducted at Kattankulathur, training was given to the students. NCC students participate in all the public programmes conducted in the campus.

YRC - Youth Red Cross Unit

Youth Red **Cross** is an active club of Easwari Engineering College and conducts various social service activities like Visit to Life Health Center an orphanage and Anbukarangal, an old age home. It also conducts eye Camps in alliance with School of Optometry, blood donation camps, AIDS awareness programmes, Tsunami Relief activities, lectures by "YUVA SHAKTHI" etc. In the process, it assists students in personality development, organizational and communication skills.

Rotaract Club:

The Rotaract club in consultation with the parent Rotary Club conducts several projects such as awareness camps, rallies, visits to orphanage, old age homes etc supported by the District Rotaract Council. Several innovative projects like LARZIUS, competitions for school students, Completing '100 PROJECTS IN A DAY', the drama 'THE MASK', the proceeds of which is used for a social cause like providing RO plants for government schools etc. have also been conducted.

Culturals:

Culturals are an integral part of the academic activities in our college. With a view to provide holistic education, boost confidence, acquire leadership qualities and strengthen organizational abilities, students are given opportunities to participate and organize cultural activities. SWAGAT, the Freshers party, is organized as a welcome programme for the first year students. TALENTIA, the inter-department cultural extravaganza, consists of both off stage and on stage events which help students to realize and showcase the plethora of their talents, bringing the creativity of students to the fore. Our students participate and win prizes in many cultural competitions like solo and group dance, singing, instrumental music, street play and photography organized by IIT Madras, Anna University, MIT Madras, College of Engineering, Guindy, SSN college of Engineering and so on.

Citizen consumer club

Citizen consumer club was started with the objective of creating awareness among the students about consumer rights, responsibilities, legalities and the

presence of consumer court for which various programmes are conducted.

YUGA (Youth Under Green Awareness) Club

YUGA club was started to

YUGA club was started to create awareness, build attitudes and help students to take up activities contributing to sustainable development, bring a change in people's attitude towards environment and thereby create a better society. The club conducts many rallies and programmes involving school students and the public to achieve their objectives.

SPORTS -Facilities

Indoor facilities- Chess, Table Tennis, Carom, separate Gym for boys and girls

Outdoor facilities- courts for volley ball, basketball, throw ball, football, badminton, kabbadi and cricket nets

The men and women teams win medals in many sports events organized at National level and State level. Our students are winners and runners up in throw ball, volley ball, table tennis tournaments conducted by Anna University and other engineering colleges and sports bodies.

CRITERION 10	Governance, Institutional Support and Financial Resources	120

10. GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES

10.1. Organization, Governance and Transparency

10.1.1. State the Vision and Mission of the Institute

Vision of the Institution:

To accomplish and maintain international eminence and become a model institution for higher learning through dedicated development of minds, advancement of knowledge and Professional application of skills to meet the global demands.

Mission of the Institution:

1. Set high standards of comprehensive education by developing the intellectual strength of students and synergesing the efforts of departments
2. Nurture the development of mind, skill, attitude and core competence, inspire innovation and foster excellence in students to enable them shine in their academic pursuits.
3. Attain leadership in planning and resource management so as to improve the quality of technical education.
4. Produce graduates of International distinction committed to integrity, professionalism and sensitive to the needs of the progressive industrial world.

5. Organize a pluralistic and supportive environment that will stimulate students and staff of the highest caliber and contribute to the process of Nation building through partnership with Industry, to realize our vision as a premier engineering institution.

    - The Vision and Mission statements are displayed in the public domain, the official website of the college, http://www.srmeaswari.ac.in
    - They are printed in the college calendar, Hostel handbook, Prospectus, department brochures etc.
    - It is displayed in the Principal's office, Dean's office, Admin office, in the chambers of all Heads of departments, Staff Rooms, in all floors of all departments, in all the labs including the computer labs and in the Central library

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

Governance is the key activity that connects the management and staff with the stakeholders, i.e., the students, parents, recruiters, and the community at large. To ensure its efficiency and effectiveness, a number of administrative, academic, co-curricular, and general bodies have been constituted with their duties and responsibilities.

I. 1.Administrative Bodies-Governing Council

The Governing Council meets every six months, where the Principal presents information on the academic performance, all activities carried out and the achievements of the faculty and students during the previous semester. Deliberations and discussions are held and decisions are taken on Policy changes if any, budgetary allocations and on any other issue that needs to be addressed for the forthcoming semester. The members are drawn from distinguished cross-sections of the society as shown in the table below:

Governing Council Composition					
S.No	**Name**	**Position**	**Qualification**	**Present Professional Position/ Occupation**	**Address**
1.	Thiru. T.R. Pachamuthu	Founder Chairman	B.Sc., M.I.E.	Education	No.3 Veerasamy St., West Mambalam, Chennai-600 033.
2.	Tmt. P. Easwari	Member	B.A.	Education	Easwari Garden No.3, Prakasam St., Janaki Nagar, Valasaravakkam, Chennai-600 087.
3.	Thiru. P. Ravi	Co – Chairman	M.A.	Education	No.3 Veerasamy St., West Mambalam, Chennai-600 033
4.	Thiru. P. Satyanarayanan	Vice – Chairman	B.E., M.S. (Ph.D)	Education	No.3 Veerasamy St., West Mambalam, Chennai-600 033.

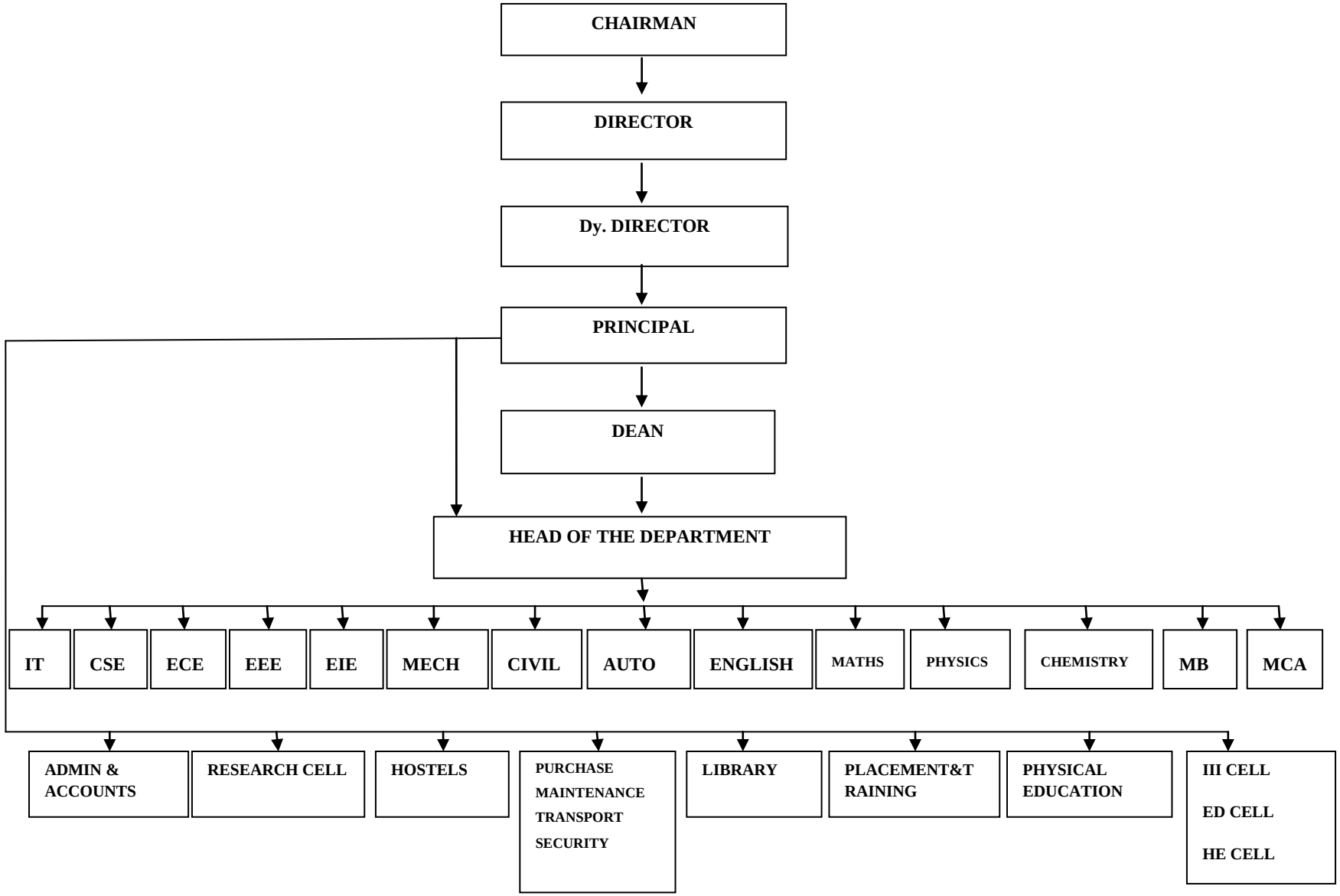
Governing Council Composition					
S.No	**Name**	**Position**	**Qualification**	**Present Professional Position/ Occupation**	**Address**
5.	Dr. R. Shivakumar	Chairman Ramapuram campus	M.B.B.S., M.D.Ph.D	Education	No.68, Thambaiah Road, West Mambalam, Chennai – 600 033
6.	Thiru. N. Varadharaj	Sr. Member	M.E.	Education / Industry	No.13, Town Planning Scheme Road, Raja Annamalaipuram, Chennai – 600 028.
7.	Director, AICTE SRO	Director	-	Education	All India Council for Technical Education (AICTE), Southern Regional Office, "Shastri Bhavan", 26, Haddows Road, Chennai – 600 006.

Governing Council Composition					
S.No	**Name**	**Position**	**Qualification**	**Present Professional Position/ Occupation**	**Address**
8.	AICTE Nominee	Member	-	Education	All India Council for Technical Education, 7th Floor, Chandralok Building, Janpath, Connauht Place New Delhi -110 001
9.	Dr. S. Rajendra Boopathy (Anna University Nominee)	Member	Ph.D.	Education	Anna University Guindy, Chennai – 600 025.
10.	Director, DOTE.	Director	-	Education	Anna University Guindy, Chennai – 600 025.
11.	TN Govt. Nominee	Member	-	Education / Industry	Department of Higher Education, Govt. of Tamil Nadu, Fort St. George,

Governing Council Composition					
S.No	**Name**	**Position**	**Qualification**	**Present Professional Position/ Occupation**	**Address**
					Chennai – 600 009
12.	Dr. T. S. Sridhar	Member	Ph.D.	Administration	Director, Easwari Engineering. College Chennai – 89.
13.	Dr. K.S. Srinivasan	Member Secretary	Ph.D.	Principal	Principal Easwari Engineering College Ramapuram, Chennai – 89
14.	Dr. N.Sethuraman	Invitee	Ph.D.	Education	AG 26, New No.49, Shanthi Colony, Anna Nagar, Chennai – 600 040
15.	Dr. C. Muthamizh Chelvan	Invitee	Ph.D.	Education	Flat A-7, 3rd Cross Street, VGP Srinivasa Nagar (North),

Governing Council Composition					
S.No	**Name**	**Position**	**Qualification**	**Present Professional Position/ Occupation**	**Address**
					Rajakilpakkam Chennai – 600 073
16.	Dr. K. Kathiravan	Member (Faculty Nominee Men)	Ph.D.	Education	Professor & Head Department of Information Technology Easwari Engineering College Ramapuram, Chennai – 89
17.	Mrs. S. Murugapriya	Member (Faculty Nominee Women)	M.E.	Education	Assistant Professor Department of Electronics and Communication Engineering Easwari Engineering College Ramapuram, Chennai – 89

The administrative chart shows the hierarchy set up in the college



1. Planning and Monitoring Board- A senior professor heads this committee which includes members from other departments also. The committee meets at least once a semester or as necessity arises. The duty of this committee is to hold discussions on plan of action related to academics and all other college related matters, review them for their effectiveness and suggest corrective actions if needed for the entire semester.
2. Purchase
3. Hostel Committee
4. Library Committee
5. Examination Cell
6. Disciplinary Committee
7. Anti-Ragging Committee
8. Maintenance Committee
9. Purchase Committee
10. ISO
11. First year Coordinator
12. Student Development Committee
13. Website Committee
14. Event Management Committee
15. III Cell
16. ED Cell
17. Management Information Systems

18. Newsletter and Magazine Committee

19. Reprographic Committee

20. Calendar Committee

21. Press and Media Committee

22. Alumni Association

Details of the committees are given below along with the names of coordinators as well as the responsibilities of each committee.

Sl.No	Name of the Committee	Co-ordinators	Responsibility
1	PURCHASE	Mr.G.Ramakrishnan,Prof./IT	- Liaising with departments to follow up purchase related requirements - Assessing bottlenecks related to delay in purchase - ensuring all purchases are made before the start of the semster
2	HOSTEL	Dr.K.M.Anandakumar, Asso Prof/ CSE	-At least one meeting per month -Gathering information about the good practices in the hostel - Assessing students feedback on the menu -Rectifying any shortcomings and problems faced by students -Finding out other facilities required
3	LIBRARY	Dr.D.Sivakumar,Prof/IT	-Collecting the requirements of Journals/ Magazines/ Books/CD from each department in the month of Jan/Feb. - Preparing the Budget based on the requirement. - Placing the order for Books/ Journals / Magazines - Conducting meetings to solve issues related to Library. - At least two meetings to be conducted.
4	EXAMINATION CELL	Dr. P. Alagambigai Professor and Head / MCA	-As per the guidelines laid down by Anna University for University Examinations. - As per the College guidelines Cycle Test to be conducted
5	DISCIPLINARY COMMITTEE	Dr.K.Kalaiselvi,Prof./ EEE	- Preparing Duty Roster for ID monitoring, Dress Code and Late Coming from 7.45 a.m to 8.15 a.m . - Campus rounds during Tea Break and Lunch Break - Taking preventive steps to avoid any indiscipline activities
6	ANTI RAGGING SQUAD	Prof.A.K.Mariappan,Prof/IT	- Creating awareness among the students about ragging - Pasting posters in important places

Sl.No	Name of the Committee	Co-ordinators	Responsibility
			- Sending circulars in line with the guidelines given by Tamil Nadu government, Supreme Court and Dr.Raghavan Committee - Reports to be sent to authorities whenever required
7	IQAC/ISO	Dr.S.Nagarajan,Prof./EIE	-Responsible for all activities related to Internal qualityand ISO.
8	I YEAR COORDINATOR	Dr.P.Arikaran,Prof/Mech	-Conducting Induction Programmes for 1st year students - Coordinating for Time Table Preparation. - Preparing Time Table for University Practical Examination - Monitoring general discipline of 1st Year students
9	I I I CELL	Dr.Madhusadhanan, Prof./Placement	- As per the College Guidelines
10	E D CELL	Dr.Mu.Subrahmanian	- As per the College Guidelines
11	STUDENTS DEVELOPMENT COMMITTEE	Dr.Anita Titus,AP/ECE	- As per the College Guidelines
12	NEWS LETTER & MAGAZINE COMMITTEE	Dr.S.Usha Menon, Prof./English	-Collecting data from all departments and publishing "EEC Times" daily. - Publishing newsletter every month. - Publishing Magazine every Year.
13	WEBSITE	Mrs.V.Mercy rajaselvi, AP/CSE	- Collecting data from all the departments - Maintaining up to date information - Posting Mandatory Disclosure - Flashing all current and future events in the College
14	EVENT MANAGEMENT	Dr.M.Esthaku Peter,AP(Sr.Gr)/Physics	- As per guidelines

Sl.No	Name of the Committee	Co-ordinators	Responsibility
15	REPROGRAPHIC	Mr.S.Muruganandham Librarian	-Ensuring the availability and maintenance of Xerox Machines - Maintaining the Usage Register
16	CALENDAR	Mrs.Smilee Mathuram,AP(Sl.Gr)/EEE	- Collecting data from various departments - Verifying the proof. - Printing the required number of copies
17	PRESS & MEDIA COVERAGE	Mr.S.Vasudevan, AP/MBA	- Preparing detailed data base about leading Newspapers/ Magazines and their contact person, phone No. and address. - Ensuring that the details of College events appear in Engagement Columns of leading Newspapers - Sending detailed report with photograph to leading Newspapers/ Magazines
18	MANAGEMENT INFORMATION SYSTEMS	Dr.P.Alambigai,AP/MCA	-Ensuring up to date data available in PALPAP Software - Any issues related to software to be sorted out with the vendor - Staff training should be arranged as and when required
19	IMAGE BUILDING COMMITTEE	Prof.A.K.Mariappan,Prof./IT	- As per the College Guidelines
20	GRIEVANCE REDRESSAL COMMITTEE	Mrs.S.Kayalvizhi,Prof./CSE	- Conducting meetings with members. - Getting the feedback from Students / Staff. - Issues must be discussed and solved with the help of Head of Institutions.
21	ALUMNI ASSOCIATION	Dr.S.Usha Menon, Prof./English	- Maintaining very close interaction with our Alumni - Maintaining upto date database about Alumni - Involving them for the growth of the College - At least two Alumni meet to be conducted in every year - Releasing the Alumni Newsletter 'Footprint' - Getting Alumni feedback.

II Academic committees

1. Academic Advisory Board
2. Course Committee
3. Time Table Committee
4. Academic Audit Committee
5. Result Analysis Committee
6. Research Committee
7. Top Students Monitoring and Evaluation Committee
8. Slow Learners Monitoring and Evaluation Committee
9. Faculty Development Committee

Sl.No	Name of the Committee	Co-ordinators/ Asst.Co-ordinators	Responsibility
1	ACADEMIC ADVISORY BOARD	One Senior Professor from IIT, Anna University, Corporate, Principal, Dean, HOD	-Evaluating the teaching methodologies -Suggesting ideas and technology use, -Giving information on best practices to be followed -Giving guidance on project proposals, consultancy
2	COURSE COMMITTEE	One senior professor for common subjects being handled by 2 or more depts	- Suggesting methodology to be adopted for difficult units -Following up on portion completion -Evaluating any problems being faced by faculty and give feedback
3	TIME TABLE	Dr.R.Ramadoss,Prof/Mech	- Conducting meeting with Time Table Coordinator of each Department. - Resolving all issues in consultation with Head of Institution. - Preparing Time Table for each department / subject-wise/ faculty-wise and Master Time Table for the College.
4	ACADEMIC AUDIT COMMITTEE	Dr.R.Ramadoss,Prof/Mech	- As per the College Guidelines
5	RESULT ANALYSIS AND DATA BASE MAINTENANCE COMMITTEE	Dr.R.Sivakumar,AP/Physics	-As per the College Guidelines
6	RESEARCH COMMITTEE	Dr.G.Rajkumar. Prof/Physics	- As per the College Guidelines

Sl.No	Name of the Committee	Co-ordinators/ Asst.Co-ordinators	Responsibility
7	TOP STUDENTS MONITORING AND EVALUATION COMMITTEE	Dr.N.S.Bhuvaneswari ,Prof/EIE	- As per the College Guidelines
8	SLOW LEARNERS MONITORING AND EVALUATION COMMITTEE	Dr.S.Lavanya Prabha, Prof./Civil	- As per the College Guidelines
9	FACULTY DEVELOPMENT	Dr.V.Antony Aroul Raj ,Prof/Mech	- Providing need based training to members of faculty to enhance qualit and delivery to students. - At least two Faculty Development Programmes to be arranged in an Academic Year.

III Committees for Co Curricular Activities

1. IEEE
2. CSI
3. IETE
4. ISA
5. ISTE
6. IET

7. IE

8. Indian Concrete Institute Student Chapter

9. ACM

10.QCFI

11. Energy Club

12. Science Association

13. Literary Association

14. Maths Colloquium

Sl.No	Name of the Committee	Co-ordinators	Responsibility
1	IEEE CHAPTER	Prof.G.RamaKrishnan,Prof/IT	- Creating awareness among the students about IEEE Student Chapter. - Motivating Enrolment of students in IEEE Chapter. - Conducting programmes through IEEE Chapter - Minimum three programmes to be conducted in each Semester
2	CSI CHAPTER	Dr.G.S.Anandha Mala ,HOD/CSE	- Students about the CSI Chapter. - Enrolment of students in CSI Chapter. - Conducting programmes through CSI Chapter - Minimum three programmes to be conducted in each Semester

Sl.No	Name of the Committee	Co-ordinators	Responsibility
3	IETE CHAPTER	Dr.K.Mala,Asso.Prof /EEE	- Creating awareness among the students about IETE Chapter. - Enrolment of students in IETE Chapter. - Conducting programmes through IETE Chapter - Minimum three programmes to be conducted in each Semester
4	ISA CHAPTER	Mrs.M.Gunaselvi,AP(Sl.Gr)/EIE	- Creating awareness among the students about ISA Chapter. - Enrolment of students in ISA Chapter. - Conducting programmes through ISA Chapter - Minimum three programmes to be conducted in each Semester
5	ISTE	Dr.R.Karpagam,Aso,Prof/EEE	- Creating awareness among the students about ISTE. - Enrolment of students in ISTE Chapter. - Conducting programmes through ISTE Chapter - Minimum three programmes to be conducted in each Semester
6	IET	Dr.N.S.Bhuvaneswari ,Prof/EIE	- Creating awareness among the students about IET -Enrolment of students in IET Chapter - Conducting programmes through IET Chapter - Minimum three programmes to be conducted in each Semester
7	IE	Dr.S.Lavanya Prabha, Prof/Civil	- Creating awareness among the students about IE -Enrolment of students in IE Chapter - Conducting programmes through IE Chapter - Minimum three programmes to be conducted in each Semester

Sl.No	Name of the Committee	Co-ordinators	Responsibility
8	ENERGY CLUB	Dr.R.Murugan,Asso.Prof/EEE	-Inauguration of the Club -Project activities -Coordination with state and Central Govt.for funds.
9	SCIENCE ASSOCIATION	Dr.S.Nirmala,AP(SL.Gr)/Physics	- To motivate the students for innovation - To organize world class Science Lecture. - To organize Student Project Exhibition.
10	LITERARY & FINE ARTS	Mrs.C.Aishwarya,AP/ECE	- To identify the talents of the students. - Maintain database for each activity. - Organising programmes - At least two literary events to be conducted in each Semester.
11	MATHS COLLOQUIUM	Mrs.J.Julie,AP/Maths	- Enrolment of students - Planning the activities. - Conducting events such as Symposium, Guest Lecture,Talent Test etc.

IV General

1. NSS
2. YRC
3. Rotaract
4. NCC
5. Sports
6. Culturals
7. Citizen Consumer Club
8. YUGA club
9. Tamil Mandram

Sl.No	Name of the Committee	Co-ordinators/ Asst.Co-ordinators	Responsibility
1	NSS	Dr.K.Senthil Kumar,AP(Sl.Gr)/Physics	- Enrolling students with service mind. - Planning for the yearly activities - Conducting weekly in-house programmes. - Organising camps outside the College. - Submitting report to Anna University.
2	YRC	Mrs.M.Gunaselvi, AP(Sl.Gr)/EIE Mr.M.Thillai Backiam, AP/Civil	- Enrolment of students with service mind. - Planning for the yearly activities - Conducting programmes - Organising service activity outside the College - Submitting report to respective authorities.
3	ROTARACT	Dr.K.M.Anand Kumar,Asso.Prof/CSE Mrs.P.Shamini,AP(Sr.Gr)/MCA	- Enrolment of students with service mind. - Planning for the yearly activities - Conducting programmes. - Submitting report to Principal.
4	NCC	Dr.S.Sanjeevi, Head, Physical Education	- As per the guidelines laid down by the NCC manual.
5	SPORTS	Dr.S.Sanjeevi, Head, Physical Education	- Planning the activities of the Academic Year - Identify the talent of students in each sports activities. - Conducting in-house Sports Competitions. - Encourage the students to practice in all the events.
6	CULTURAL COMMITTEE	Dr.S.Usha Menon,Prof./English	-To identify the talent of the students - Maintain student database for each event - Organising Cultural Programmes - Sending suitable teams to other colleges / university for participation with the approval of authorities - At least one cultural programme in each Academic Year

7	TAMIL MANDRAM	Dr.S.Nagarajan,Prof/EIE	- Planning for the activities - Identify the talent of students - Organise at least two functions in a Semester.

SERVICE RULES-Service rules were framed in the year 2003. If there is any need for adding or changing any existing rules, it is done through a Management Order.

S.No	Policies and Rules	Year of Publication	Awareness Among
1	Service Rules	2003	Employees
2	Promotion Policies	2003	Employees
3	Recruitment Procedures	2006	Employees
4	Students Rules and Regulations	Every Year	Employees /Students
5	Hostel Rules and Regulations	Every Year	Employees /Students

Recruitment Policies

- The Head of the department assesses the need for additional faculty based on workload calculation and specialization requirement.
- Whenever there is a vacancy in the departments, the approval is sent to the management after discussions with the principal.
- Once the approval is obtained, advertisement is released in popular English and vernacular dailies stating the vacancies and the basic requirements for applying.
- The applications are shortlisted based on the number of vacancies and the minimum qualifications, a written test is conducted if required and the candidates are called for interview on a 1:5 ratio.

- The interview board is constituted with a subject expert drawn from IITM or Anna University. The other members in the board include the Director, Deputy Director, Principal, Dean and the Head of the department concerned.
- Based on the candidates' performance in the interview, the selected candidates are recruited.

Promotion Policies

- At the end of every semester, a performance appraisal is conducted for all faculties.
- The self-appraisal form is filled in by all faculties, with endorsement by the Head of the department.
- The performance appraisal in conducted by a panel consisting of an outside expert, Principal, Dean and the head of the department concerned.
- The faculty is assessed based on the Anna university results produced in the subjects handled by them, the feedback received from students, participation in summer-winter schools, workshops, paper presentations in international/national conferences, paper publications in international/national journals, projects guided, self- up gradation activities and the faculty's involvement and contribution in student/ department/ institution level activities.

10.1.3. Decentralization in working and grievance redressal mechanism

GRIEVANCE REDRESSAL COMMITTEE

Co-ordinator: Mrs.S.Kayalvizhi, Prof./CSE

Responsibility:

- Conducting meetings with members.

- Getting the feedback from Students / Staff.

- Issues must be discussed and solved with the help of Head of Institutions.

S.No	Department	Members
1	IT	Mrs.S.Leninisha,AP Sl.Gr
2	CSE	Mrs.N.Senthamarai,AP Sr.Gr
3	ECE	Mrs.D.Jessintha,AP Sr.Gr
4	EEE	Dr.K.Kalaiselvi, Professor
5	EIE	Ms.S.Malathi,AP
6	Mech	Ms.K.K.Nagachandrika,AP
7	Civil	Ms.K.R.Shreelekha,AP
8	MBA	Ms.G.Sathya,AP
9	MCA	Ms.D.R. Merlin Shalin,AP

10.1.4. Delegation of financial powers

Financial powers are delegated to

- Principal has powers for purchase/ spending for infra structure development related to academic activity like addition of classrooms, laboratories, improving other facilities like hostels, food courts etc.
- Heads of departments are given imprest cash which can be used for all purchases related to consumables, other emergency purchases after obtaining from the Principal.
- Relevant in charges- Librarian, Physical Education Director, Hostel wardens etc. have powers for purchases of all items related to their departments.
- Coordinators of various functional committees have powers of spending money from their respective department accounts for any co-curricular/extracurricular activities after obtaining relevant permission from the Principal.

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

- Yes, the institute has hosted relevant information in its own website which is updated as and when required. The institute and programme specific information is made available to all aspirants through the web-site
- The Website URL is: www.srmeaswari.ac.in

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

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

Total Income at Institute level: For CFY, CFY*m*1, CFY*m*2 & CFY*m*3

2012-13

Total Income:				Actual expenditure till 31st March 2013			Total No. of students:3994
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non- recurring	Special Projects/Any other, specify	Expenditure per student
2308.39	-	-	-	2079.03	289.89	--	Rs.59311/-

2013-14

Total Income:				Actual expenditure till 31st March 2014			Total No. of students:4260
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non- recurring	Special Projects/Any other, specify	Expenditure per student
2715.68				2280.45	182.42	--	Rs.57813/-

2014-15

Total Income:				Actual expenditure till 31st March 2015			Total No. of students:4488
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non- recurring	Special Projects/Any other, specify	Expenditure per student
3080.05	-	-	-	3098.94	284.89	--	Rs.75397/-

2015-16

Total Income:				Actual expenditure (till OCT 2015):			Total No. of students:4576
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non- recurring	Special Projects/Any other, specify	Expenditure per student
3295.53	-	-	-	1528.91	39.57	--	Rs.34276/-

Items	(Rs. In Lakhs)							
	Budgeted in CFY (2015-16	**Actual expenses in CFY (till 31st Oct 2015)**	**Budgeted in CFY*m*1 (2014-15)**	**Actual Expenses in CFY*m*1 (2014-15**	**Budgeted in CFY*m*2 (2013-14)**	**Actual Expenses in CFY*m*2 (2013-14)**	**Budgeted in CFY*m*3 (2012-13)**	**Actual Expenses in CFY*m*3 (2012-13)**
Infrastructure Built-Up	60.00	46.20	10.00	4.80	30.00	25.17	0.00	0.00
Library	35.00	0.15	40.00	30.98	48.00	45.53	32.95	28.58
Lab equipment	70.00	18.35	135.00	129.05	41.00	35.24	167.68	164.91
Lab consumables	10.00	5.97	18.00	11.62	21.14	17.60	11.92	11.65
Teaching and non-teaching staff salary	1800.00	983.19	1730.00	1716.52	1730.00	1691.23	1455.00	1385.30
Maintenance and spares	800.00	364.51	1250.00	1220.20	556.00	519.85	638.14	628.67
R&D	50.00	8.68	46.00	40.87	90.70	75.21	35.00	31.26
Training and Travel	12.00	2.81	12.00	7.72	12.00	9.54	10.00	7.44
Miscellaneous expenses	5.00	0.43	5.00	3.97	2.00	0.64	5.00	2.07
Others:								

Items	(Rs. In Lakhs)							
	Budgeted in CFY (2015-16	**Actual expenses in CFY (till 31st Oct 2015)**	**Budgeted in CFY*m*1 (2014-15)**	**Actual Expenses in CFY*m*1 (2014-15**	**Budgeted in CFY*m*2 (2013-14)**	**Actual Expenses in CFY*m*2 (2013-14)**	**Budgeted in CFY*m*3 (2012-13)**	**Actual Expenses in CFY*m*3 (2012-13)**
Furniture & fittings	27.00	6.39	17.00	15.71	15.10	10.66	20.36	16.55
Electrical equipments	45.00	5.48	53.00	48.98	17.20	13.28	38.20	31.28
Office equipments	25.00	0.67	23.00	19.30	5.25	2.50	23.25	17.31
Equipment service	6.00	2.45	5.00	2.78	7.00	4.71	5.00	2.08
Academic expenses	200.00	169.40	145.00	136.13	55.00	36.88	45.94	41.82
Total	**3145.00**	**1568.48**	**3479.00**	**3383.83**	**2600.39**	**2462.87**	**2488.44**	**2368.92**

10.2.1. Adequacy of budget allocation (10)

The institution's budget allocation procedure is as follows:

1. College budget is prepared in the month of February / March of every year for the forthcoming academicyear, which starts from July.
2. Head of the departments, administration department and financedepartment under theguidance of the Principal, will prepare the budget.
3. Budget is prepared according to the proposed requirements of each and every department covering all activities.
4. Head of the Department will list out their activities and the Budget Estimates for the year on a realistic basis and submit them to the administration department under various heads listed below:
    a. Lab equipments
    b. Computers and software
    c. Lab consumables
    d. Maintenance and service
    e. Research and Development
    f. Academic related expenses
    g. Printing and stationary expenses
    h. Others
5. Departments will also analyze the allocation and utilization in the previous year, remedial measures and furnish forecast with justifications as shown below.

Budget requested for the year	Budget approved for the year	Budget utilized for the year	Justification on the utilization

…….	……...	……...	

6. Administration Department under the guidance of the Principal will analyze the requirement of each department and consider the various items like new courses, increase in intake, maintenance, servicing, replacement, development activities, symposium/ conference/ guest lecture expenses, salary, industrial tour, sports materials, projects, miscellaneous expenses etc. before preparing the consolidated budget.
7. The budget is sent to the Management through Principal for approval and fund allocation.
8. Based on the approval, Principal advises the departments concerned and also finance department to disburse the funds.

Since the budget for a financial year for the institution is prepared after receiving the requirements of each department, the budget is found to be adequate every year.

10.2.2. Utilization of allocated funds (15)

Once the institutional budget is approved by the management, the budget projected by each department is also automatically approved.

The head of the each department is empowered to utilize the approved budget under the heads projected by them as and when required within the academic year.

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

CFY 2014-2015- YES- URL www.srmeaswari.ac.in

CFYM1 2013-2014- YES- URL www.srmeaswari.ac.in

CFYM2 2012-2013- YES- URL www.srmeaswari.ac.in

10.3. Program Specific Budget Allocation, Utilization (30)

Total Budget at program 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 2015-16

Total budget: 34.50		Actual expenditure (till OCT 2015): 5.66		Total No. of students: 399
Non recurring	Recurring	Non recurring	Recurring	Expenditure per student
27.50	7.00	3.66	2.00	Rs.1419/-

For CFY 2014-15

Total budget: 33.56		Actual expenditure: 29.61		Total No. of students : 396
Non recurring	Recurring	Non recurring	Recurring	Expenditure per student
27.56	6.00	24.00	5.61	Rs.7477/-

For CFY 2013-14

Total budget: 29.60	Actual expenditure: 25.25	Total No. of

				students :399
Non recurring	**Recurring**	**Non recurring**	**Recurring**	**Expenditure per student**
24.50	**5.10**	**20.68**	**4.57**	**Rs.6328/-**

For CFY 2012-13

Total budget: 35.12		**Actual expenditure: 29.29**		**Total No. of students : 392**
Non recurring	**Recurring**	**Non recurring**	**Recurring**	**Expenditure per student**
31.12	**4.00**	**25.72**	**3.57**	**Rs.7472/-**

Items (EEE BUDGET)	(Rs. In Lakhs)							
	Budgeted in 2015-2016	**Actual expenses in 2015 - 2016 (till Oct. 2015)**	**Budgeted in 2014-2015**	**Actual Expenses in 2014-2015**	**Budgeted in 2013-2014**	**Actual Expenses 2013-2014**	**Budgeted in 2012-2013**	**Actual Expenses in 2012-2013**
Lab equipment	9.50	1.41	11.05	12.10	12.50	11.88	23.12	19.01
Software	8.00	0.00	7.70	5.20	6.00	5.50	3.00	2.81
Lab consumables	1.50	0.60	1.50	1.86	1.50	1.38	1.00	0.87
Maintenance & Spares	2.00	0.40	2.00	1.85	1.50	1.32	1.50	1.46
R&D	10.00	2.25	8.81	6.70	6.00	3.30	5.00	3.90
Training and Travel	1.00	.20	1.00	0.70	0.60	0.55	0.50	0.46
Miscellaneous expenses *	2.50	.80	1.50	1.20	1.50	1.32	1.00	0.78
Total	**34.50**	**5.66**	**33.56**	**29.61**	**29.60**	**25.25**	**35.12**	**29.29**

*Items to be mentioned

Note: Similar tables are to be prepared for CFY*m*1, CFY*m*2 & CFY*m*3.

10.3.1. Adequacy of budget allocation (10)

The budget allocated over the years for the institution has been adequate. The expenditure reveals clearly that all activities have been carried out as per plan and no activity has been held up for want of funds.

10.3.2. Utilization of allocated funds (20)

Library and Internet (20)

- The Central libraryis fully digitized.
- AICTE zero deficiency report was received for all the assessment years.

10.4.1 Quality of Learning resources :

- **Available learning resources**
  - Number of titles : 20,037
  - Number of volumes : 73,953
  - CDs : 5196
  - e journals : 5000+online journals from IEEE ,EBSCO,ASME,ASCS,ACCESS Engineering ASTM,I GATE, Springer Link, Science Direct
  - International/ National journals :270
  - Institutional Membership :IIT Madras, Centre for University Industry Colloboration, Anna University,

    British Council Library, MALIBNET,

DELNET, Madras Management Association

The college has an accessible collection of all the e-learning materials provided by various institutions such as IIT, ANNA University and UGC among others.

- ✓ NPTEL
- ✓ Anna EDUSAT
- ✓ EKLAVYA
- ✓ UGC Gyan Dharsan

- **Accessibility to students:** The library works on all 365 days of the year without lunch break.The details are:

  Monday to Friday- study, reference, internet access- 7.45 am to 8.00 pm

  Transaction - 8.00 am to 6.00 pm

  Saturday - Study, reference, internet access 7.45 am to 4.30 pm

  Transaction - 8.00 am to 4.00 pm

  Sunday & holidays- Study, reference, internet access 9.00 am to 4.00 pm

  Students can borrow books/ CD ROMS following the rules of the library. They can do reference work, make use of internet facility, NPTEL materials and other e- resources by making using of their ID cards during their library hours or after college hours.

  First year students are given 2 library cards, second, third and final years are given 4 cards and 5 cards are given for PG students. As a reward for good performance in

academics, students are provided additional 2 cards if their CGPA in Anna university examinations is above 8 for UG and 7.5 for PG.

Library space and ambience, timings and usage, availability of a qualified librarian and other staff, library automation, online access, networking, etc. are provided below:

Carpet area of library (in m^2)	2100
Reading space (in m^2)	1200
Number of seats in reading space	450
Number of users (issue book) per day	475
Number of users (reading space) per day	650
Number of library staff	13
Number of library staff with degree in Library Science	06

13. Library expenditure on books, magazines/journals, and miscellaneous contents

Year	Expenditure				Comments, if any
	Book	Magazines/journals		Misc.	
		(for hard copy subscription)	(for soft copy subscription)	Contents (e-books)	
2014-15	2,83,757	6,25,030	26,18,427	1,52,045	NIL
2013-14	13,86,523	4,28,799	14,83,631	1,41,050	NIL
2012-13	14,69,588	3,62,414	16,12,647	1,19,266	NIL

- **Support to students for self –learning activities:** Students can make use ofall resources in the library like books, journals (hard copy and e-journals), CDs, NPTEL materials, intranet etc., for self learning. Similarly they can make use of the language lab in the department of English in order to improve their language proficiency and communication skills. All departments can upload resources applicable for their academic programs into the Content Management System (http;/20.30.0.60) available as intranet service. The day scholars and hostel students can make use of the learning resources like lesson plan, course plan, lecture notes, ppts, videos files, assignment questions, drill problems, solutions, e-books, instructional guides, etc. The resources can be either downloaded or can be written on CD through wired or wifi network.

10.4.2. Internet (10)

Name of the Internet provider :Airtel (Leased Line)

Available bandwidth :155 Mbps (1:1)

Wi Fi availability :Campus/Hostels are wifi enabled

Access Speed :Excellent

Internet access in labs, classrooms, library and offices of all Departments: Yes

Availability in faculty rooms : Yes

Institute's own e-mail facility to faculty/students: Yes

Security arrangements : Yes – Sonic Wall 6600,XT M 810 firewall

It combines firewall, application proxies, threat protection (spyware, denial of service attacks, etc), VoIP security, content filtering, anti-spam, anti-virus and intrusion detection and prevention.

Declaration

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for the application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA, in case any false statement / information is observed during pre-visit, visit, post visit and subsequent to grant of Accreditation.

Date :30.11.2015

Place : CHENNAI

-SD-

Dr. K. S. Srinivasan

Signature & Name

Head of the Institution with seal

Annexure I

Programme Outcomes(POs)

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

2. **Problem analysis:** identify formulate, review research literature, and analyze complex engineering problems and reaching sustained conclusion using the principle of mathematics , natural sciences and engineering sciences

3. **Design development of solutions:** design the solutions for complex engineering problem and design system components or processes that meet the specified needs with appropriate considerations for the public health and safety and cultural and societal and environmental considerations

4. **Conduct investigations of complex problem:** Use research based knowledge and research method including design of experiments , analysis and interpretation of data and synthesis of information to provide valid conclusions

5. **Modern tool usage:** create , select and apply appropriate techniques, resources , modern engineering and IT tools including prediction and modeling to complex engineering activities with understanding of the limitations

6. **Engineer and society:** Apply reasoning informed by contextual knowledge, to assess societal health, safety, legal and cultural issues and consequent responsibility relevant to professional engineering practices.

7. **Environment and sustainability**: Understand the impact of professional engineering solution in societal and environmental context 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 engineering practices.

9. **Individual and team work:** Function effectively as an individual and as a member or leader in diversity and multi disciplinary settings.

10. **Communications;** 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 documentations, make effective presentations and view 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 project and in multi disciplinary environments.

12. **Life long learning;** Recognize the need for and have the preparation and ability to engage in independent and life long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs):

Students will have the ability to:

1. Use logical & technical skills to model, simulate and analyse electrical components and systems.

2. Integrate the knowledge of fundamental electronics, power electronics and embedded systems for the controllability, reliability and sustainability of electrical systems.

3. Contribute for the development of smart power grid and integrating green energy on it to meet the increasing demand of the society.

Annexure II

Academic Year 2014-2015

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Dr.K.Kalai Selvi	Ph.D IIT Madras, 2013	Professor & Head 02.12.2013		100				Yes	6		√	VLSI
Dr.R.Murugan	Ph.D Anna University, 2011	Professor 01.07.2013		100				Yes	6			EMT
Dr.K.Mala	Ph.D IIT Madras, 2011	Professor 28.06.2013		100				Yes	10			RE
Dr.R.Madhusuthanan	Ph.D Sathyabhama Univeristy 2011	Professor 20.06.2014		100					-			PE
Dr.R.Karpagam	Ph.D IIT Madras, 2013	Associate Professor 16.06.2014		100				Yes	7			NANO

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Dr. C.Umayal	Ph.D Anna University, 2014	Asst Prof(Sl.Gr) 11.07.2005		-		100	Yes		-			SEM
Mrs.A.JoselineMetilda	M.E (Ph.D) SRM University, 2007	AsstProf(Sl.Gr) 01.08.2001		100					6			PS
Mrs.Smilee Mathuram	M.E (Ph.D) Annamalai University, 2000	AsstProf(Sl.Gr) 01.06.2000		100					6			PS
Mrs.M.Devabrinda	M.E(Ph.D) Anna University, 2006	AsstProf(Sl.Gr) 16.07.2007		100					6			PS
Mrs.D.Chandrakala	M.E Anna University, 2007	Assistant Professor 16.06.2008		100					5			AE

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Ms.M.Aruna	ME Anna University 2010	Assistant Professor 26/7/2010		100					-			PED
Mr.K.V.Thilagar	M.E(Ph.D) Sathyabama University, 2007	Assistant Professor 02.07.2008		100					4			PED
Mrs.J.Lydia	M.E Karunya University, 2006	Assistant Professor 20.05.2010		100					6			PED
E.Poovannan	M.E Sathyabama university ,2010	Assistant Professor 1/7/2012		100					-			VLSI
Mrs.K.A.Indusailaja	M.E Anna University, 2007	Assistant Professor 28.06.2010		100					2		√	PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mr.S M Sakthivel	M.Tech SRM University 2009	Assistant Professor 7/12/2010	25		75				-			VLSI
Mrs.T.Santhi	M.E Andhra University, 2008	Assistant Professor 15.12.2010	25	-	25	50			-			PS
Ms. J. Gayathri	M.E Anna university, 2007	Assistant Professor 02.01.2014		100					-			PED
Ms. V. Abirami	M.E **Anna University, 2010**	Assistant Professor 10.12.2010	25	-	25	50			-			EE
Mr. Arulvendhan.K	M.E Anna university, 2010	Assistant Professor 16.06.2014		100					-			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mr. Moovendan.M	M.Tech SRM University 2011	Assistant Professor 16.06.2014		100					-			ECE
Mr.P.Pushpakarthick	M.E **Anna University, 2010**	Assistant Professor 10.12.2010		100					3			PED
Mr. R. Augustian Isac	M.E Anna university 2007	Assistant Professor 02.1.2014		100					-			CSE
Mrs.S.Reeba	M.E **Anna University, 2010**	Assistant Professor 21.08.2012		100					-			PS
Mr. P.Srinivasan	M.E Sathyaba University 2010	Assistant Professor 16.06.2014		100					-			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.S.Angala Vaishnavi	M.E Sastra University, 2012	Assistant Professor 03.07.2013	25	-	25	50			-			PED
Ms. Vijayalakshmi.K	M.E Anna university, 2012	Assistant Professor 16.06.2014		100					-			ES
Mrs.K.Priyadharsini	M.E **Anna University, 2010**	Assistant Professor 16.06.2014		-		100			2			PED
Mr.V.Vijeesh	M.E **Anna University, 2011**	Assistant Professor 16.06.2014		100					2			PS
Mr. Veerendra Kumar.J	M.E Annamalai, 2009	Assistant Professor 16.06.2014		100					-			PS

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.R.Keerthana	M.E **Anna University, 2012**	Assistant Professor 16.06.2014		100					2			PED
Ms.C.K.Subasri	M.Tech **Anna University, 2014**	Assistant Professor 16.06.2014	50	-	-	50			-			CS

Academic Year 2013-2014

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution		Distribution of Teaching load (%)			Academic Research			Sponsored Research	Consultancy and product development	Specialization
				UG								
			1st Year	In program	Other program	PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
Dr.K.Kalai Selvi	Ph.D IIT Madras, 2013	Professor & Head 02.12.2013		100				Yes	3		√	VLSI
Dr. N.O. Gunasekhar	Ph.D **IISc Banglore, 1987**	Professor 18.03.2010				100		Yes	4			PED
Dr.R.Murugan	**Ph.D Anna University, 2011**	Professor 01.07.2013		100				Yes	7			EMT
Dr.K.Mala	**Ph.D IIT Madras, 2011**	Professor 28.06.2013		100					2			RE
Mrs.C.Umayal	M.E (Ph.D) **Anna University, 2005**	Asst Prof(Sl.Gr) 11.07.2005		100					3			SEM

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.A.JoselineMetilda	M.E (Ph.D) SRM University, 2007	AsstProf(Sl.Gr) 01.08.2001		100					4			PS
Mrs.Smilee Mathuram	M.E (Ph.D) Annamalai, 2000	AsstProf(Sl.Gr) 01.06.2000		100					4			PS
Mrs.M.Devabrinda	M.E(Ph.D) **Anna University, 2006**	AsstProf(Sl.Gr) 16.07.2007		100					4			PS
Mr.T.Chandrsekar	M.E(Ph.D) Bharathidasan, 2008	Asst. Prof(Sl.Gr) 17.06.2013		-		100			3			EE
Mrs.D.Chandrakala	M.E **Anna University, 2007**	Assistant Professor 16.06.2008		100					2			AE
Ms.M.Aruna	ME	Assistant		100					-			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
	Anna University 2010	Professor 26/7/2010										
Mr.K.V.Thilagar	M.E(Ph.D) Sathyabama Univ., 2007	Assistant Professor 02.07.2008		100					3			PED
Mrs.J.Lydia	M.E Karunya Univ., 2006	Assistant Professor 20.05.2010		100					1			PED
E.Poovannan	M.E Sathyabama university ,2010	Assistant Professor 1/7/2012		100					-			VLSI
Mr. A. Rajasekar	M.E **Anna University, 2009**	Assistant Professor 22.06.2010	25	-	25	50			2			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.K.A.Indusailaja	M.E Anna University, 2007	Assistant Professor 28.06.2010		100					2			PED
Mr. D. Siva Kumar	M.E Annamalai, 2009	Assistant Professor 02.1.2014		100					-			PS
Mr. R. Augustian Isac	M.E Anna university, 2007	Assistant Professor 02.1.2014		100					-			CSE
Mr.K. Zakir Hussain	M.E Anna University, 2009	Assistant Professor 28.06.2010	50	-		50			-			PS
Ms. V. Abirami	M.E Anna University, 2010	Assistant Professor 10.12.2010		100					1			EE

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mr.P.Pushpakarthick	M.E **Anna University, 2010**	Assistant Professor 10.12.2010		100					-			PED
Mrs.T.Santhi	M.E Andhra University, 2008	Assistant Professor 15.12.2010		100					-			PS
Mrs.S.Reeba	M.E **Anna University, 2010**	Assistant Professor 21.08.2012		100					-			PS
Mr.J.Harinarayanan	M.E **Anna Univ 2012**	Assistant Professor 21.08.2012	25	-	25	50			-			PED
Mr.S.Ramesh Prabhu	M.E **Anna University, 2012**	Assistant Professor 21.08.2012	50	-	-	50			1			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mr.J.Nandhagopal	M.E **Anna University, 2011**	Assistant Professor 17.06.2013		100					-			PED
Mr.R.Mohan	M.E **Anna University, 2007**	Assistant Professor 24.06.2013		100					-			PS
Mr.S M Sakthivel	M.Tech SRM University 2009	Assistant Professor 7/12/2010	25		75				-			VLSI
Mr.N.Saravanan	M.E **Anna Univ, 2008**	Assistant Professor 17.06.2013		100					-			AE
Mrs.V.Annie Prema	M.E Dr MGR University, 2012	Assistant Professor 03.07.2013		100					-			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution		Distribution of Teaching load (%)			Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.S.Angala Vaishnavi	M.E Sastra University, 2012	Assistant Professor 03.07.2013		100					-			PED
Ms. J. Gayathri	M.E Anna university, 2007	Assistant Professor 02.01.2014		100					-			PED

Academic Year 2012-2013

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Dr.A. Peer Fathima	**Ph.D Anna University, 2008**	Professor & Head 21.07.2009		100				Yes	2		√	PS
Dr. P. Arunapriya	**Ph.D SRM University 2011**	Professor 5/09/2012		100				Yes	-			NE
Dr. N.O. Gunasekhar	Ph.D **IIsc Banglore, 1987**	Professor 18.03.2010			`	100		Yes	2			PED
Mrs. S. Prathiba	**M.E Madurai Kamaraj., 1992**	Asst.Prof (Sl.Gr) 03.11.2004		100					2			PS
Mrs. C.Umayal	M.E (Ph.D) **Anna University,**	Asst Prof(Sl.Gr) 11.07.2005		100					2			SEM

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
	2005											
Mrs.A.Joselinemetilda	M.E (Ph.D) SRM University, 2007	Asstprof(Sl.Gr) 01.08.2001		100					2			PS
Mrs.Smilee Mathuram	M.E (Ph.D) Annamalai, 2000	Asstprof(Sl.Gr) 01.06.2000		100					4			PS
Mrs.M.Devabrinda	M.E(Ph.D) **Anna Univ. 2006**	Asstprof(Sl.Gr) 16.07.2007		100					2			PS
Mr. C. Gopinath	M.E., M.H.R.M Annamalai, 2004	Asst. Prof(Sl.Gr) 21.05.2010		100					2			PS
Mrs. N. Venkateswari	M.E **Anna University, 2005**	Assistant Professor 18.07.2007		100					-			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.D.Chandrakala	M.E **Anna University, 2007**	Assistant Professor 16.06.2008		100					3			AE
Mr.S M Sakthivel	M.Tech SRM University 2009	Assistant Professor 7/12/2010		100					-			VLSI
Mrs. D. Jayalakshmi	M.E **Anna University, 2008**	Assistant Professor 07.07.2008		100					1			PED
Mr.K.V.Thilagar	M.E(Ph.D) Sathyabama Univ., 2007	Assistant Professor 02.07.2008		100					2			PED
Mr. P. Balamurugan	M.E **Anna University, 2009**	Asst. Professor 26.06.2009		100					1			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.J.Lydia	M.E Karunya Univ., 2006	Assistant Professor 20.05.2010		100					1			PED
Ms.M.Aruna	ME Anna University 2010	Assistant Professor 26/7/2010		100					-			PED
Mr. H. Umesh Prabhu	M.E **Anna University, 2007**	Assistant Professor 31.05.2010		100					1			AE
Mrs.K.A.Indusailaja	M.E **Anna University, 2007**	Assistant Professor 28.06.2010		100					-			PED
Mr.K. Zakir Hussain	M.E **Anna University, 2009**	Assistant Professor 28.06.2010				100			1			PS

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
E.Poovannan	M.E Sathyabama university ,2010	Assistant Professor 1/7/2012		100					-			VLSI
Mr. A. Rajasekar	M.E **Anna University,2009**	Assistant Professor 22.06.2010	50			50			1			PED
Ms. V. Abirami	M.E **Anna University, 2010**	Assistant Professor 10.12.2010		100					1			EE
Mr. P. Marshall Arockia Dass	M.E **Anna University, 2010**	Assistant Professor 24.07.2010		100					2			PS
Mr.P.Pushpakarthick	M.E **Anna University, 2010**	Assistant Professor 10.12.2010		100					1			PED

Name of the faculty member 2014-2015	Qualification, university, and year of graduation	Designation and date of joining the institution	Distribution of Teaching load (%)				Academic Research			Sponsored Research	Consultancy and product development	Specialization
			1st Year	UG		PG	Faculty Receiving PhD during the assessment year	PhD Guidance	Research paper Publications			
				In program	Other program							
Mrs.T.Santhi	M.E Andhra University, 2008	Assistant Professor 15.12.2010	50			50			1			PS
Mrs.S.Reeba	M.E **Anna University, 2010**	Assistant Professor 21.08.2012		100					-			PS
Mr.J.Harinarayanan	M.E **Anna University, 2012**	Assistant Professor 21.08.2012	25		25	50			1			PED
Mr.S.Ramesh Prabhu	M.E **Anna University, 2012**	Assistant Professor 21.08.2012	25		25	50			1			PED
Mr. Periyasamy	M.E Anna university, 2009	Assistant Professor 21/8/2012		100					-			AE

ANNEXURE – III

SAMPLE SURVEY FORMS – FOR INDIRECT ASSESSMENT

Assessment tool:

A feedback form is designed collect feedback for improving the teaching learning process to evaluate the following categories in order to attain the course outcome (COs and POs)

a) Instructor evaluation for theory

b) Instructor evaluation for Laboratory

c) Student development assessment

d) Course outcomes

LEVEL OF ATTAINMENT		To a very great extent	To a great extent	To a moderate extent	To some extent	Not at all
PART A: INSTRUCTOR EVALUATION						
1	Instructor clearly stated the main objectives of the course.					
2	Instructor was available and helpful outside of class or during posted office hours.					
3	Instructor gave a clear presentation of the material.					
4	Instructor was well organized and made adequate preparation for class.					
5	Instructor was enthusiastic about teaching this class and invited questions and comments from students.					
6	Instructor related course material to real life situations and fostered development of your analysis and/or design abilities.					
7	Homework and other assignments (not including lab exercises) helped you understand the course material.					
8	The textbook, prepared lecture notes and/or computer teaching modules contributed to your learning.					

LEVEL OF ATTAINMENT		To a very great extent	To a great extent	To a moderate extent	To some extent	Not at all
9	The instructor is impartial in awarding marks.					
10	In general, the instructor taught this course effectively.					
PART B: EVALUATION OF LAB COURSES						
13	Instructor emphasized conceptual understanding of lab methods/procedures.					
14	Instructor gave a clear description of the lab exercises to be performed.					
15	The lab exercises increased your interest in the course material topics.					
16	The lab exercises enhanced your understanding of the course material topics.					
17	The lab increased your ability to solve engineering problems.					
18	The time spent in lab was used efficiently.					
19	The lab was well equipped for the exercises required.					
20	Lab or project class presentations were beneficial.					
PART C: STUDENT DEVELOPMENTASSESSMENT (PROGRAM OUTCOMES)						
21	An ability to apply knowledge of computing, mathematical foundations, algorithmic principles, and computer science and engineering theory in the modeling and design of computer – based systems to real-world problems.					
22	An ability to design and conduct experiments, as well as to analyze and interpret data.					
23	An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs, within realistic constraints such as economic, environmental, social, political, health and safety, manufacturability, and sustainability.					

LEVEL OF ATTAINMENT		To a very great extent	To a great extent	To a moderate extent	To some extent	Not at all
24	An ability to function effectively on multi-disciplinary teams.					
25	An ability to analyze a problem, and identify, formulate and use the appropriate computing and engineering requirements for obtaining its solution.					
26	An understanding of professional, ethical, legal, security and social issues and responsibilities.					
27	An ability to communicate effectively, both in writing and orally.					
28	The broad education necessary to analyze the local and global impact of computing and engineering solutions on individuals, organizations, and society.					
29	Recognition of the need for, and an ability to engage in continuing professional development and life-long learning.					
30	Knowledge of contemporary issues.					
31	An ability to use current techniques, skills, and tools necessary for computing and engineering practice.					
32	An ability to apply design and development principles in the construction of software and hardware systems of varying complexity.					
33	An ability to recognize the importance of professional development by pursuing postgraduate studies or face competitive examinations that offer challenging and rewarding careers in computing.					
PART D: COURSE OUTCOMES (CHECK THOSE OUTCOMES COVERED IN THIS COURSE): **Use "NAN for "Not Applicable" for items that do not apply to this course.**						
34	Use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, functions, and integers.					
35	Evaluate elementary mathematical arguments and identify fallacious reasoning (not just fallacious conclusions).					

LEVEL OF ATTAINMENT		To a very great extent	To a great extent	To a moderate extent	To some extent	Not at all
36	Synthesize induction hypotheses and simple induction proofs.					
37	Prove elementary properties of modular arithmetic and explain their applications in Computer Science, for example, in cryptography and hashing algorithms.					
38	Apply the method of invariants and well-founded ordering to prove correctness and termination of processes and state machines.					
39	Derive closed-form and asymptotic expressions from series and recurrences for growth rates of processes.					
40	Calculate numbers of possible outcomes of elementary combinatorial processes such as permutations and combinations.					

Assessment tool:

A feedback form is designed collect feedback for improving the teaching learning process to evaluate the following categories in order to attain the course outcome (COs and POs)

a) Overall evaluation of the programme

b) Overall evaluation of the training received

c) Student development assessment

d) Programme outcomes

Exit Interview Questionnaire

Part I

To what extent did each of the following contribute to:		
	Not at all	
		To some extent

			To a moderate extent			
				To a great extent		
					To a very great extent	
6	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How do you rate the training that you received in the mathematics and physics courses?
7	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How do you rate the overall training that you received?
8	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How did the Computer Science and Engineering faculty respond to your technical needs inside and outside of classrooms?
9	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How helpfully did the lab technicians respond to your needs?
10	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How did the course scheduling meet your time constraints?
11	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How do you feel the program prepared you for a Computer Science and Engineering career?
12	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How would you rate the student/faculty interaction in the program? Who was your favorite faculty? Why?
13	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How effective was the counseling from your CSE faculty advisor? Explain.
14	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How effective was the counseling from career guidance advisor? Explain.
15	☐	☐	☐	☐	☐	How would you rate the laboratory facilities? Explain.

	1	2	3	4	5	
16	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	How would you rate the classrooms and laboratory environment?

Part II: Outcomes

To what extent did each of the following contribute to:						
	Not at all					
		To some extent				
			To a moderate extent			
				To a great extent		
					To a very great extent	
a)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I have gained an in-depth knowledge of mathematics, including discrete mathematics, probability, statistics, science, computer science and engineering, electronic engineering and electrical engineering as it applies to computer hardware and software.
b)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I am able to design and conduct experiments, as well as to organize, analyze and interpret data.
c)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I am able to apply my engineering knowledge to design hardware and software systems, components, or processes to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
d)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I have the training necessary to work individually or as a member with responsibility to function on multi-disciplinary teams.
e)	☐	☐	☐	☐	☐	I have an ability to identify, formulate, and solve hardware and software

	1	2	3	4	5	computing problems, accounting for the interaction between hardware and software.
f)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I have had the opportunity to learn professional, legal, and ethical issues and responsibilities.
g)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I am able to communicate effectively in speech and in writing, including documentation of hardware and software systems.
h)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	Able to show the understanding of impact of engineering solutions in a global on the society, economic, environmental.
i)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I have an ability to acquire new knowledge in the computing discipline and to engage in life- long learning.
j)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I am able to analyze and design solutions to contemporary issues in the social sciences and the humanities using computational tools.
k)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I have had the opportunity to use the techniques, skills, and modern engineering tools necessary for computer engineering practice.
l)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I have had the opportunity to learn and apply engineering and management knowledge and techniques to estimate time and resources needed to complete a computer engineering project.
m)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	I am ability to recognize the importance of professional development by pursuing postgraduate studies or face competitive examinations that offer challenging and rewarding careers in computing.

Assessment tool:

A feedback form is designed collect feedback for improving the teaching learning process to evaluate the following categories in order to attain the course outcome (COs and POs)

a) Overall evaluation of the programme

b) Overall evaluation of the training received

c) Student development assessment

d) Programme outcomes

End Semester Project Work Evaluation

Part 1. Student's Project Work Award of Marks. Do not use "A", "B", "C", etc. , but a numerical score (e.g., 9 / 10 Marks), as indicated below:

Completeness of Project: / 10 Marks

Complexity of Project: / 10 Marks

Quality of Results: / 10 Marks

Quality of Final Report: / 10 Marks

Part 2. Student's Performance. Please **circle** a number (1 = Poor, 2 = Fair, 3 = Good, 4 = Very Good, 5 = Excellent) in response to the following questions about your student and your interaction with him/her either individually, or in a design group.

Note: Circling *NA* means that question is not applicable, or that you don't know:

1.	Applied knowledge of math, science, or engineering	:	1	2	3	4	5	NA
2.	Designed/conducted experiments or organized/processed data	:	1	2	3	4	5	NA
3.	Designed systems, components or processes to meet needs	:	1	2	3	4	5	NA
4.	Functioned on multidisciplinary team or interacted well with you	:	1	2	3	4	5	NA
5.	Was responsible, diligent, and ethical on this project	:	1	2	3	4	5	NA
6.	Used techniques, skills, and tools of modern engineering	:	1	2	3	4	5	NA
7.	Appeared to understand hardware-software interaction	:	1	2	3	4	5	NA

Placement Feedback Form

Part I: General Information and Training

	How satisfied were you with the practical arrangements made by the College for placement learning?	NAN	To a very great extent	To a great extent	To a moderate extent	To some extent	Not at all
1.	General Aptitude (Arithmetic)						
	Logical Reasoning						
	Computer Programming in C						
	Data Structures						
	Preparation for interviews						
	Mock Tests						
	Mock Interviews						
2.	How satisfied were you with the information provided by the College about the skills or knowledge expected to be gained to face campus recruitment?						
3.	How do you think that, the college is in a position to arrange job opportunities for all the interested and eligible students?						
4.	Does the college suggest corrective measures to non-eligible and interested students to make them employable?						
5.	Is the college inviting the Best rated IT Companies having various verticals for Campus Recruitments						
6.	To what extent the Language Lab is useful for enhancing Professional Communication Skills.						
7.	To what extent the Language Lab is useful for enhancing Professional Communication Skills.						
8.	Please now assign an overall number grade which most appropriately reflects						

	your level of satisfaction for your placement opportunity.						

Part II: Evaluation of Program Educational Objectives

Use "NAN for "Not Applicable" for items that do not apply to this course.

S. No.	Program Educational Objectives	NAN	To a very great extent	To a great extent	To a moderate extent	To some extent	Not at all
a)	**PEO1:**						
b)	**PEO2:**						
c)	**PEO3:**						
d)	**PEO4:**						
e)	**PEO5:**						
f)	Punctuality & attendance						
g)	Ability to work with others						
h)	Ability to learn and develop skills						
i)	Ability to manage problems and conflict						
j)	Creativity						
k)	Reliability						
l)	Written communication skills						
m)	Oral communication skills						
n)	Attention to detail						
o)	Initiative						

S. No.	Program Educational Objectives	NAN	To a very great extent	To a great extent	To a moderate extent	To some extent	Not at all
p)	Professionalism						
q)	Ability to accept and apply constructive feedback						
r)	Quality of work						
s)	Responds to challenges						
t)	Attitude to work						

Alumni Assessment Questionnaire

1.	What year did you graduate from Easwari Engineering College with your undergraduate _____				
	2015-14	2014-13	2013-12	2012-11	Other
2.	What is your current occupational status?				
	Employed Full-time	Employed Part-time	Not Employed	Self-Employed	Other
3.	Are you currently working in a computer science field?				
	Yes		No		
4.	How would you characterize your current position?				
	Engineering Applications	Technical	Research	Entrepreneurial	Management/ Administration	Other
5.	Where you are currently employed?				
	Hyderabad	Chennai	Bangalore	North India	Outside the India

6.	What is your current educational status?				
	Not currently enrolled in college	Full-time graduate student seeking a degree	Part-time graduate student seeking a degree	Other	
7.	Have you earned an advanced degree or certificate?				
	Masters degree in Computer Science field				
	Masters degree in a different engineering discipline				
	Masters degree in a discipline outside of engineering				
	Ph.D. in Computer Science field				
	Ph.D. in a different engineering discipline				
	Ph.D. in a discipline outside of engineering				
	Other				
8.	Have you pursued any type of professional and/or continuing education (Other than an advanced degree)?				
	Yes		No		
9.	List and indicate your level of involvement in any engineering, professional, and community organizations				
	Member	Committee Service	Other		
10.	Rate the overall quality of your EEC education.				
	Excellent	Good	Below Average	Poor	Unsure

11.	Would you recommend EEC to a friend or relative who is considering going to college?				
	Definitely Yes	Yes	No	Definitely No	Unsure
12.	Rate the overall quality of the Computer Science and Engineering programme at EEC				
	Excellent	Good	Below Average	Poor	Unsure
13.	If you had to do it over again, would you choose to pursue your higher education at EEC?				
	Definitely Yes	Yes	No	Definitely No	Unsure

Use the following scale to rate your progress in the following areas as a result of taking this IT Programme		**NAN**	**To a very great extent**	**To a great extent**	**To a moderate extent**	**To some extent**	**Not at all**
14.	Prepared me to apply knowledge of computing, mathematical foundations, algorithmic principles, and computer science and engineering theory in the modeling and design of computer-based systems to real-world problems **(fundamental engineering analysis skills).**						
15.	Prepared me to design and conduct experiments, as well as to analyze and interpret data **(information retrieval skills).**						
16.	Prepared me to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs, within realistic constraints such as economic, environmental,						

	social, political, health and safety, manufacturability, and sustainability **(Creative Skills)**.						
17.	Prepared me to work to function effectively on multi-disciplinary teams **(teamwork).**						
18.	Prepared me to analyze a problem, and identify, formulate and use the appropriate computing and engineering requirements for obtaining its solution **(engineering problem solving skills).**						
19.	An understanding of professional, ethical, legal, security and social issues and responsibilities **(professional integrity).**						
20.	Fostered my ability to communicate effectively, both in writing and orally **(speaking / writing skills).**						
21.	Prepared me to analyze the local and global impact of computing and engineering solutions on individuals, organizations, and society **(engineering impact assessment skills).**						
22.	Encouraged me to engage in continuing professional development and life-long learning **(continuing education awareness).**						
23.	Increased my awareness of contemporary issues (**social awareness**).						
24.	Prepared me to use current techniques, skills, and tools necessary for computing and engineering practice **(practical engineering analysis skills).**						
25.	Prepared me to apply design and development principles in the construction of software and hardware systems of varying complexity.						
26.	Prepared me to recognize the importance of professional development						

	by pursuing postgraduate studies or face competitive examinations that offer challenging and rewarding careers in computing.						

What were the major strengths and weaknesses of the _____ program?

27.	**Strengths**	
	Faculty / staff	
	Curriculum	
	Equipment / facilities / labs	
	Class size	
	Research opportunities	
	Development of technical knowledge / skills	
	Student programs / organizations	
	Practical applications / experiences	
	Teamwork	
	Development of independent thinking	
	Development of communication skills	
	No comment	
28.	**Weaknesses**	
	Course availability / curriculum	
	Equipment / facilities / labs	
	Faculty / staff	
	Practical / hands-on instruction	
	Development of communication skills	

	Career counseling	
	Development of technical writing skills	
	Presentation of contemporary issues	
	Presentation of ethical issues	
	No comment	
29.	**How could the program be improved?**	
	Improve: Course selection / curriculum	
	Improve: Equipment / facilities / labs	
	Improve: Professors	
	Improve: Hands-on / real-world / practical instruction	
	Improve: Contact with businesses via internships, visits, etc.	
	Improve: Job information / placement	
	Improve: Poor Students Welfare Funding	
	Improve: Public speaking experience	
	Improve: Promotion of EEC Engineering programs nationally	
	No comment	