SELF ASSESSMENT REPORT (SAR) FORMAT UNDERGRADUATE ENGINEERING PROGRAMS (TIER-II)

Submitted by

DEPARTMENT OF MECHANICAL ENGINEERING

ACHARYA INSTITUTE OF TECHNOLOGY

SOLADEVANAHALLI, BANGALORE – 560107

Date: 11.3.2019

SAR Contents

Part A: Institutional Information

1	**Name and Address of the Institution**	Acharya Institute of Technology Acharya Dr. Sarvepalli Radhakrishnan Road Achitnagar Post, Soladevanahalli, Bangalore - 560107
2	**Name and address of the affiliating university**	Visvesvaraya Technological University Jnana Sangam, Macche Belagavi-590018
3	**Year of establishment**	2000
4	**Type of 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 etc., if any

Table A.6

SL No	Name of the Institution(s)	Year of Establishment	Programs of Study	Location
1	Acharya Polytechnic	1991-92	Diploma in Engg.	Acharya Dr. Sarvepal Radhakrishnan Road Soladevanahalli, Achitnagar Post, Bangalore - 107
2	Acharya B M Reddy College of Pharmacy	1992-93	Pharmacy	
3	Smt. Nagarathnamma School of Nursing	2003-04	BSc. Nursing, M.Sc. Nursing	
4	Acharya College of Education	2004 - 05	Diploma in Elementary Education, B.Ed.	
5	Acharya Institute of Graduate Studies	2005 - 06	BA - JOURNALISM, MARKETING, BSc., MSc., BCA, BBM, B. Com, Com, MFA, MIB, BSc. - PCM, PMF, MA	
6	Acharya Pre University College	2005 -06	PCMB, PCMC, PCME, CEBA	
7	Acharya School of Management	2009 - 10	PGDM	
8	Acharya NRV School of Architecture	2009 -10	B. Arch	
9	Acharya School of Law	2014 -15	BA LLB, BBA LLB, LLB	
10	Acharya School of Design	2015 - 16	Bachelor of Visual Arts, Painting, Sculpture, Graphic Design, Product Design, Furniture Design, Interior	
11	Acharya Institute of Allied Health Sciences	2018 -19	BSc. Programs	

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

Table A.7

Sl. No.	Program Name	Name of the Department	Year of Start	Intake	Increase in intake, if any	Year of increase	AICTE Approval	Accreditation Status*
1	BE	Aeronautical Engg.	2011-12	60	-	-	Approved	Eligible but not applied
2	BE	Automobile Engg.	2011-12	60	-	-	Approved	Eligible but not applied
3	BE	Biotechnology	2002-03	30	60	2018-19	Approved	Provisionally Accredited from 2018 to 2020
4	BE	Civil Engg.	2009-10	60	120	2014-15	Approved	Applying first time
5	BE	Computer Science & Engg.	2000-01	60	90 120	2001-02 2011-12	Approved	Accredited for 3 years from 2009-2012 Not accredited vide visit dated 25th to 27th October 2013
6	BE	Construction Technology & Management	2011-12	60	-	-	Approved	Eligible but not applied
7	BE	Electrical & Electronics Engg.	2004-05	60	120	2012-13	Approved	Not accredited vide visit dated 25th to 27th October 2013
8	BE	Electronics & Communication Engg.	2000-01	60	90 120	2001-02 2012-13	Approved	Accredited for 3 years from 2008-2011 Not accredited vide visit dated 25th to 27th October 2013

Sl. No	Program Name	Name of the Department	Year of Start	Intake	Increase in intake, if any	Year of increase	AICTE Approval	Accreditation Status*
9	BE	Information Science & Engg.	2000-01	60	90 120	2001-02 2013-14	Approved	Accredited for 3 years from 2009-2012 Not accredited vide visit dated 25th to 27th October 2013
10	BE	Mechanical Engg.	2002-03	60	90 120	2009-10 2012-13	Approved	Accredited for 3 years from 2008-2011 Not accredited vide visit dated 25th to 27th October 2013
11	BE	Mechatronics Engg.	2009-10	60	-	-	Approved	Applying first time
12	BE	Manufacturing Science & Engg.	2013-14	60	-	-	Approved	Eligible but not applied
13	BE	Mining Engg.	2013-14	60	-	-	Approved	Eligible but not applied
14	Business Administration	MBA	2007-08	60	120 240	2011-12 2012-13	Approved	Eligible but not applied
15	Computer Applications	MCA	2007-08	60	120 240 120	2011-12 2012-13 2018-19	Approved	Applied and withdrawn vide visit dated 7th to 9th 2008
16	M.Tech.	Biotechnology	2010-11	18	-	-	Approved	Eligible but not applied
17	M.Tech.	Computer Network & Engg.	2012-13	18	-	-	Approved	Eligible but not applied
18	M.Tech.	Computer Science & Engg.	2011-12	18	24	2012-13	Approved	Eligible but not applied
19	M.Tech.	Cyber Forensics & Information Security	2014-15	18	-	-	Approved	Eligible but not applied

Sl. No	Program Name	Name of the Department	Year of Start	Intake	Increase in intake, if any	Year of increase	AICTE Approval	Accreditation Status*
20	M.Tech.	Digital Communications	2010-11	18	-	-	Approved	Eligible but not applied
21	M.Tech.	Machine Design	2011-12	18	-	-	Approved	Eligible but not applied
22	M.Tech.	Power System Engg.	2011-12	18	-	-	Approved	Eligible but not applied
23	M.Tech.	Product Design & Manufacturing	2013-14	18	-	-	Approved	Eligible but not applied

Granted provisional accreditation for 3 years (w.e.f. 19-07-2008)

Not accredited (25-27-10-2013)

8. Programs to- be considered for accreditation vide this application:

Table A.8

S. No.	Program Name
1	Civil Engineering
2	Computer Science & Engineering
3	Electronics & Communication Engineering
4	Mechanical Engineering
5	Mechatronics

9. Total number of employees in the institution:

A. Regular Employees (Faculty and Staff):

Table A.9(a)

Items	Gender	2018-2019		2017-2018		2016-2017	
		Min	Max	Min	Max	Min	Max
Faculty in Engineering	M	145	168	156	176	132	157
	F	83	100	78	96	68	89
Faculty in Maths, Science & Humanities	M	19	22	21	23	19	21
	F	12	12	10	12	6	14
Non-teaching staff	M	42	47	37	45	35	39
	F	24	27	23	29	25	31

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

Table A.9(b)

Items	Gender	2017-2018		2016-2017		2015-2016	
		Min	Max	Min	Max	Min	Max
Faculty in Engineering	M	Nil					
	F						
Faculty in Maths, Science & Humanities	M						
	F						
Non-teaching staff	M						
	F						

10. Total Number of undergraduate Engineering students

Item	2018-2019	2017-2018	2016-2017
Total no. of boys	3077	2907	3205
Total no. of girls	952	924	930
Total no. of students	4029	3831	4135

Total Number of Post graduate Engineering students.

Item	2018-2019	2017-2018	2016-2017
Total no. of boys	24	42	66
Total no. of girls	22	28	54
Total no. of students	46	70	120

Total Number of MBA students

Item	2018-2019	2017-2018	2016-2017
Total no. of boys	244	257	274
Total no. of girls	131	127	125
Total no. of students	375	384	399

Total Number of MCA students

Item	2018-2019	2017-2018	2016-2017
Total no. of boys	115	176	269
Total no. of girls	137	108	125
Total no. of students	252	235	394

11. Vision of the Institution:

Acharya Institute of Technology, committed to the cause of value-based education in all disciplines, envisions itself as a fountainhead of innovative human enterprise, with inspirational initiatives for Academic Excellence.

12. Mission of the Institution:

Acharya Institute of Technology strives to provide excellent academic ambiance to the students for achieving global standards of technical education, foster intellectual and personal development, meaningful research and ethical service to sustainable societal needs.

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

i. Name : Dr M.R. Prakash

Designation : Principal

Mobile No :9448864740

Email Id ; principalait@acharya.ac.in

ii. **NBA coordinator**

Name : Dr Gopinath S M

Designation : Professor & Head, Department of BT, IQAC-Coordinator

Mobile No :8660793877

Email Id ; gopinath@acharya.ac.in

PART B: Criteria Summary

CRITERION 1	VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES	60

1. VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (60)

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

Vision of the institute:

Acharya Institute of Technology, committed to the cause of value-based education in all disciplines, envisions itself as a fountainhead of innovative human enterprise, with inspirational initiatives for Academic Excellence.

Mission of the institute:

Acharya Institute of Technology strives to provide excellent academic ambiance to the students for achieving global standards of technical education, foster intellectual and personal development, meaningful research and ethical service to sustainable societal needs.

Vision of the department:

To develop globally competent mechanical engineers capable of working in an interdisciplinary environment, contributing to society through innovation, leadership and entrepreneurship.

Mission of the department:

1. To excel in teaching, research and innovation of products and processes.
2. To promote collaborative activities to contribute to the societal needs.
3. To imbibe leadership and entrepreneurial qualities.

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

Our graduates will be able to:

1. Exhibit sound technical knowledge.
2. Pursue a career in various sectors.
3. Exhibit leadership and entrepreneurial skills in fulfilling societal needs.
4. Pursue higher education and be a life-long learner.

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

Vision, mission statements of the institute/department and Program Educational Objectives (PEOs) are published and disseminated to all the stakeholders through:

- Institution website: https://www.acharya.ac.in
- Information brochures of the institute
- Faculty course plans mailed to students
- Display boards in the HOD room
- Department notice board
- Department newsletter
- Alumni survey forms
- Employee survey forms
- Course end survey forms
- Institute vision and mission statements displayed in internal assessment (IA) blue books

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

Process for defining the vision and mission of the department:

Vision and mission statements of the department are prepared in line with the institution's vision and mission statements by conducting brainstorming sessions involving all the faculty of the department and the inputs collected from the alumni, employers, parents and experts. Vision and mission statements prepared are further discussed in Department Advisory Board (DAB) and Department Advisory Committee (DAC) meetings and statements are verified by Internal Quality Audit Cell (IQAC). If any modifications are proposed, then the brainstorming sessions are conducted again, otherwise, the statements are finalized and published.

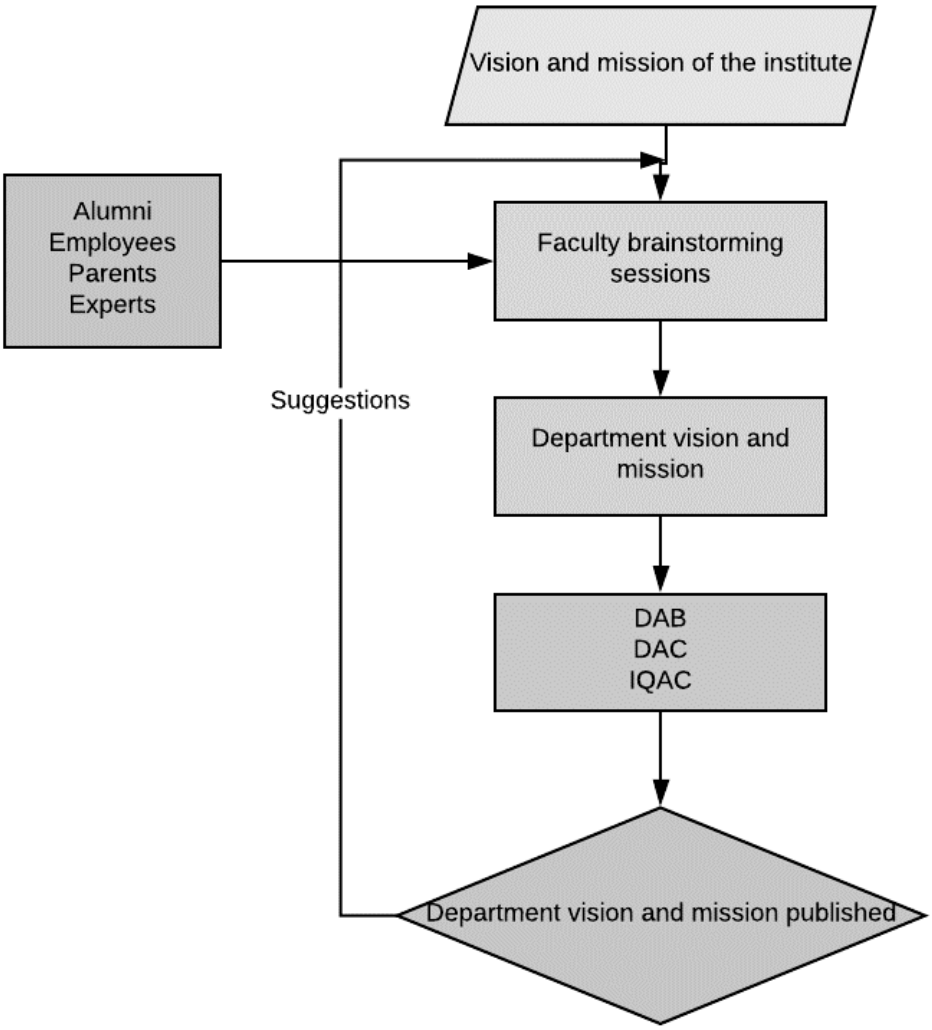


Fig. B.1.4(a): Process for establishing vision and mission of the department

Process for defining the PEOs:

Programme educational objectives are derived from the vision and mission statements of the institution and department by conducting faculty brainstorming sessions. Once the statements are prepared, approval is obtained by DAB, DAC, and IQAC. If any modifications are proposed, then the brainstorming sessions involving faculty members are conducted.

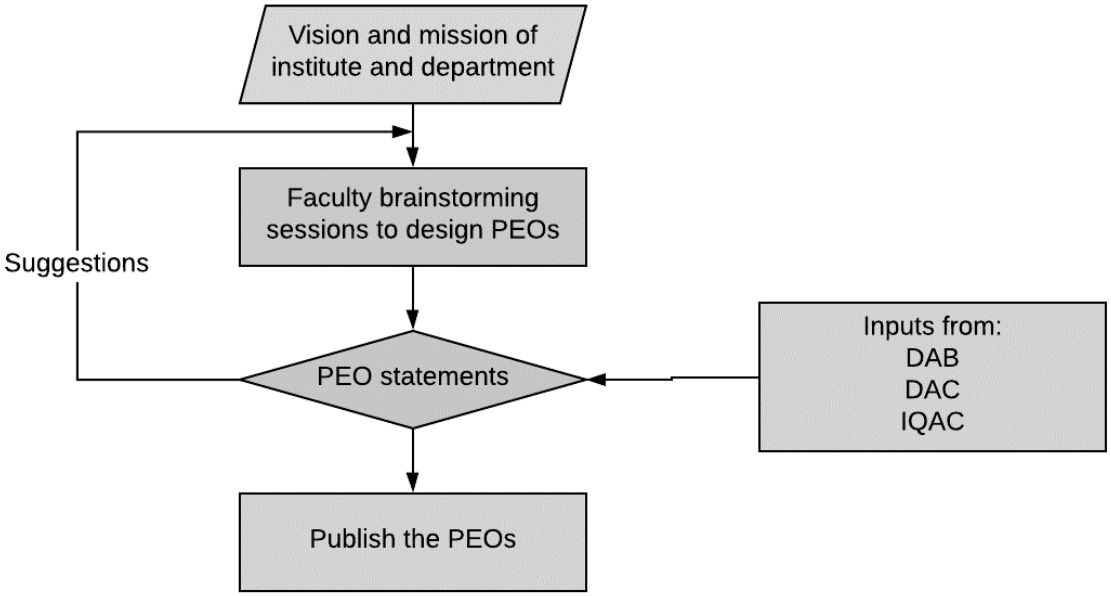


Fig. B.1.4(b): Process for establishing PEOs

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

Table B.1.5

PEO Statements	Teaching, Research and Innovation	Collaborative activities and society's need	Leadership and Entrepreneurship
	M1	M2	M3
PEO1: Exhibit sound technical knowledge.	3	2	1
PEO2: Pursue a career in various sectors.	2	2	2
PEO3: Exhibit leadership and entrepreneurial skills in fulfilling societal needs.	1	2	2
PEO4: Pursue higher education and be a life-long learner.	2	2	2

CRITERION 2	PROGRAM CURRICULUM AND TEACHING – LEARNING PROCESSES	120

2. PROGRAM CURRICULUM AND TEACHING – LEARNING PROCESSES (120)

2.1 Program Curriculum (20)

2.1.1 State the process used to identify the extent of compliance of the university curriculum for attaining the program outcomes and program specific outcomes as mentioned in Annexure I. Also mention the identified curricular gaps, if any (10)

This institute is affiliated to Visvesvaraya Technological University (VTU), Belagavi. The course curriculum of Mechanical Engineering is framed by the board of studies in mechanical engineering of VTU. it is approved in its academic council and executive council.

Following institutional processes are used to identify the extent of compliance of University curriculum for attaining the POs and PSOs:

1. Revisiting course outcomes for each subject.
2. Mapping each Course Outcome with POs and PSOs.
3. Analysis of gaps on the mapping of Course outcomes to POs.
4. Discussion of gaps in the Departmental Academic Committee (DAC) and Department Advisory Board (DAB) meeting. The content beyond syllabus is identified accordingly to bridge the gap.
5. These contents are delivered to the students through Guest lecturers/Workshops/Industrial visits etc.

Table B.2.1.1(a): Course mapping for POs

Curriculum			Program Outcomes (POs)											
Sl. No.	Course Name	Course Code	1	2	3	4	5	6	7	8	9	10	11	12
1st SEM														
1	Engg Mathematics-I	10MAT11	✓	✓										
2	Engg physics	10PHY12	✓	✓										✓
3	Elements of Civil Engg	10CIV13	✓	✓	✓									✓
4	Elements of Mechanical Engg	10EME14	✓											✓
5	Basic Electrical Engineering	10ELE15	✓	✓										✓
6	Workshop Practices Lab	10WSL16	✓								✓	✓		✓
7	Engg Physics Lab	10PHYL17	✓	✓	✓						✓	✓		
8	Constitution of India and Professional Ethics	10CIP18								✓				✓
2nd SEM														
9	Engg Mathematics-II	10MAT21	✓	✓										
10	Engg Chemistry	10CHE22	✓											✓
11	C Programming for Problem Solving	10CCP23	✓	✓	✓		✓							✓
12	Computer Aided Engg Drawing	10CED24	✓	✓	✓		✓					✓		✓
13	Basic Electronics	10ELN25	✓	✓	✓									
14	C Programming Laboratory	10CPL26	✓	✓	✓	✓					✓	✓		
15	Engg chemistry Lab	10CHEL27	✓	✓							✓	✓		✓
16	Environmental Studies	10CIV28	✓					✓		✓				

Curriculum			**Program Outcomes (POs)**											
Sl. No.	Course Name	Course Code	1	2	3	4	5	6	7	8	9	10	11	12
3rd SEM														
17	Engg Mathematics-III	10MAT31	✓	✓										
18	Material Science and Metallurgy	10ME32A	✓	✓										✓
19	Basic Thermodynamics	10ME33	✓	✓										✓
20	Mechanics of Materials	10ME34	✓	✓										✓
21	Manufacturing Process-I	10ME35	✓											✓
22	Computer Aided Machine Drawing	10ME36A	✓					✓					✓	✓
23	Metallography and Material Testing Lab	10MEL37 A	✓				✓	✓				✓	✓	✓
24	Foundry and Forging Lab	10MEL38 A	✓				✓					✓	✓	✓
4th SEM														
25	Engg Mathematics-IV	10MAT41	✓	✓										
26	Mechanical Measurements and Metrology	10ME42	✓				✓							✓
27	Applied Thermodynamics	10ME43	✓	✓										✓
28	Kinematics of Machines	10ME44	✓	✓	✓									✓
29	Manufacturing Process-II	10ME45	✓	✓	✓									✓
30	Fluid Mechanics	10ME46B	✓	✓										✓
31	Mechanical Measurements and Metrology Lab	10MEL47 B	✓				✓					✓	✓	
32	Machine Shop	10MEL48 B	✓				✓					✓	✓	✓

Curriculum			**Program Outcomes (POs)**											
Sl. No.	Course Name	Course Code	1	2	3	4	5	6	7	8	9	10	11	12
5th SEM														
33	Management and Entrepreneurship	10ME51	✓									✓	✓	✓
34	Design of Machine Elements-I	10ME52	✓	✓	✓									✓
35	Energy Engineering	10ME53	✓	✓										✓
36	Dynamics of Machines	10ME54	✓	✓										
37	Manufacturing Process-III	10ME55	✓	✓			✓					✓		✓
38	Turbomachines	10ME56	✓	✓										✓
39	Fluid Mechanics and Machines Lab	10MEL57	✓	✓							✓	✓		✓
40	Energy Lab	10MEL58	✓	✓							✓	✓		✓
6th SEM														
41	Computer Integrated Manufacturing	10ME61	✓	✓	✓	✓								✓
42	Design of Machine Elements-II	10ME62	✓	✓	✓									✓
43	Heat and Mass Transfer	10ME63	✓	✓	✓									✓
44	Finite Element Methods	10ME64	✓	✓	✓									✓
45	Mechatronics and Microprocessor	10ME654	✓	✓										✓
46	Non-Traditional Machining	10ME664	✓	✓										✓
47	HMT Lab	10MEL67	✓	✓							✓	✓		✓
48	CAMA Lab	10MEL68	✓	✓							✓	✓		✓

Curriculum			Program Outcomes (POs)											
Sl. No.	Course Name	Course Code	1	2	3	4	5	6	7	8	9	10	11	12
7th SEM														
49	Economics	10ME71	✓	✓	✓									✓
50	Mechanical Vibrations	10ME72	✓	✓										✓
51	Hydraulics and Pneumatics	10ME73	✓	✓										✓
52	Operation Research	10ME74	✓	✓										✓
53	Total Quality Management	10ME758	✓											✓
54	Product Life cycle Management	10ME769	✓											✓
55	Design Lab	10MEL77	✓	✓							✓	✓		✓
56	CIM Lab	10MEL78	✓			✓					✓	✓		✓
8th SEM														
57	Operations Management	10ME81	✓	✓		✓							✓	✓
58	Control Engineering	10ME82	✓	✓	✓									✓
59	Powerplant engineering	10ME833	✓	✓										✓
60	Automotive Engineering	10ME844	✓	✓										✓
61	Project Work	10MEL85	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
62	Seminar	10MEL86	✓	✓							✓	✓		✓
Total			**61**	**46**	**16**	**10**	**6**	**2**	**1**	**3**	**16**	**20**	**3**	**52**
PERCENTAGE			**98**	**74**	**26**	**16**	**10**	**3**	**2**	**5**	**26**	**32**	**5**	**84**

The mapping of courses with the corresponding POs are shown, it is found that PO1 to PO4 are mostly mapped with all the courses. The gaps are identified in the curriculum to attain PO5 to PO11.

Program Specific Outcomes (PSOs):

1. Determine the performance of a given mechanical component or a system using computational tools.
2. Design mechanical systems including drives, energy conversion systems (IC engines, turbomachines, and power plant components), RAC and fluid power systems along with their embedded controllers as per specifications.
3. Select, plan, and implement the process for manufacturing mechanical elements and for assembly of mechanical subsystems and systems.
4. Optimize the use of resources and processes, using managerial techniques, ICT tools and life cycle management for a safe environmentally friendly system for sustainable society.

The detailed PSO mapping with courses is shown in Table B.2.1.1(c).

Table B.2.1.1(c): Courses mapped for PSOs

Curriculum			**Program Specific Outcomes (PSOs)**			
Sl. No.	**Course Name**	**Course Code**	**1**	**2**	**3**	**4**
1st semester						
1	Engg Mathematics-I	10MAT11	✓			
2	Engg. Physics	10PHY12	✓			
3	Elements of Civil Engineering and Engineering Mechanics	10CIV13	✓			
4	Elements of Mechanical Engineering	10EME14	✓			
5	Basic Electrical Engineering	10ELE15	✓			
6	Workshop Practice	10WSL16	✓			
7	Engg. Physics Lab	10PHYL17	✓			
8	Constitution of India and Professional Ethics	10CIP18				✓
9	Engg Mathematics-II	10MAT21	✓			

2nd semester						
Sl. No.	**Course Name**	**Course Code**	**1**	**2**	**3**	**4**
10	Engg. Chemistry	10CHE22		✓		
11	Computer Concepts and C Programming	10CCP23				✓
12	Computer Aided Engineering Drawing	10CED24		✓	✓	
13	Basic Electronics	10ELN25		✓		
14	Computer Programming Lab	10CPL26				✓
15	Engg. Chemistry Lab	10CHEL27		✓		
16	Environmental Engineering	10CIV28				✓
3rd semester						
17	Engg Mathematics-III	10MAT31	✓	✓		
18	Material Science and Metallurgy	10ME32A	✓		✓	✓
19	Basic Thermodynamics	10ME33	✓	✓		
20	Mechanics of Materials	10ME34	✓	✓		
21	Manufacturing Process-I	10ME35	✓		✓	
22	Computer Aided Machine Drawing	10ME36A	✓		✓	
23	Metallography and Material Testing Lab	10MEL37A	✓		✓	
24	Foundry and Forging Lab	10MEL38A	✓		✓	
4th semester						
25	Engg Mathematics-IV	10MAT41	✓	✓		
26	Mechanical Measurements and Metrology	10ME42			✓	
27	Applied Thermodynamics	10ME43	✓	✓		
28	Kinematics of Machines	10ME44	✓	✓		
29	Manufacturing Process-II	10ME45	✓	✓		
30	Fluid Mechanics	10ME46B		✓		
31	Mechanical Measurements and Metrology Lab	10MEL47B			✓	
32	Machine Shop	10MEL48B			✓	

Sl. No.	Course Name	Course Code	1	2	3	4
5th semester						
33	Management and Entrepreneurship	10ME51				✓
34	Design of Machine Elements-I	10ME52		✓	✓	
35	Energy Engineering	10ME53	✓	✓		
36	Dynamics of Machines	10ME54	✓	✓		
37	Manufacturing Process-III	10ME55	✓	✓		
38	Turbomachines	10ME56	✓	✓		
39	Fluid Mechanics and Machines Lab	10MEL57	✓	✓		
40	Energy Conversion Lab	10MEL58	✓	✓		
6th semester						
41	Computer Integrated Manufacturing	10ME61	✓		✓	
42	Design of Machine Elements-II	10ME62	✓	✓	✓	
43	Heat and Mass Transfer	10ME63	✓	✓		
44	Finite Element Methods	10ME64	✓	✓		
45	Mechatronics and Microprocessor	10ME654			✓	
46	Non-Traditional Machining	10ME664			✓	
47	Heat and Mass transfer lab	10MEL67	✓	✓		
48	CAMA Lab	10MEL68	✓	✓		

Sl. No.	Course Name	Course Code	1	2	3	4
7th semester						
49	Economics	10ME71				✓
50	Mechanical Vibrations	10ME72	✓	✓	✓	
51	Hydraulics and Pneumatics	10ME73		✓	✓	
52	Operation Research	10ME74				✓
53	Total Quality Management	10ME758				✓
54	Product Life cycle Management	10ME769				✓
55	Design Lab	10MEL77	✓	✓	✓	
56	CIM and Automation Lab	10MEL78				
8th semester						
57	Operations Management	10ME81	✓			✓
58	Control Engineering	10ME82	✓	✓		
59	Power Plant engineering	10ME833	✓	✓		
60	Automotive Engineering	10ME844	✓	✓		
61	Project Work	10MEL85	✓	✓	✓	✓
62	Seminar	10MEL86			✓	✓
	TOTAL		**39**	**36**	**23**	**19**
	PERCENTAGE		**62.9**	**58.1**	**37.1**	**30.6**

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

The following are the means and methods used to identify the extent of compliance of the university curriculum for attaining the program outcomes:

1. Technical Talk
2. Workshops
3. Guest Lectures
4. NPTEL videos
5. Course materials

CAYM1 - 2017-2018

Table B.2.1.2(a): Courses mapped for POs and PSOs

Sl. No.	Gap	Action Taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Studies in Overseas	Guest Lecture	20.2.2018	17 foreign Universities	Pre-final Year students	PO7, P012
2	Bio-Fuel	Guest Lecture	20.11. 2017	Mr. S N Sondur, Principal Scientific Officer –Bio-fuel Cell, KSCST, Bengaluru	54	PO3, PO4, PO7, PSO4
3	Vehicle Designing and Engine Fundamentals	Workshop	21-23. 9.2017	Mr. Rajat, Mr. Nitin and Mr. Sourabh, Sun Fox Technologies Pvt Ltd, Dehradun	97	PO3, PO4, PO5, PO12, PSO2
4	Advanced Technology in CFD and Thermal Engineering	Technical Talk	23.8.2017	Mr. Krishna Prasad A, Senior Application Engineer@ DHIO, Bengaluru	85	PO3, PO4, PO5, PSO2
5	Higher studies PSU jobs	Guest Lecture	23.8.2017	Mr. Jayaprakash Rao, Ex-service men, IT department, Mr. Bharath, Manager, bvani Institute, Bengaluru	80	PO7, PO12, PSO4
6	Entrepreneurship Awareness camp	Training Program	26-28 .10.2017	Krishnamurthy R President, Peenya Industries Association	100	PO7, PO8, PO9, PO11, PO12, PSO4

CAYM1 - 2016-2017

Table B.2.1.2(b): Courses mapped for POs and PSOs

Sl. No.	Gap	Action Taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Industrial exposure for final year engineering for a better career	Technical Talk	13.05.2017	Shrinivas. S, Head, Engineering Services, Axil Consulting Enggrs	90	PO3, PO5, PO6, PO9, PSO4
2	Cutting tools and its terminologies, FEM, CAD/CAM, automation	Guest Lecture	11.11.2016	Mr. Shivaprakash, Manager, CAM/Automation, Kennametal, India Ltd	93	PO3, PO5, PO7, PO12, PSO3
3	Solar Power generation	Guest Lecture	17.09.2016	Mr. Anil Kumar, sabaji, CEO & Technical Director, TERRASERVE, Bengaluru	67	PO3, PO4, PO12, PSO2

CAYM1 - 2015-2016

Table B.2.1.2(c): Courses mapped for POs and PSOs

Sl. No.	Gap	Action Taken	Date-Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Enterprise Resource Planning (ERP)	Guest Lecture	25.03.2016	Mr. Virupaksha.H.S, DGM, Information systems and planning, ACE Manufacturing, Bengaluru.	76	PO7, PO8, PO9, PO11, PSO3, PSO4
2	Design Failure Mode Analysis	Guest Lecture	25.03.2016	Mr. Kumarappa, SM, Design Machining solution group, WIDMA Machine Tool, Kennametal India Ltd.	83	PO2, PO3, PO4, PO5, PO12, PSO2
3	Influence, Inspire and impact	Guest Lecture	14.09.2015	Mr. Subash.K.C, President, World Meritt India, Founder & Director, Credence Robotics, CAE inspiration Unlimited E-Magazine	80	PO8, PO9, PO10, PSO4
4	Emerging Trends in Metal Forming and Heat Treatment	Workshop	23rd - 24th July 2015	SERB, Advancement in metal forming	50	PO3, PO4, PO5, PO12, PSO3

2.2 Teaching – Learning Processes (100)

2.2.1 Describe processes followed to improve quality of teaching & learning (25)

The administrative process is shown in Fig. B.2.2.1.

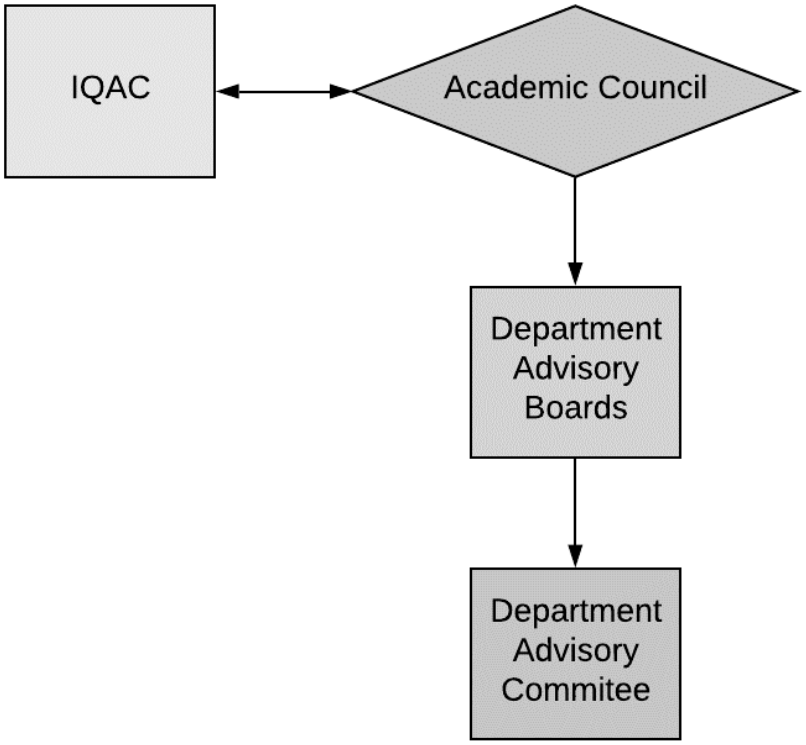


Fig. B.2.2.1(a): Curriculum administrative hierarchy

1. **Academic council:** Academic council is the apex body of Acharya Institute of Technology. It is headed by the principal and all head of the departments are its members. It meets regularly to discuss all the university related issues and the academic activates of the institute. The decisions of the academic council are brought to the notice of all faculty and students through head of the departments for effective implementation.
2. **Departmental Advisory Board:** Departmental Advisory Board is headed by HOD, experts from industries, academics and senior faculties. The board meets once in a semester to discuss and give an action plan to the academic delivery.

3. **Departmental Academic Committee:** Departmental Academic Committee is headed by HOD. Module coordinators among the faculties are the members. The DAC reviews academic calendar, course outcomes, lesson plans, course materials, and monitors the internal assessment processes.

Dept. of Mechanical Engineering
Department Academic Council Meeting
MINUTES OF THE MEETING HELD ON 6/6/2016

Meeting No: 1/2016-17

Venue: HOD Chamber, Dept of ME, Acharya Institute of Technology — Time: 2.30 – 5.00 PM

Deliberations and Outcomes:

Agenda Item	Item Brief	Item Notes	Approvals / Actions	Action by Who / By Date
1	Student Performance issues	**Possible Measures for Improving Student performance:** 1. HOD and members discussed about the training of students in all areas of the industry requirement 2. Discussed about performance of students in the university examinations 3. Members, debated on placement issues and performance evaluation of students.		Principal/HoD/Facul

Fig. B.2.2.1(b): DAC minutes of the meeting

4. **Internal quality monitoring:** The Internal Quality Assurance Cell is headed by Principal with External academic Experts, senior faculty members, a student representative and Alumni representatives as its members. The committee reviews and gives guidelines in academic matters. IQAC Steering Committee is headed by the principal, the senior faculty and a convener. This committee meets periodically and formulates the policies and guidelines. It also undertakes the TLP audit. IQAC steering committee periodically reviews the findings in TLP audits and reports the progress/performance to the IQAC cell. IQAC Core Committee consists of IQAC Steering Committee and Heads of various departments. This committee monitors the academic process. The lesson plan and course material are prepared by all the faculty members for both theory and laboratory courses are monitored by the TLP audit.

For effective delivery of the curriculum the institution is practising and has implemented the following:

1. For teaching – learning activity, the required ambience is created in all the class, rooms and laboratories.
2. Well prepared lesson plans are communicated to the students through e-mail at the beginning of the semester.
3. Experts are invited from industry and academia to deliver invited talks in the relevant fields of the cutting-edge technologies.
4. Institute has provided the requisite internet and Wi-Fi connectivity.
5. Adequate library facilities are provided with regular additions of books, journals and remote access facilities of VTU e-journals consortia and other e-resources using EZ proxy24x7.
6. Students are exposed to projects and are given the opportunity to contribute to the successful completion of the same.
7. Students are also supported financially by Karnataka State Council for Science and Technology for innovative projects.
8. Soft skill training programs, company-specific training, pre-placement training etc. and domain training programs such as ethical hacking. Tools usage such as FEMAP, ANSYS, CADEM, MATLAB Programming, geometric dimensioning and tolerance are organized.
9. The heads of the departments in their regular faculty meetings plan, methodologies of the curriculum, delivery and other course activities incorporated in the Calendar of Events.

The institution has developed strong linkages with reputed industries, recognized research bodies and foreign universities for mutual benefit.

1. Advisory board members of the department are from industries and academia who will contribute to the development and effective implementation of the curriculum.
2. With the support of the industries, internship and training are being provided to the students
3. Project / industrial visits are arranged for the students
4. Recent developments in all the engineering fields are updated to the students and faculty by the experts invited from the recognized sectors
5. Institute encourages to have MOUs with Industries and Industries and universities
6. The institution placement cell has developed a very good network with representatives of the industries to enhance the placement opportunities for the benefit of our students.
7. Academic-related programs are conducted by the industries at the AIT campus.
8. Institute has academic collaboration with foreign universities, R & D organizations and industry.

Mechanism of TLP

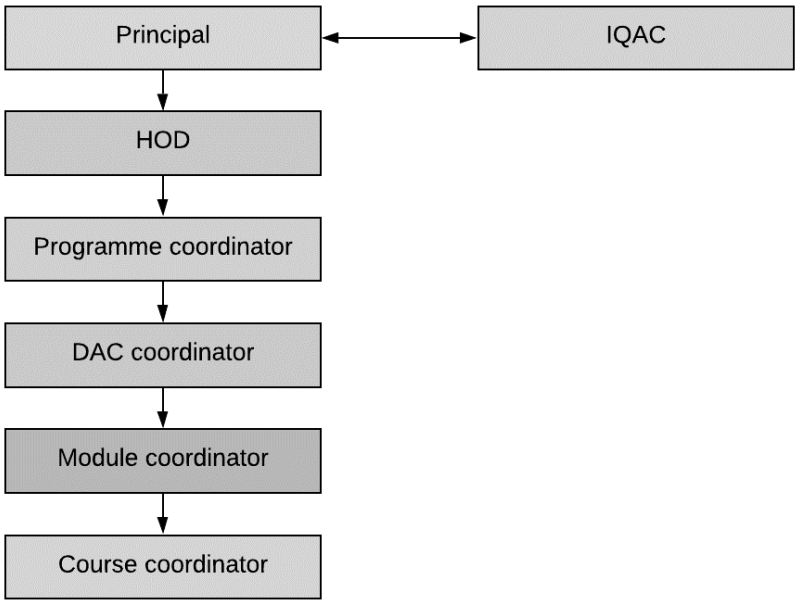


Fig. 2.2.1(c): Institutional mechanisms to review the teaching-learning process

The academic calendar is shown in Fig. 2.2.1(a).

Acharya Institute of Technology
Acharya Dr. Sarvepalli Radhakrishnan Road, Bangalore-560107
Academic Calendar for Odd Semester 2017-18

NOVEMBER — Page 05

DAY	DATE	DEPARTMENT ACTIVITY	COLLEGE ACTIVITY
WED	1	Kannada Rajyotsava	
THU	2		
FRI	3		
SAT	4		
SUN	5	Holiday	
MON	6		
TUE	7	World cancer awareness Day	
WED	8		
THU	9		
FRI	10		
SAT	11	Finalisation of elective of even sem 17-18	
SUN	12	Holiday	
MON	13		
TUE	14	Submission of final attendance	Children's Day
WED	15	III internal Test for I , Iii, V, VII sem BE / III, V sem MCA	
THU	16		Submission of final syllabus coverage
FRI	17		Library Committee Meeting
SAT	18	3rd Saturday	
SUN	19	Holiday	
MON	20	*Guest Lecture*	
TUE	21		
WED	22		
THU	23		
FRI	24	Subject allotment for even semester	Completion of internship for III sem MTech
SAT	25	Last working day for the I,III, V, VII sem BE and III & V sem MCA, III MTech classes Parent's Teachers Meeting — Academic Council Meeting	
SUN	26	Holiday	
MON	27		NSS meeting
TUE	28	Last day for submission of intrenship report by III sem M Tech.	

Fig. 2.2.1(a): Departmental Academic Calendar

1. The course lesson plan is prepared by the individual course instructor (faculty) and is verified by DAC.
2. Course lesson plan gives a detailed layout of the teaching plan which helps the faculty to plan their time to complete the syllabus and help the student to be aware of the topics being covered in the respective lecture hours.
3. Students are communicated with the lesson plan along with the course objectives and course outcomes, before the commencement of the semester.
4. Teaching-learning process is monitored by DAC. The TLP audit is carried out on a regular basis by the Steering committee of IQAC.
5. Feedback from the students is obtained at the end of the semester. The feedback is shared with the faculty. In case of unsatisfactory feedback, the faculty is counselled

to improve the performance. He/she is monitored by a senior faculty in the ensuing semester.

6. Based on the performance in the internal assessment test, the students are identified as fast/slow learners.
7. Every semester, the one-week in-house faculty development programme is conducted to improve the teaching style of the faculty by seeking the suggestions from senior faculty members of the department.
8. Domain training for the students accompanied by the faculty members is conducted by experts from the industry. This gives an exposure to the industrial requirements and practical training for the students and the faculty as well.

Initiatives and implementation details of encouraging weak and bright students:

1. The regularity of student in attendance, grasping and performance in the internal assessment are the parameters to classify slow and fast learners.
2. The course instructor will have discussion and clarification for better learning individually or collectively.
3. Course instructor/proctors/class teachers help slow learners with personal counselling and provide necessary support to learn.
4. Fast learners are given assignments which are graded or initiated to learn by experience, participate in technical events, and take up competitive exams.
5. The department library provides books to prepare for competitive exams.

The performance in the competitive examination is shown in Table B.2.2.1(b).

Table B.2.2.1(b): Consolidated list of students clearing competitive exams

Year	IELTS	GRE	GATE	CAT	TOEFL/IBT
2017-2018	2	-	-	-	-
2016-2017	2	1	1	1	1
2015-2016	-	1	3	-	1

Table B.2.2.1(c) shows the participation in various academic activities.

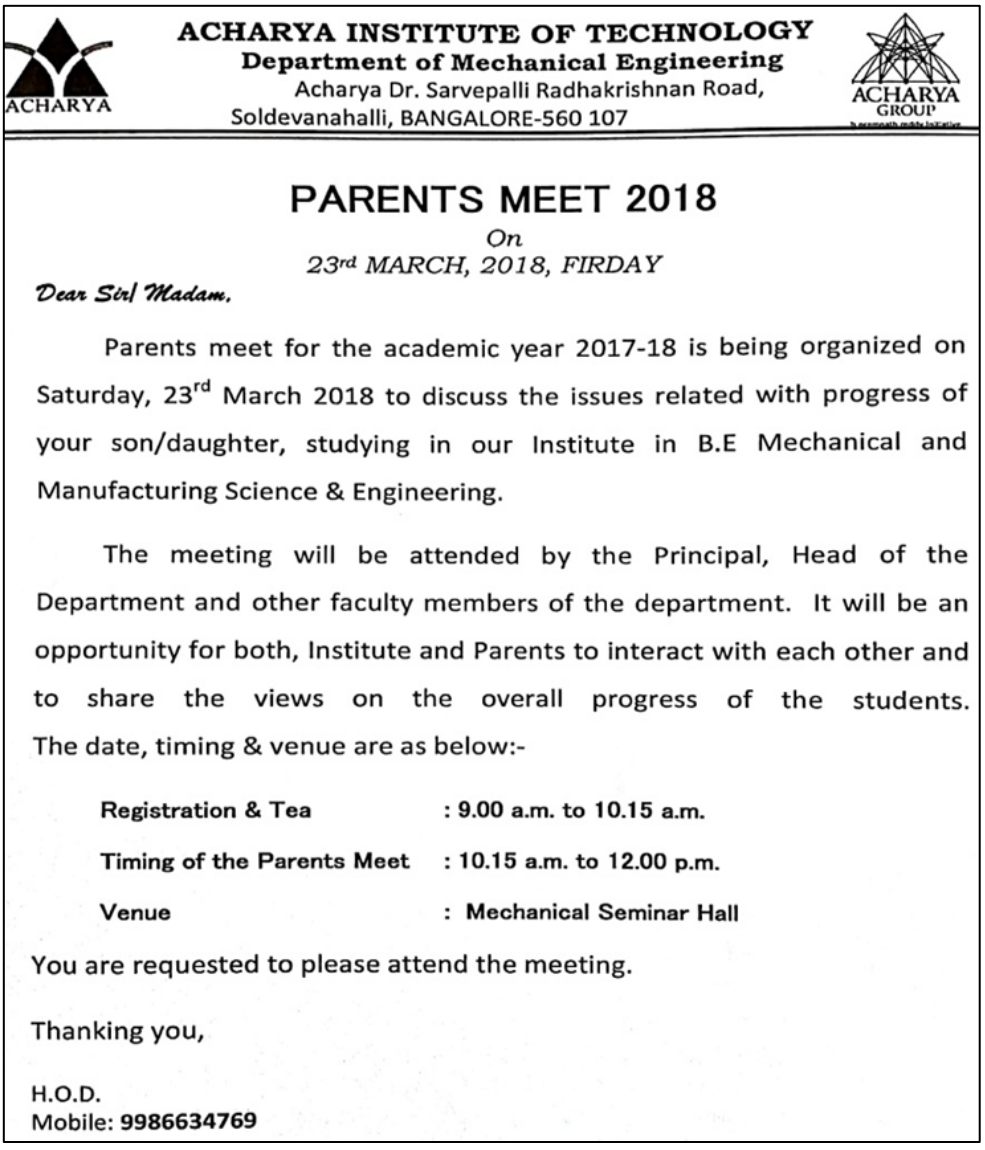
Table B.2.2.1(c): List of students' performances in various events

Sl. No.	Event	Date	Name of the students	Place	Impact
2018-19					
	Model Exhibition at KRISHI MELA-2018	15th – 17th November 2018	Vallabh V Kulkarni, Raghavendra V Bhat, Ujjwal Bhandari and Arpit Bajpai	Bangalore	Participation in state level exhibition,
2017-18					
1	Paper Publication Dehumidification of Atmospheric Air for Water Production.	April 2018	Vinay M V 1AY14ME116), Suman A 1AY14ME103,	Bangalore	Paper Publication in IJIRSET, Vol. 7, Issue 4, Pages-3810-3813
2	CADD QUEST 2018	January 2018	MR. KUMAR RAMA NAIK	CADD CENTRE	winner of cash price of Rs.5000
3	IMTEX FORMING 2018 Exhibition	25th - 30th Jan 2018	Mr. Ravikumar S, Mr.Suraj	Bangalore	exhibiting their research work
4	Indian Engineering Olympiad – 2018	25th February 2018	students of 2nd, 3rd and 4th year engineering	Bangalore, Acharya IT	Participation in National level aptitude test
5	Anveshana Competition	January 2018	Mr. Ravikumar S - 4th sem and Mr. Suraj R- 4th sem	Bangalore	selected for the final competition
6	Robotics and 3D printing 2 days' workshop	14th and 15th September 2017	Mr. Nashid, Mr. Ankush Dahiya, Mr. Tippu Sulthan and Mr. Dishant	Sri Saptagiri Pre-University College, Tumkur	Organized workshop by students
7	Engineeria'17	22nd sept 2017	10 students	CADD centre	Selected for next round
8	SAE-BAJA		Team Race Physics		cleared the virtual round

Parent-teacher meetings:

1. Parent-teacher meetings are coordinated by the proctor coordinator of the department.
2. The meeting is conducted once in a semester, and student performance is discussed with parents. Any special requirements are investigated and followed up.
3. Informal parent-teacher meeting happens as and when necessary.

Sample note of parent meeting is shown in Fig. B.2.2.1(e).



ACHARYA INSTITUTE OF TECHNOLOGY
Department of Mechanical Engineering
Acharya Dr. Sarvepalli Radhakrishnan Road,
Soldevanahalli, BANGALORE-560 107

ACHARYA

ACHARYA GROUP

PARENTS MEET 2018

On
23rd MARCH, 2018, FIRDAY

Dear Sir/ Madam,

Parents meet for the academic year 2017-18 is being organized on Saturday, 23rd March 2018 to discuss the issues related with progress of your son/daughter, studying in our Institute in B.E Mechanical and Manufacturing Science & Engineering.

The meeting will be attended by the Principal, Head of the Department and other faculty members of the department. It will be an opportunity for both, Institute and Parents to interact with each other and to share the views on the overall progress of the students. The date, timing & venue are as below:-

Registration & Tea	**: 9.00 a.m. to 10.15 a.m.**
Timing of the Parents Meet	**: 10.15 a.m. to 12.00 p.m.**
Venue	**: Mechanical Seminar Hall**

You are requested to please attend the meeting.

Thanking you,

H.O.D.
Mobile: **9986634769**

Fig. B.2.2.1(e): Parents meeting invitation

Course end survey:

At the end of the course, a survey is conducted among the students to know to what extent. The learning has happened in the course. The course end survey sample format for theory and practice is as shown in Fig. B.2.2.1(f) and Fig. B.2.2.1(g).

Acharya Institute of Technology
Department of Mechanical Engineering
Soladevanahalli, Bengaluru 560107

Date:

COURSE END SURVEY

Vision of the Department

To develop globally competent mechanical engineers capable of working in an interdisciplinary environment, contributing to society through innovation, leadership and entrepreneurship.

Mission of the Department

- **To excel in teaching, research and innovation of products and processes.**
- **To promote collaborative activities to contribute to the societal needs.**
- **To imbibe leadership and entrepreneurial qualities.**

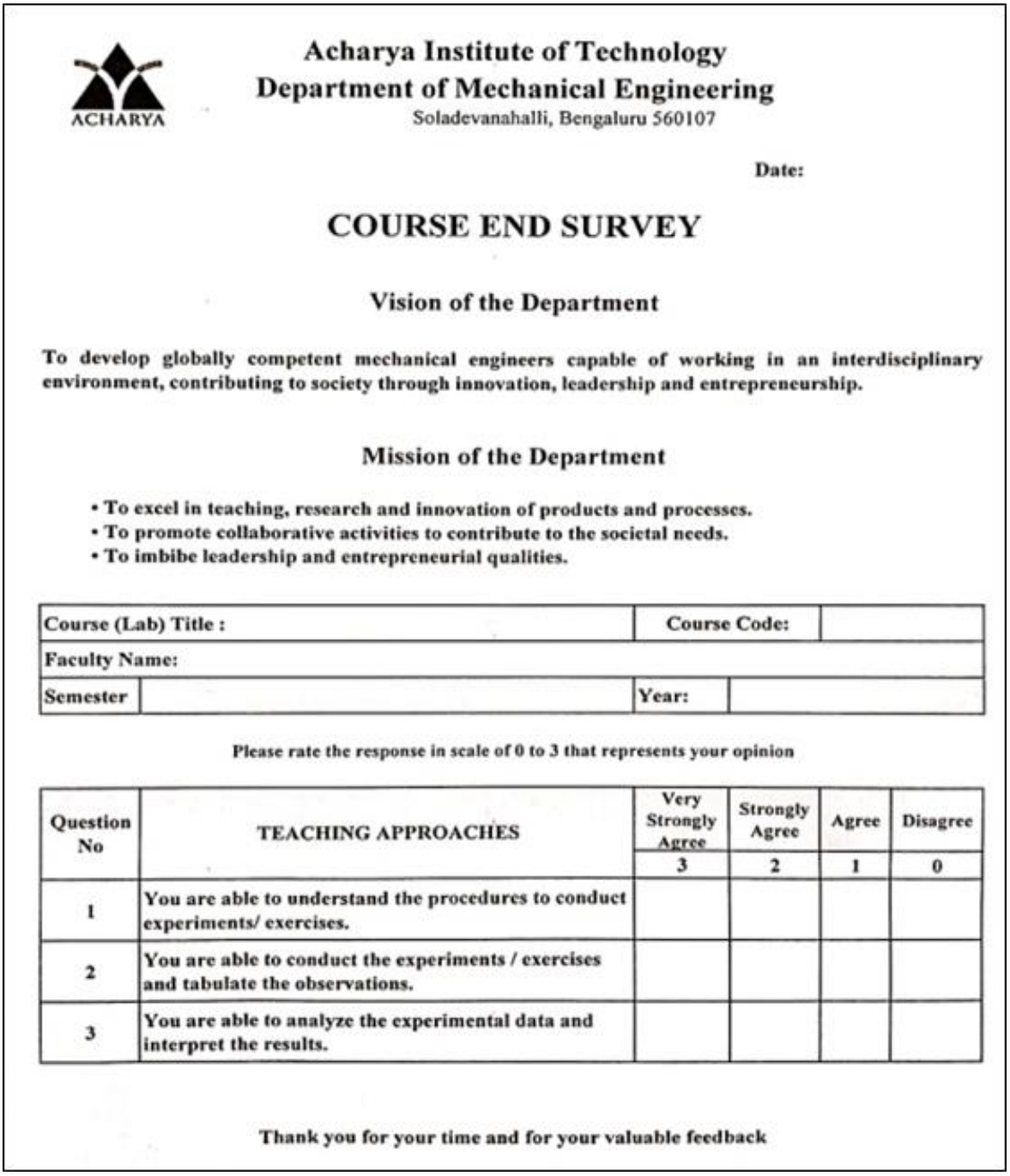
Course Title :		**Course Code:**	
Faculty Name:			
Semester		**Year:**	

Please rate the response in scale of 0 to 3 that represents your opinion

Question No	TEACHING APPROACHES	Very Strongly Agree	Strongly Agree	Agree	Disagree
		3	2	1	0
1	You gained insights into the concepts/procedures of the course.				
2	You are able to apply the knowledge to solve the problems.				
3	You are able to analyse and interpret the data/process.				
4	You are able to design the component / product/ processes.				

Thank you for your time and for your valuable feedback

Fig. 2.2.1(f): Course end survey format for theory subjects



Acharya Institute of Technology
Department of Mechanical Engineering
Soladevanahalli, Bengaluru 560107

Date:

COURSE END SURVEY

Vision of the Department

To develop globally competent mechanical engineers capable of working in an interdisciplinary environment, contributing to society through innovation, leadership and entrepreneurship.

Mission of the Department

- **To excel in teaching, research and innovation of products and processes.**
- **To promote collaborative activities to contribute to the societal needs.**
- **To imbibe leadership and entrepreneurial qualities.**

Course (Lab) Title :		Course Code:	
Faculty Name:			
Semester		Year:	

Please rate the response in scale of 0 to 3 that represents your opinion

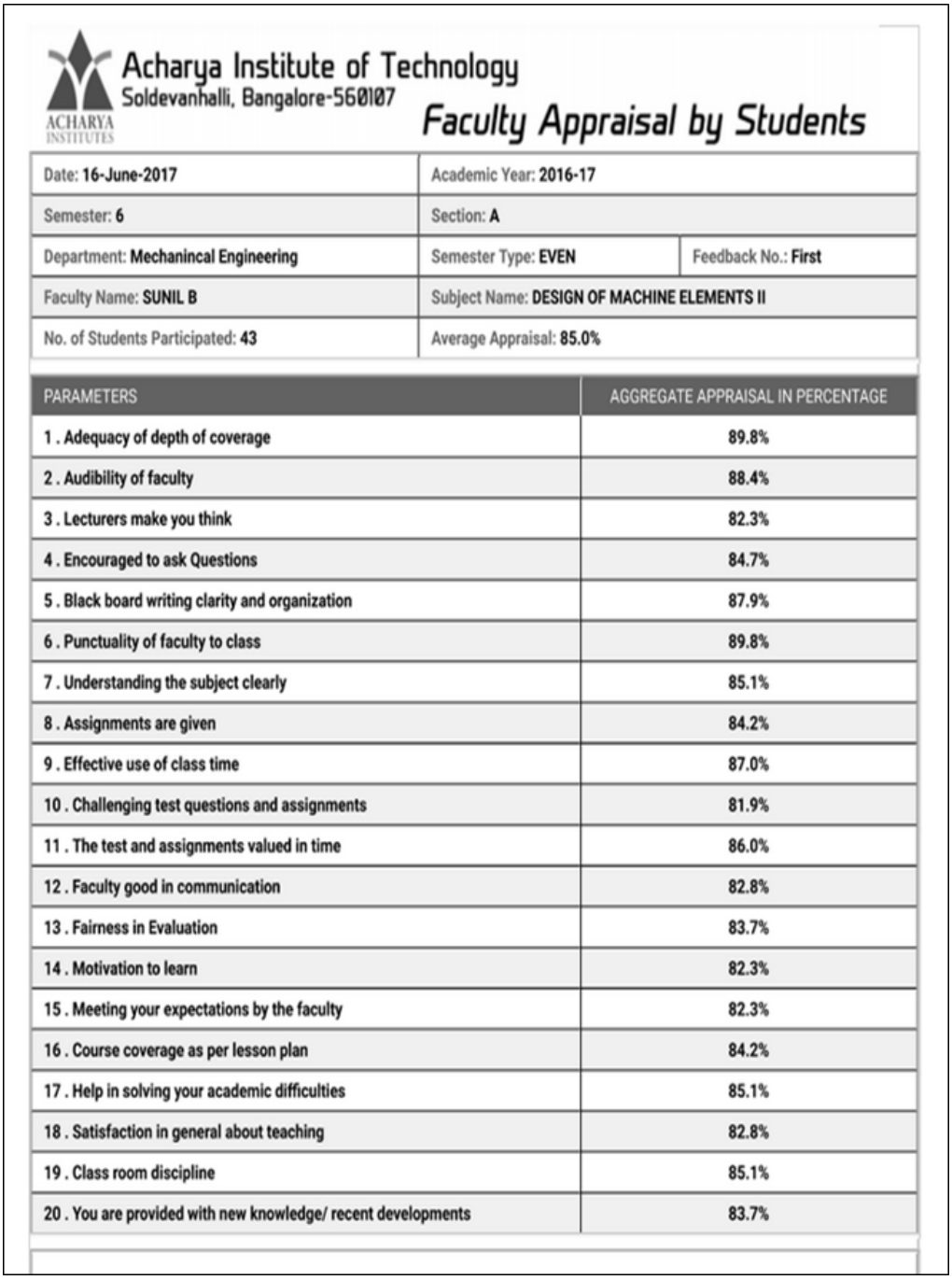
Question No	TEACHING APPROACHES	Very Strongly Agree	Strongly Agree	Agree	Disagree
		3	2	1	0
1	You are able to understand the procedures to conduct experiments/ exercises.				
2	You are able to conduct the experiments / exercises and tabulate the observations.				
3	You are able to analyze the experimental data and interpret the results.				

Thank you for your time and for your valuable feedback

Fig. 2.2.1(g): Course end survey format for laboratory subjects

Faculty appraisal by the students:

At the end of the course, feedback on faculty performance is obtained online from the students and analyzed. The faculty with a poor appraisal (less than 70%) is counselled and mentored by senior faculties. Fig. 2.2.1(h) shows the format of faculty appraisal by students.



Acharya Institute of Technology
Soldevanhalli, Bangalore-560107
ACHARYA INSTITUTES

Faculty Appraisal by Students

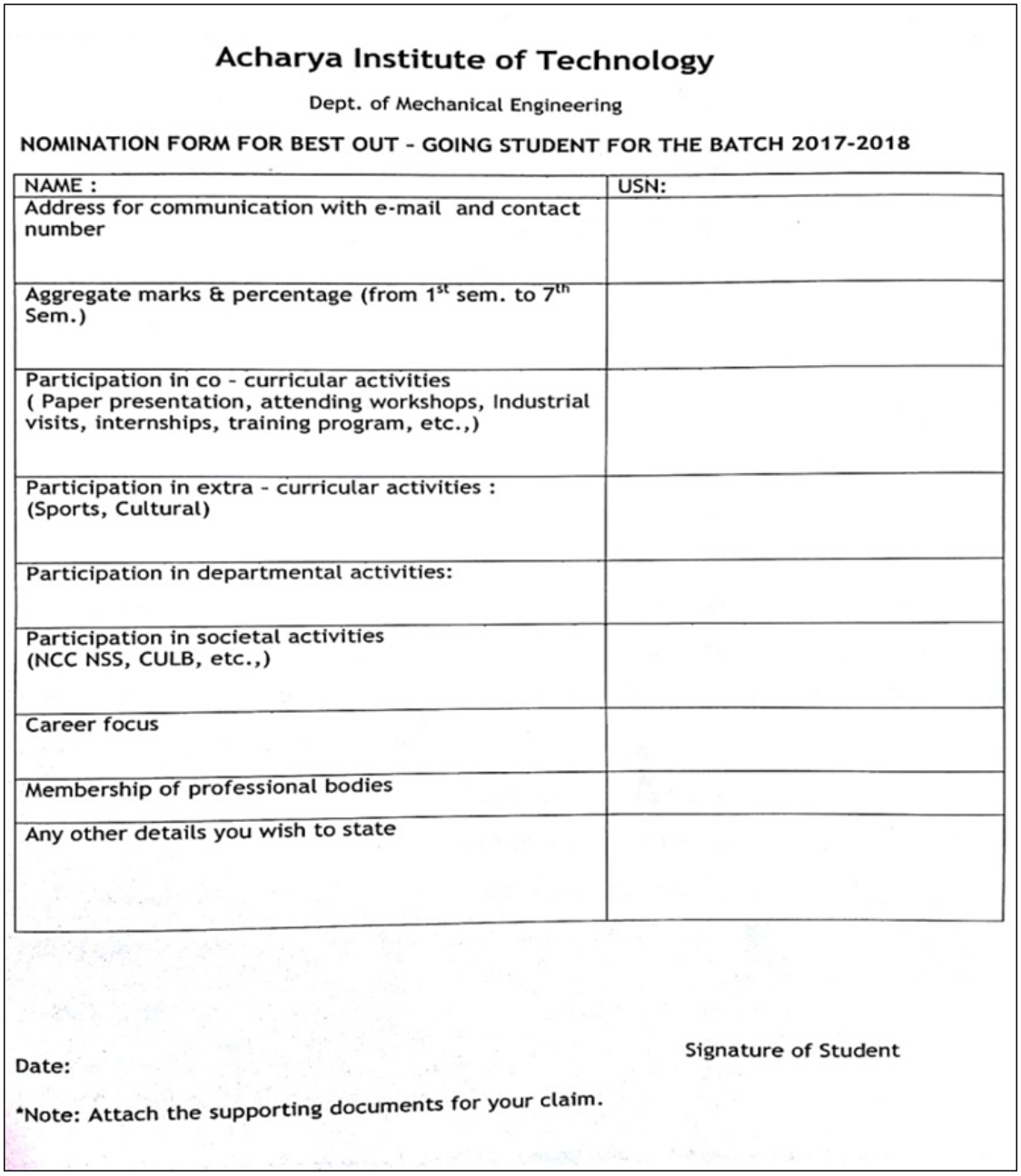
Date: **16-June-2017**	Academic Year: **2016-17**	
Semester: **6**	Section: **A**	
Department: **Mechanincal Engineering**	Semester Type: **EVEN**	Feedback No.: **First**
Faculty Name: **SUNIL B**	Subject Name: **DESIGN OF MACHINE ELEMENTS II**	
No. of Students Participated: **43**	Average Appraisal: **85.0%**	

PARAMETERS	AGGREGATE APPRAISAL IN PERCENTAGE
1 . Adequacy of depth of coverage	89.8%
2 . Audibility of faculty	88.4%
3 . Lecturers make you think	82.3%
4 . Encouraged to ask Questions	84.7%
5 . Black board writing clarity and organization	87.9%
6 . Punctuality of faculty to class	89.8%
7 . Understanding the subject clearly	85.1%
8 . Assignments are given	84.2%
9 . Effective use of class time	87.0%
10 . Challenging test questions and assignments	81.9%
11 . The test and assignments valued in time	86.0%
12 . Faculty good in communication	82.8%
13 . Fairness in Evaluation	83.7%
14 . Motivation to learn	82.3%
15 . Meeting your expectations by the faculty	82.3%
16 . Course coverage as per lesson plan	84.2%
17 . Help in solving your academic difficulties	85.1%
18 . Satisfaction in general about teaching	82.8%
19 . Class room discipline	85.1%
20 . You are provided with new knowledge/ recent developments	83.7%

Fig. 2.2.1(h): Faculty appraisal sample

Best outgoing student award:

Department selects one of the final year students as the "Best out-going student" of the program and student is honoured on the graduation day. Amongst the best outgoing students of all the departments, the institution selects the valedictorian based on the merit and performance. The format for the best outgoing students is as shown in Fig. 2.2.1(i).



Acharya Institute of Technology

Dept. of Mechanical Engineering

NOMINATION FORM FOR BEST OUT - GOING STUDENT FOR THE BATCH 2017-2018

NAME :	USN:
Address for communication with e-mail and contact number	
Aggregate marks & percentage (from 1st sem. to 7th Sem.)	
Participation in co - curricular activities (Paper presentation, attending workshops, Industrial visits, internships, training program, etc.,)	
Participation in extra - curricular activities : (Sports, Cultural)	
Participation in departmental activities:	
Participation in societal activities (NCC NSS, CULB, etc.,)	
Career focus	
Membership of professional bodies	
Any other details you wish to state	

Signature of Student

Date:

*Note: Attach the supporting documents for your claim.

Fig. 2.2.1(i): Nomination form for best outgoing student

Table B.2.2.1(d)

Sl. No.	Parameters	Points
1	Semester exam results	25
2	Technical activities	15
3	Career focus	10
4	Sports and cultural activities	10
5	Ability to work in team and leadership quality	05
6	Societal commitment	05
7	Staff and faculty opinion	10
8	Proctor's remarks	10
9	HOD's remarks	10

Fig. 2.2.1(j): Best outgoing student Ms. Vijaya from department

2.2.2 Quality of internal question papers assignments of evaluation (20)

The objective of the internal assessments carried out during the semester is to check whether the students have acquired the skills stated as course outcomes. Internal assessment marks in each theory and practical courses are evaluated for 25 marks. In the case of practical course, the evaluation will be based on the conduct of experiments regularly, one practical test and viva-voce. The process of conduct of internal assessment is shown in Fig. 2.2.2(a).

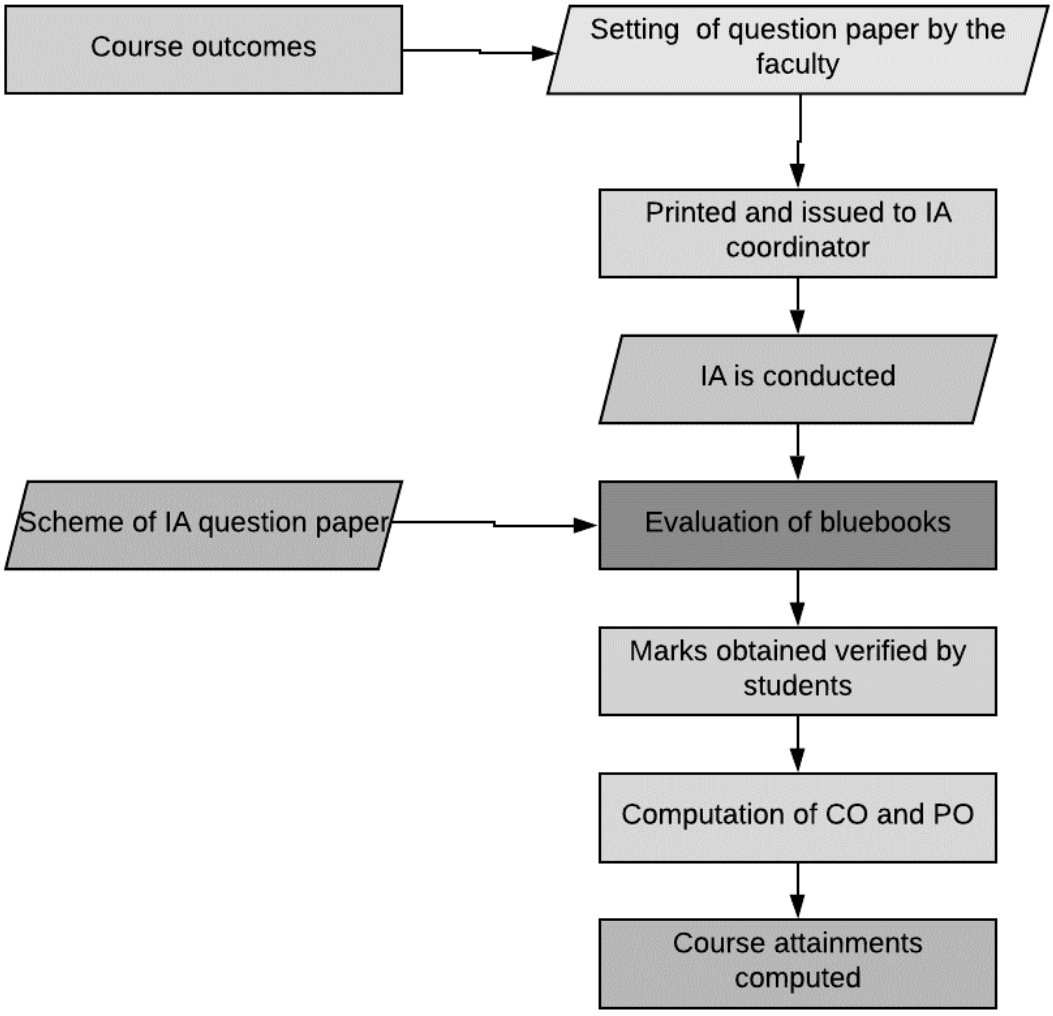


Fig. 2.2.2(a): Flow chart of internal assessment process

A sample question paper and its scheme of evaluation are shown in Fig. 2.2.2(b).

USN

VIII B

ACHARYA INSTITUTES

Department of Mechanical Engineering

Acharya Institute of Technology

Soladevanhalli, Bangalore.

INTERNAL ASSESMENT - IV [Academic Year: 2016-17]

Sub with Code: CONTROL ENGINEERING (10ME82) **Semester/Section: VIII B**

Max Marks: 25 **Time: 90 min**

1	Find the transfer function $\frac{X_1(s)}{F_2(s)}$ of the system shown in Fig.Q1.	CO2/10M
	OR	
2	Find the transfer function $\frac{I_2(s)}{V(s)}$ of the system shown in Fig. Q2	CO2/10M
3	Using Routh's criterion comment on the stability of the system whose characteristic equation is $s^5 + 2s^4 + 3s^3 + 2s^2 + 3s + 2$	CO5/05M
	OR	
4	Sketch the polar plot of the system whose open loop transfer function is $\frac{3}{(s+1)(2+2)}$	CO5/05M
5	List the steps that need to be followed in sketching a root locus of a open loop transfer function as gain K varies from zero to infinity.	CO5/10M
	OR	
6	Sketch the root locus of the system whose open loop transfer function is $\frac{K(s+3)(s+4)}{(s+1)(s+2)}$ as K varies from zero to infinity.	CO5/10M

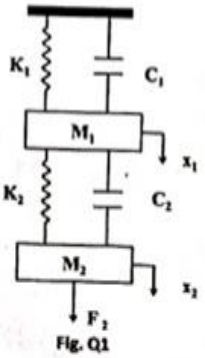


Fig. Q1

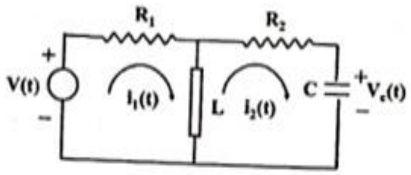


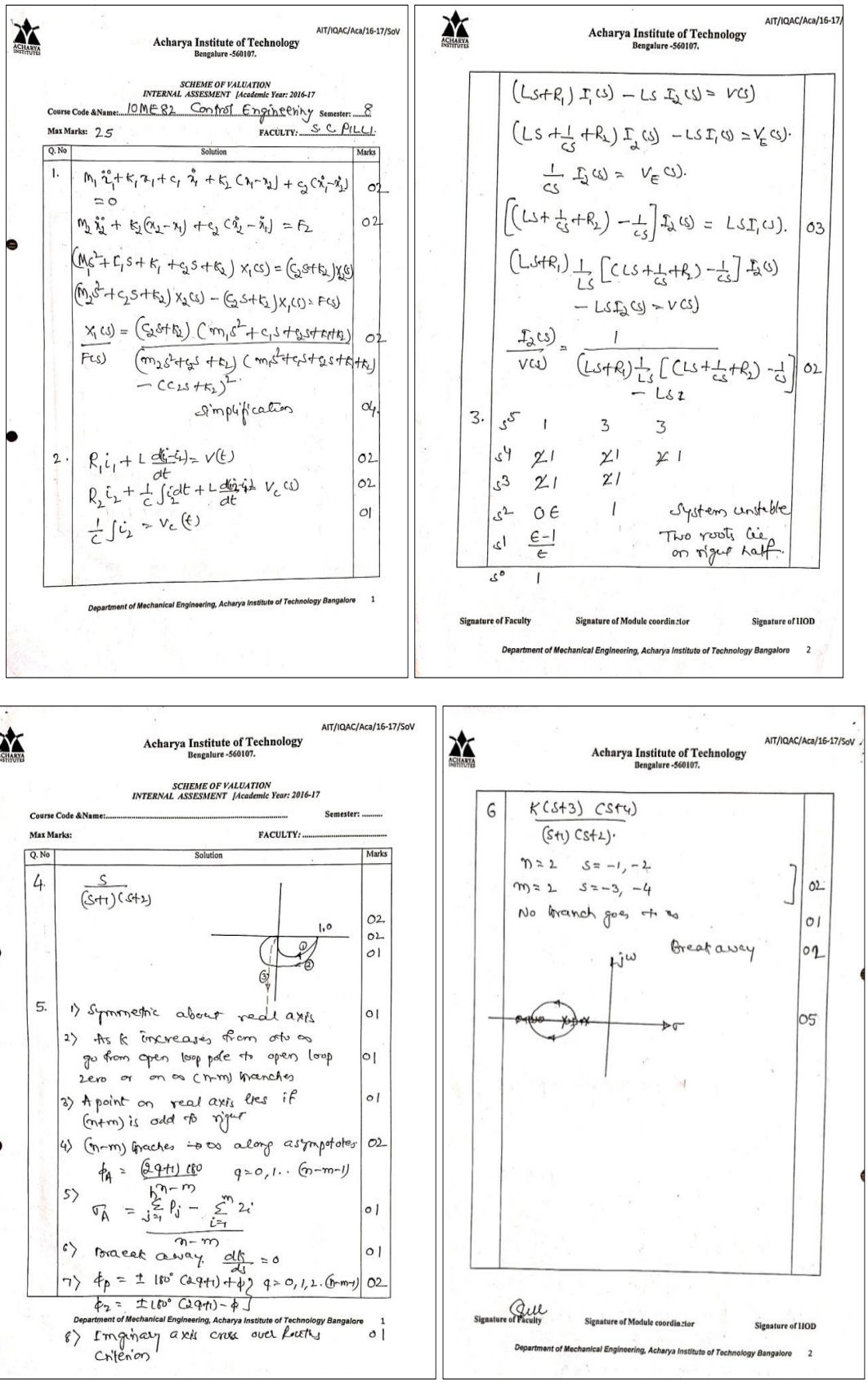
Fig. Q2

CO2: Determine the system governing equations for physical models(Electrical, Thermal, Mechanical, Electro Mechanical)

CO5: Determine the stability of transfer functions in complex domain and frequency domain

Department of Mechanical Engineering, Acharya Institute of Technology, Bangalore-560107

Fig. 2.2.2(b): Sample question paper



Acharya Institute of Technology
Bengalure -560107.

AIT/IQAC/Aca/16-17/SoV

SCHEME OF VALUATION
INTERNAL ASSESMENT [Academic Year: 2016-17

Course Code &Name: 10ME82 Control Engineering Semester: 8

Max Marks: 25 FACULTY: S C PILLI.

Q. No	Solution	Marks
1.	$m_1\ddot{x}_1 + k_1x_1 + c_1\dot{x}_1 + k_2(x_1 - x_2) + c_2(\dot{x}_1 - \dot{x}_2) = 0$	02
	$m_2\ddot{x}_2 + k_2(x_2 - x_1) + c_2(\dot{x}_2 - \dot{x}_1) = F_2$	02
	$(m_1s^2 + c_1s + k_1 + c_2s + k_2)X_1(s) = (c_2s + k_2)X_2(s)$	
	$(m_2s^2 + c_2s + k_2)X_2(s) - (c_2s + k_2)X_1(s) = F(s)$	
	$\frac{X_1(s)}{F(s)} = \frac{(c_2s + k_2)(m_1s^2 + c_1s + c_2s + k_2 + k_2)}{(m_2s^2 + c_2s + k_2)(m_1s^2 + c_1s + c_2s + k_2 + k_2) - (c_2s + k_2)^2}$	02
	simplification	04
2.	$R_1i_1 + L\frac{d(i_1 - i_2)}{dt} = V(t)$	02
	$R_2i_2 + \frac{1}{C}\int i_2dt + L\frac{d(i_2 - i_1)}{dt} = V_c(s)$	02
	$\frac{1}{C}\int i_2 = V_c(t)$	01

Department of Mechanical Engineering, Acharya Institute of Technology Bangalore 1

Acharya Institute of Technology
Bengalure -560107.

AIT/IQAC/Aca/16-17/

$(Ls + R_1)I_1(s) - LsI_2(s) = V(s)$

$(Ls + \frac{1}{Cs} + R_2)I_2(s) - LsI_1(s) = V_E(s)$.

$\frac{1}{Cs}I_2(s) = V_E(s)$.

$\left[(Ls + \frac{1}{Cs} + R_2) - \frac{1}{Cs}\right]I_2(s) = LsI_1(s)$. 03

$(Ls + R_1)\frac{1}{Ls}\left[(Ls + \frac{1}{Cs} + R_2) - \frac{1}{Cs}\right]I_2(s) - LsI_2(s) = V(s)$

$\frac{I_2(s)}{V(s)} = \frac{1}{(Ls + R_1)\frac{1}{Ls}\left[(Ls + \frac{1}{Cs} + R_2) - \frac{1}{Cs}\right] - Ls}$ 02

3.

s^5	1	3	3
s^4	$\chi 1$	$\chi 1$	$\chi 1$
s^3	$\chi 1$	$\chi 1$	
s^2	0ϵ	1	System unstable
s^1	$\frac{\epsilon - 1}{\epsilon}$		Two roots lie on right half.
s^0	1		

Signature of Faculty Signature of Module coordinator Signature of HOD

Department of Mechanical Engineering, Acharya Institute of Technology Bangalore 2

Acharya Institute of Technology
Bengalure -560107.

AIT/IQAC/Aca/16-17/SoV

SCHEME OF VALUATION
INTERNAL ASSESMENT [Academic Year: 2016-17

Course Code &Name: Semester:

Max Marks: FACULTY:

Q. No	Solution	Marks
4.	$\frac{s}{(s+1)(s+2)}$	02 02 01
5.	1) Symmetric about real axis	01
	2) As k increases from 0 to ∞ go from open loop pole to open loop zero or on ∞ (n-m) branches	01
	3) A point on real axis lies if (n+m) is odd to right	01
	4) (n-m) braches to ∞ along asymptotes $\phi_A = \frac{(2q+1)180}{n-m}$ $q = 0, 1 \ldots (n-m-1)$	02
	5) $\sigma_A = \frac{\sum_{j=1}^{n} p_j - \sum_{i=1}^{m} z_i}{n-m}$	01
	6) Breakaway $\frac{dk}{ds} = 0$	01
	7) $\phi_p = \pm 180^\circ(2q+1) + \phi$ $q = 0, 1, 2 \ldots (n-m-1)$ $\phi_z = \pm 180^\circ(2q+1) - \phi$	02
	8) Imaginary axis cross over Routhy Criterion	01

Department of Mechanical Engineering, Acharya Institute of Technology Bangalore 1

Acharya Institute of Technology
Bengalure -560107.

AIT/IQAC/Aca/16-17/SoV

6 $\frac{K(s+3)(s+4)}{(s+1)(s+2)}$.

$n = 2$ $s = -1, -2$] 02
$m = 2$ $s = -3, -4$
No branch goes to ∞ 01

Breakaway 02

05

Signature of Faculty Signature of Module coordinator Signature of HOD

Department of Mechanical Engineering, Acharya Institute of Technology Bangalore 2

Fig. 2.2.2(c): Sample Scheme of question paper

2.2.3 Quality of Students Projects (25)

1. Notification is issued by the project coordinator to form project teams consisting maximum of 4 members.
2. Students discuss with the faculty the project ideas and submit the proposal.
3. A committee reviews the proposal and allocates the guides. Suggestions in the project objectives are indicated if any.
4. Students are encouraged to apply for project funding/ sponsorship.
5. The conceptualization, analysis, design, and fabrication (if required) are carried out.
6. The progress is evaluated by the project review committee in three phases.

Project work evaluation:

Phase I – 20 Marks

1. Identification of the project – 5 Marks
2. Literature survey – 10 Marks
3. Presentation – 5 Marks

Phase II – 30 Marks

1. Objectives of the project – 5 Marks
2. Methodology / Design – 5 Marks
3. Experimental details – 10 Marks
4. Overall progress – 5 Marks
5. Presentation – 5 Marks

Phase III – 50 Marks

1. Demonstration of the project – 25 Marks
2. Conclusion – 5 Marks
3. Final report – 10 Marks
4. Final Presentation – 10 Marks

The number of projects carried is shown in Table B.2.2.3(a).

Table B.2.2.3(a): Consolidated list of projects

Sl. No.	Year	No. of industrial projects	In-house projects	Total no. of projects
1	2017-18	13	23	36
2	2016-17	24	18	42
3	2015-16	6	31	37
4	2014-15	7	31	38

Best project selection methodology:

Project works are evaluated as per the schedule by the Project Review Committee (PRC).

1. A panel of experts from industry and academic is invited.
2. The projects are exhibited. The expert panel reviews the projects and assesses the projects.
3. The best two projects are awarded.

Impact analysis of project:

Table B.2.2.3(b): Impact analysis of projects

Sl. No.	Impact	Relevant POs
1	New innovative ideas from students form the basis of some projects	PO1, PO2, PO3, PO4, PO7
2	Analysis and Design	PO2, PO3, PO5
3	Project estimation and execution	PO11, PO12
4	Communication skills or abilities of students improved	PO10
5	Impact on society	PO6
6	Improved teamwork spirit	PO9, PO12

Opportunities to showcase their project work in the project exhibition:

Fig. 2.2.3(a): Project exhibited in "Krishi Mela – 2018" held at GKVK campus, Bengaluru from 15th - 17th Nov 2018

Awards/Recognitions received by students:

Table B.2.2.3(c): Awards and recognition

Name	Participants	Awards/Recognition	Month	Year
Team Race Physics	A group of 25 students lead by Nazeer R B	Cleared virtual round, Represented Acharya Institute of Technology at IIT Ropar, Punjab of SAE BAJA	March 2018	2017-18
AGRON	A group of 12 students lead by Pavan	Cleared virtual round of SAE TIFFAN	August 2018	2017-18
Team Race Physics	A group of 18 students lead by Karthik Kishore Rao	Represented Acharya in FMAE BAJA- 2018 competition	August 2018	2018-19
AGRON	A group of 14 students lead by Gourish	Cleared virtual round of SAE TIFFAN	November 2018	2018-19

2.2.4 Initiatives related to industry interaction (15)

Department of Mechanical Engineering strives to keep abreast of tools and technologies used in the industry through frequent interactions with the industries so that our students can become industry ready and become valued employee from the day he/she joins an organization.

Industry lectures:

Table B.2.2.4(a): Consolidated list of guest lecture/workshops

Sl. No.	Years	No. of Guest lectures /workshop conducted
1	2018-19	5
2	2017-18	6
3	2016-17	3
4	2015-16	4

Table B.2.2.4(b): Detail list of guest lectures

2018-19					
Sl. No.	**Date**	**Resource Person with the designation**	**Topic**	**No. of participants**	**Semester**
1	25/09/2018	Col. Vinod C Sasalatti(Retd.) Deputy Chief Engineer BMRCL, Bangalore	Army Engineers and Career Prospects for Engineers in Indian Army	120	5
2	1/10/2018	Dr.R.Chandrashekar	Welcome to the wonderful world of Shape Memory Alloys	102	7
3	9/10/2018	Mr. Sunil Gupta, Mr. Chandrashekhar P, Mr. Shashidhar P, General Motors Technology, Center India	SAE REEV CONCLAVE	55	5
4	26/10/2018	Gangadhara N Sr.Business executive Manufacturing Solutions	Demonstration on 3D printing for Educators	65	5
5	2/11/2018	Mr. Raghu B R, Dy.Manager, Technical Training, MILE, Mahindra & Mahindra Ltd.	Recent Trends in Automotive Electronics	82	7

2017-18					
Sl. No.	**Date**	**Resource Person with the designation**	**Topic**	**No. Of participants**	**Semester**
1	23/08/2017	Mr. Krishna Prasad A, Senior Application Engineer @ DHIO, Bengaluru	Advanced Technology in CFD and Thermal Engineering	85	5 , 7
2	23/08/2017	Mr. Jayaprakash Rao, Ex Servicemen, Income Tax Dept. and Mr. Bharath, Manager, Vani Institute, Bengaluru	Awareness about higher studies and PSU jobs	80	7
2	14-15/09/2017	Acharya Students	Robotics and 3D printing	78	7
3	21-23/09/2017	Mr.Rajat, Mr.Nitin and Mr.Sourabh,Sun Fox Technologies Pvt Ltd, Dehradun	Vehicle designing and engine fundamentals	97	5
4	20/11/2017	Mr.S N Sondur, Principal Scientific Officer –Biofuel Cell, KSCST, Bengaluru	BIO-FUEL	54	5
5	20/02/2018	17 foreign Universities	Studies in Overseas	120	8
6	19/04/2018	Cisco, Cessna Tech Park, Marathalli, Bengaluru	“Robotics and Sensors	80	6,8

2016-17					
Sl. No.	**Date**	**Resource Person with designation**	**Topic**	**No. Of participants**	**Semester**
1	13/5/ 2017	Srinivas S, Head-Engineering Services, Axil Consulting engineers	Industrial exposure to final Engineering students for their better Career	90	6
2	17.09.2016	Anil Kumar Sabaji, CEO & Technical Director,Terra serve,1st block,3rd phase, BSK 3rd stage,Bangalore	Solar power generation	67	7
3	11.11.2016	Mr.Shivaprakash,Manager CAM/Automation ,Kennametal India Limited	Cutting tools & its terminology, FEM, CAD/CAM, Automation	93	5

2015-16					
Sl. No.	**Date**	**Resource Person with the designation**	**Topic**	**No. Of participants**	**Semester**
1	14/09/ 2015	Subash K.C, Founder & Director, Credence Robotics	Influence Inspire and Impact	65	5
2	25/03/ 2016	Kumarappa, Senior manager, Kennametal India Ltd	DFMEA (Design Failure Mode and Effect Analysis)	40	4
3	25/03/ 2016	Virupaksha H.S, Deputy General Manager, Ace Manufacturing System	ERP (Enterprise Resource Planning)	40	6
4	29/04/ 2016	Ramesh Rao, Kennametal India Ltd	Cutting Tools	40	6

2014-15					
Sl. No.	**Date**	**Resource Person with designation**	**Topic**	**No. Of participants**	**Semester**
1	7/2/2015	Prof.S.N.Sondur, Scientist, Biofuel cell,KSCST,IISc,Bangalore	Research opportunities in Biofuels	100	4,6
2	14/02/2015	Abhay Anand kulkarni, Deputy Manager, Toyota kirloskar Motor Pvt Ltd.	Basics of Toyota Production Systems and Supply Chain Management	45	6
3	5/3/2015	Mahima Kulkarni, Product Engineer, Kennametal India Ltd	Cutting Tools	40	4
4	10/3/2015	Vaishali Jaganath, Asst.Manager, Kennametal India Ltd	Cutting tools	40	6
5	14/3/2015	Srinivas M, Asst.Manager, Micromatic Machine tools Pvt Ltd.	CNC Grinding Technology and Automation	68	6
6	14/03/2015	Col.rana G.S, Ex-Head,Student Engagement,Manipal Banking Academy, Indian Army	CNC Grinding Technology and Automation	65	4
7	17/04/2015	Sathyak Sundar Padhy ,Technical head, UDVAVISK Technologies	Open Source CAE Powered Engineering	70	6,8
8	21/04/2015	Nikhil B.Wani,Design Engineer, Kennametal India Ltd	Milling	40	6
9	28/04/2015	Nikhilesh K.Reddy, Deputy General Manager, Kennametal India Ltd	Drilling	40	4
10	4/5/2015	Dr.Mahesh Alahalli, Team Leader, International Aerospace Manufacturing	Machining of Aerospace Components	69	6

List of MOU's with companies

Table B.2.2.4(c): MOUs with industries

Sl. No.	Company Name
1	Kennametal India Ltd
2	MOOG India Technology Centre
3	Dynamatic Technologies Ltd;
4	SKF Bearings
5	ACE Micromatics
6	SAKEN Communications
7	Microsoft-IT Academy
8	Texas Instruments
9	Mahindra and Mahindra Pvt. Ltd.
10	Novell-Centre of excellence
11	Tektronix
12	Peenya Industrial Association which has more than 4000 Industries as members
13	NDRF ; CSIR –NAL; Construction Industry Development Council [CIDC];
14	GTTC, RITTAL India Pvt Ltd

Industrial Visits

Table B.2.2.4(d): Summary of industrial visit

Sl. No.	Year	No. of Industries	Total no. of participants
1	2018-19	3	100
2	2017-18	5	194
3	2016-17	6	240
4	2015-16	3	75
5	2014-15	8	299

Table B.2.2.4(e): Details of industrial visit

2018-2019					
Sl. No.	**Date**	**Name of the industry with Address**	**Type of the Industry**	**Semester**	**No. Of Participants**
1	27/10/2018	Hindustan Machine Tools (HMT)limited, located at Jalahalli, Bangalore	HMT	5	35
2	27/10/2018	Sri. Hamsa Industries, Peenya Industrial Area, Bangalore	Manufacturing unit	5	15
3	17/11/2018	ACE Designers	ACE Designers - Foundry division	3	50

2017-2018					
Sl. No.	**Date**	**Name of the industry with Address**	**Type of the Industry**	**Semester**	**No. Of Participants**
1	5/11/2017	Ace designers Pvt. Ltd	Foundry	5	44
2	11/11/2017	ACE DESIGNERS	CNC Manufacturers (Peenya)	3,5	40
3	14/11/2017	Dassault systems 3d experience on wheels	Dassault Systems 3d Experience on Wheels	5,7	50
4	12/03/2018	Eta Technology, Peenya	Manufacturing Unit	4,6	30
5	13-15 /03/ 2018	Bangalore Integrated System Solutions, Peenya Industrial Area, Bengaluru	Testing Industry	4,6	30

2016-17					
Sl. No.	**Date**	**Name of the industry with Address**	**Type of the Industry**	**Semester**	**No. Of Participants**
1	5/11/2016	Ace Designers Peenya	CNC Manufacturers (Peenya)	5	40
2	23/02/2017	ACE foundry and forging Dabaspet Division	Foundry	3	20
3	14/03/2017	Rollon Hydraulics Pvt Ltd	Precision components Manufacturing (Peenya)	4	20
4	31/03/2017	Sharavathi Hydro Power Plant, Jogfalls.	Hydro plant	6	45
5	01/04/2017	Varahi Hydro Power Plant, Udupi.	Hydro plant	6	45

6	22/04/2017	BFW	Machine tool	4	25
7	22/04/2017	Rukmini Rama Steel plant, Goa	Steel Plant	6	45

2015-2016					
Sl. No.	**Date**	**Name of the industry with Address**	**Type of the Industry**	**Semester**	**No. Of Participants**
1	3/11/2015	Kar Mobiles, Peenya, Bangalore	valves manufacturer	5	30
2	4/11/2015	Rail Wheel Factory, Yelahanka, Bangalore	Manufacturer of rail wheel	7	30
3	5/5/2016	Rane Engine valve Ltd, Tumkur	valves manufacturer	6	15

2014-15					
Sl. No.	**Date**	**Name of the industry with Address**	**Type of the Industry**	**Semester**	**No. Of Participants**
1	18/2/2015	Ace Designers, Bangalore-560 058	Machine tools	4	70
2	13/3/2015	Kaiga Nuclear Power Station, Karwar	Nuclear plant	6	28
3	31/3/2015	Diesel Loco Shed, Krishnarajapuram, Bangalore	Locomotive maintenance	4	12
4	17/4/2015	Sharavathi Hydro Power Plant, Jogfalls.	Hydro plant	6	45
5	18/4/2015	Varahi Hydro Power Plant, Udupi.	Hydro plant	4	45

Sl. No.	Date	Name of the industry with Address	Type of the Industry	Semester	No. Of Participants
6	30/8/2014	Bharat Fritz Werner Ltd., Bangalore-560 022.	Machine tools	5	34
7	12/9/2014	EMMA (Electronics, Machinery, Moulds, Auto Parts) Expo India- 2014, BIEC (Bangalore International Exhibition Centre), 10th Mile, Tumkur Road, Madavara Post, Bangalore - 562 123	Machine tools	3	50
8	20/9/2014	Dynamatic Technologies Limited, Dynamatic Park, Peenya Industrial Area, Bangalore 560 058.	Automotive parts	5	15

Fig. 2.2.4(a): Industrial Visit to Eta Technology, Peenya Industrial Area, Bangalore on 12/03/2018

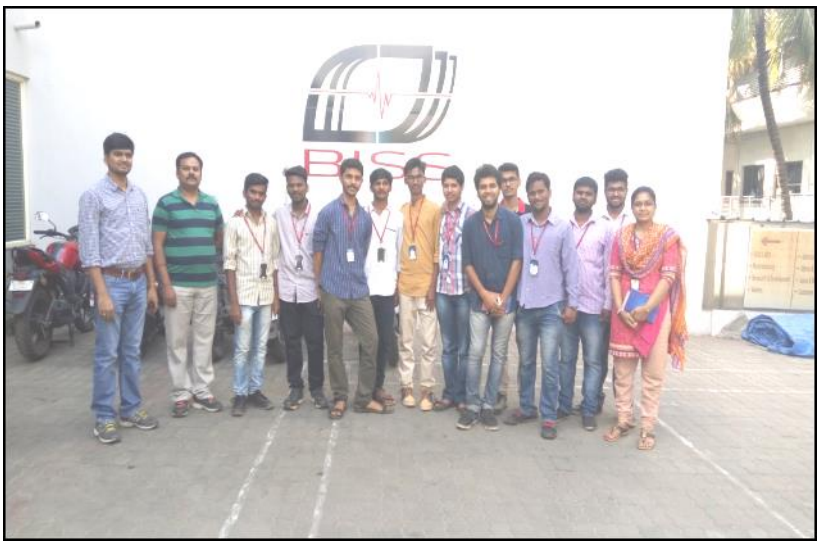


Fig. 2.2.4(b): Industrial Visit to Bangalore Integrated System Solution, Peenya Industrial Area, Bengaluru on 13-15/03/2018

Fig. 2.2.4(c): Industrial Visit to Ace Designers - Foundry Division on 17/11/2018

2.2.5 Initiatives related to Industry internship/Summer training (15)

To strengthen interaction with industries and to keep our students updated with the latest trends in mechanical engineering, the department has implemented the following initiatives:

1. Departmental coordinator interacts with the training and placement office, also faculties interact with industries/R & D centres to identify the internship opportunities therein.
2. Industries are invited to the department for interaction.
3. Head of the department approves the internship/training.
4. The coordinator follows the students by interacting with the industries and R&D centres.

Table B.2.2.5(a): Summary of internship

Sl. No.	Year	No. of Industries	Total no. of students
1	2018-19	Mandatory	120 - ongoing
2	2017-18	6	46
3	2016-17	1	8
4	2015-16	1	6

Table B.2.2.5(b): Internship details

2018-19					
Sl. No.	**Month/Year**	**Name of the industry /Research Organisation with Address**	**Duration**	**No. Of People Attended**	**The outcome of the program**
1	Mandatory for course		1 Month	120	Exposure to industrial

2017-18					
Sl. No.	**Month /Year**	**Name of the industry /Research Organisation with Address**	**Duration**	**No. Of People Attended**	**The outcome of the program**
1	August- 2017 - May 2018	LI2	8 Months	4	Got the opportunity to attend an interview
2	August- 2017 - May 2018	ACE F & F	8 Months	2	Attend interviews in core companies
3	August- 2017 - May 2018	ISRO	8 Months	2	Attend interviews in core companies
4	August- 2017 - May 2018	Rittal India Pvt Ltd	8 Months	12	One of the students was later employed by the organization
5	August- 2017 - May 2018	KENNAMETAL	8 Months	21	Attend interviews in core companies
6	August- 2017 - May 2018	Sansera Engineering	8 Months	5	Attend interviews in various core companies.

2016-17					
Sl. No.	**Month/Year**	**Name of the industry /Research Organisation with Address**	**Duration**	**No. Of People Attended**	**Outcome of the program**
1	August- 2016 - May 2017	Rittal India Pvt Ltd	8 Months	8	One student was employed (off roles) in the organization

2015-16					
Sl. No.	**Month/Year**	**Name of the industry /Research Organisation with Address**	**Duration**	**No. Of People Attended**	**Outcome of the program**
1	January 2016 - May 2016	Kennametal India Pvt Ltd	3 Months	6	Three students were employed by Kennametal.

Table B.2.2.5(c): Impact Analysis of Industrial training

Sl. No.	Parameters	Total
1	Number of projects carried out in industries	50
2	Number of internships	8
3	Employment out of internships	4
4	MOU's	14

Table B.2.2.5(d) shows the summer training undergone by the students (1st year to 4th year) and few of them undergoing multiple training.

Table B.2.2.5(d): Summer training

Sl. No.	Year	No. of Trainings	No. of students participated
1	2018-19	4	549
2	2017-18	6	623
3	2016-17	9	1047
4	2015-16	8	682

Table B.2.2.5(e): Details of Summer training

2018-19						
Sl. No..	**Name of company**	**Title of the Training**	**No. of Participants**	**Duration**	**Semester**	**Outcome of the Training**
1	J V Global	Soft Skill Training	128	3/10/2018 TO 5/10/ 2018	5	Enhancement of skills for better employability & Career Development.
2	Innovation Unlimited	Infosys Company Specific Training	75	9/12/2018	7	
3	Innovation Unlimited	Soft Skill Training	128	11/09/2018 4/10/ 2018 5/10/2018	7	
4	AMCAT (Aspiring Minds Assessment Private Limited	Pre-Employment Skill Assessment Program	218	23/8/2018 to 26/8/2018	3,5,7	

2017-18						
Sl. No	Name of the company	Title of the Training	No. of Participants	Duration	Semester	The outcome of the Training
1	10 Seconds	Infosys company specific training	30	2/9/2017 TO 4/9/2017	7	Enhancement of skills for better employability & Career Development.
2	Bizotic Company	Soft skill training	72	9/17/2017	7	
3	Bizotic Company	Soft skill training	59	06/10/2017 07/10/2017 23/10/2017 24/10/ 2017 25/10/2017	7	
4	Genesys Company	Soft skill training	124	30/10/2017 31/10/2017 2/11/ 2017	3,5	
5	Seven Sense Company	Soft skill training	93	9/11/2017 TO 10/11/ 2017	1	

2016-17						
Sl. No.	Name of the company	Title of the Training	No. of Participants	Duration	Semester	The outcome of the Training
1	J. V. Global	Soft Skill	101	29/8/2016	7	Enhancement of skills for better employability & Career Development
2			127	15/9/2016 TO 17/9/2016	1	
3			133	13/10/16 TO 15/10/16	3	
4			105	20/10/16 21/10/16 22/10/16 26/10/16 27/10/16 28/10/16	5	
5			120	20/10/2016 to 22/10/2016	3	
6			117	26/10/2016 to 28/10/2016	5	
7			107	3/4/2017 TO 5/4/2017	2	
8			120	25/4/2017 TO 27/4/2017	4	
9			117	11/5/2017 TO 13/5/2017	6	

2015-16						
Sl. No..	Name of the company	Title of the Training	No. of Participants	Duration	Semester	Outcome of the Training
1	J V Global	Soft Skill Training	65	19/8/2015 26/08/2015 9/9/2015 19/9/2015 23/9/2015	3-A	Enhancement of skills for better employability & Career Development
2			68	17/8/2015 24/8/2015 31/8/2015 21/9/2015 28/9/2015	3-B	
3			147	23/9/2015 To	7	

				27/9/2015		
4			125	23/11/2015 24/11/2015	5	
5			67	8/2/2016	4 -A	
6			68	12/2/2016	4-B	
7			125	22/2/2016 25/2/2016 29/2/2016	6	

CRITERION 3	COURSE OUTCOMES AND PROGRAM OUTCOMES	120

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)

Please refer Annexure – I

3.1.1 Course Outcomes (COs) (SAR should Include course outcomes of one course from each semester of study, however, should be prepared for all courses and made available as evidence, if asked) (05)

Table 3.1.1(a-f) shows the course outcomes of typical subjects.

Table B.3.1.1: Course Outcomes

(a) C204 (Mechanics of Materials – 10ME34) Year of Study: 2015 – 16

C204.1	Able to define Elastic Properties of Materials, Different types of stress due to the application of loads and energy stored in various structural members.
C204.2	Able to comprehend the relation for stress and strain distribution, Shear force and Bending moment diagram, Torque and stability of columns from failure theories
C204.3	Able to apply the known and comprehended concepts and to calculate the stresses, strains and strain energy in Bars, Cylinders, Beams, Shafts, and Columns.
C204.4	Able to analyze the stresses and strains for plane stress condition analytically and graphically for structural members and analyze stress distribution for thick and thin cylinders.

(b) C213 (Applied Thermodynamics – 10ME43) Year of Study: 2015 – 16

C213.1	Able to outline the Gas power cycles, vapour power cycles and know how fuel burns and their thermodynamic properties.
C213.2	Able to explain the performance and mechanisms of gas power cycle, steam power cycle and refrigeration system
C213.3	Able to compute the performance of gas power plant, steam power plant, IC Engine, Reciprocating compressors and refrigeration system.

(c) C304 (Dynamics of Machinery – 10ME54) Year of Study: 2016 – 17

C304.1	Describe motion, static and dynamic equilibrium conditions for different mechanisms and machine elements.
C304.2	Understand force transmission and balancing in different mechanisms and principles of vibrations of single degree of freedom mechanical systems.
C304.3	Solve problems on force transmission and balancing in different mechanisms and vibration characteristics of single degree of freedom mechanical systems.
C304.4	Explain force transmission and vibration characteristics in different mechanical systems.

(c) C312 (Design of Machine Elements II – 10ME62) Year of Study: 2016 – 17

C312.1	Able to define stresses in curved beams and springs
C312.2	Able to select the flexible (belt, rope and chain) drives and gears.
C312.3	Able to explain the stresses in curved beams, springs, power transmitting elements and IC engine parts.
C312.4	Able to determine the stresses in curved beams, springs and gears.
C312.5	Able to calculate the flexible drive sizes, breaks, clutch, bearings and IC engine parts

(d) C402 (Mechanical Vibrations – 10ME72) Year of Study: 2017 – 18

C402.1	Able to get the insight of mechanical vibrations of single DOF or multi DOF system and the principle of vibration monitoring and measuring instruments
C402.2	Able to understand the representation of vibration systems mathematically.
C402.3	Able to apply the mathematical solution procedure to find the response.
C402.4	Able to analyse a single degree and multi-degree of freedom system.

(e) C412 (Control Engineering – 10ME82) Year of Study: 2017 – 18

C412.1	Able to recognize the control system and its types, control actions.
C412.2	Able to determine the system governing equations for physical models (Electrical, Thermal, Mechanical, Electro-Mechanical).
C412.3	Able to calculate the gain of the system using block diagram and signal flow graph.
C412.4	Able to illustrate the response of 1^{st} and 2^{nd} order systems.
C412.5	Able to determine the stability of transfer functions in complex domain and frequency domain.
C412.6	Able to employ state equations to study the controllability and observability.

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)

Table B.3.1.2(a-f) shows the CO-PO mapping matrices.

Table B.3.1.2: CO-PO matrices

(a) C204 (Mechanics of Materials – 10ME34) Year of Study: 2015 – 16

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C204.1	2	1	-	-	-	-	-	-	-	-	-	1
C204.2	2	2	-	-	-	-	-	-	-	-	-	1
C204.3	1	3	-	-	-	-	-	-	-	-	-	1
C204.4	1	1	-	-	-	-	-	-	-	-	-	1
Total	6	7	-	-	-	-	-	-	-	-	-	4

(b) C213 (Applied Thermodynamics – 10ME43) Year of Study: 2015 – 16

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C213.1	3	-	-	-	-	-	-	-	-	-	-	1
C213.2	3	-	-	-	-	-	-	-	-	-	-	1
C213.3	2	1	-	-	-	-	-	-	-	-	-	-
Total	8	1	-	-	-	-	-	-	-	-	-	2

(c) C304 (Dynamics of Machinery - 10ME54) Year of Study: 2016 – 17

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304.1	2	-	-	-	-	-	-	-	-	-	-	
C304.2	1	2	-	-	-	-	-	-	-	-	-	1
C304.3	1	2	-	-	-	-	-	-	-	-	-	1
C304.4	1	2	-	-	-	-	-	-	-	-	-	1
Total	5	6	-	-	-	-	-	-	-	-	-	3

(d) C312 (Design of Machine Elements II - 10ME62) Year of Study: 2016 – 17

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C312.1	2											
C312.2	1											1
C312.3	2											1
C312.4	1	2	1									1
C312.5	1	2	1									1
	7	4	2									4

(e) C402 (Mechanical Vibrations - 10ME72) Year of Study: 2017-18

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C402.1	2	-	-	-	-	-	-	-	-	-	-	1
C402.2	1	2	-	-	-	-	-	-	-	-	-	1
C402.3	1	2	-	-	-	-	-	-	-	-	-	1
C402.4	1	2	-	-	-	-	-	-	-	-	-	1

(f) C412 (Control Engineering - 10ME82) Year of Study: 2017-18

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C412.1	2	-	-	-	-	-	-	-	-	-	-	-
C412.2	2	1	-	-	-	-	-	-	-	-	-	1
C412.3	-	2	-	-	-	-	-	-	-	-	-	1
C412.4	-	2	1	-	-	-	-	-	-	-	-	1
C412.5	-	2	-	-	-	-	-	-	-	-	-	1
C412.6	2	-	-	-	-	-	-	-	-	-	-	1

Table B.3.1.2(g-l) shows the Course-PSO mapping matrices.

Table B.3.1.2: CO-PO matrices

(g) C204 (Mechanics of Materials - 15ME34) Year of Study: 2015-16

	PSO1	PSO2	PSO3	PSO4
C204.1	1			
C204.2	1	2		
C204.3	1	2		
C204.4	1	2		

(h) C213 (Applied Thermodynamics - 15ME43) Year of Study: 2015-16

	PSO1	PSO2	PSO3	PSO4
C213.1	1	2		
C213.2		2		
C213.3		3		

(i) C304 (Dynamics of Machinery - 15ME54) Year of Study: 2016-17

	PSO1	PSO2	PSO3	PSO4
C304.1		1		
C304.2	1			
C304.3		2		
C304.4	2	1		

(j) C312 (Design of Machine Elements II - 15ME62) Year of Study: 2016-17

	PSO1	PSO2	PSO3	PSO4
C312.1				
C312.2		2	2	
C312.3		2		
C312.4		1		
C312.5	1	2		

(k) C402 (Mechanical Vibrations - 17ME72) Year of Study: 2017-18

	PSO1	PSO2	PSO3	PSO4
C402.1	-	-	1	-
C402.2	1	-	-	-
C402.3	2	1	-	-
C402.4	2	1	-	-

(l) C412 (Control Engineering - 10ME82) Year of Study: 2017-18

	PSO1	PSO2	PSO3	PSO4
C412.1	1	-	-	-
C412.2	-	2	-	-
C412.3	1	2	-	-
C412.4	1	2	-	-
C412.5	1	-	-	-
C412.6	1	1	-	-

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

Table B.3.1.3(a-b) shows Course-PO mapping matrices and Course-PSO mapping matrices.

Table B.3.1.3(a): Program-level Course-PO matrix

	Program Outcomes (POs)											
Course Code	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1st SEM												
10MAT11	3	2	-	-	-	-	-	-	-	-	-	-
10PHY12	2	2	-	-	-	-	-	-	-	-	-	2
10CIV13	-	-	-	-	-	-	-	-	-	-	-	
10EME14	2	-	-	-	-	-	-	-	-	-	-	1
10ELE15	3	2	-	-	-	-	-	-	-	-	-	2
10WSL16	2	2	2	-	2	2	-	-	2	-	-	3
10PHYL17	2	2	1	-	-	-	-	-	-	-	-	-
10CIP18	-	-	-	-	-	2	-	2	-	-	-	-
2nd SEM												
10MAT21	3	2	-	-	-	-	-	-	-	-	-	-
10CHE22	1	1	1	-	-	1	1	-	-	-	-	-
10CCP23	2	1	2	-	1	-	-	-	-	-	-	1
10CED24	2	3	2	-	2	-	-	-	1	1	-	1
10ELN25	3	3	-	-	-	-	-	-	-	-	-	-
10CPL26	2	2	2	1	-	-	-	-	-	-	-	-
10CHEL27	2	2	-	-	-	2	2	1	-	1	-	1
10CIV28	3	3	-	-	2	1	-	3	-	2	1	
3rd SEM												
10MAT31	3	2	-	-	-	-	-	-	-	-	-	-
10ME32A	3	2	2	2	1	2	1	2	3	2	3	3
10ME33	3	2	-	-	-	-	-	-	-	-	-	1
10ME34	2	2	-	-	-	-	-	-	-	-	-	1
10ME35	3	-	-	-	-	-	-	-	-	-	-	1
10ME36A	2	-	-	-	3	-	-	-	-	2	-	2
10MEL37A	3	-	-	2	2	-	-	-	2	-	-	2
10MEL38A	2	-	-	1	-	-	-	-	2	-	-	1
4th SEM												
10MAT41	3	2	-	-	-	-	-	-	-	-	-	-
10ME42	3	-	-	2	-	-	-	-	1	-	-	1
10ME43	3	1	-	-	-	-	-	-	-	-	-	1
10ME44	1	2	1	-	-	-	-	-		-	-	1
10ME45	1	2	1	-	-	-	-	-		-	-	1
10ME46B	3	2	-	-	-	-	-	-		-	-	1
10MEL47B	3	-	-	2	-	-	-	-	1	-	-	-
10MEL48B	3	-	-	2	-	-	-	-	1	-	-	1

Course Code	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
5th SEM												
10ME51	1	-	-	-	3	2	-	-	2	2	3	2
10ME52	1	1	2	-	-	-	-	-	-	-	-	1
10ME53	2	1	-	-	-	-	-	-	-	-	-	1
10ME54	1	2	-	-	-	-	-	-	-	-	-	-
10ME55	2	3	2	-	2	-	-	-	1	1	-	1
10ME56	2	3	-	-	-	-	-	-	-	-	-	1
10MEL57	1	3	-	-	-	-	-	-	-	-	-	2
10MEL58	1	3	-	-	-	-	-	-	-	-	-	2
6th SEM												
10ME61	3	3	2	2	-	-	-	-	-	-	-	1
10ME62	1	2	1	-	-	-	-	-	-	-	-	1
10ME63	2	3	-	-	-	-	-	-	-	-	-	1
10ME64	2	2	1	-	-	-	-	-	-	-	-	1
10ME654	3	2	-	-	-	-	-	-	-	-	-	1
10ME664	3	3	-	-	-	-	-	-	-	-	-	1
10MEL67	1	3	-	-	-	-	-	-	-	-	-	2
10MEL68	1	3	-	-	-	-	-	-	-	-	-	2
7th SEM												
10ME71	3	3	2	-	-	-	-	-	-	-	-	1
10ME72	1	2	-	-	-	-	-	-	-	-	-	1
10ME73	3	2	3	2	-	-	1	1	-	-	-	-
10ME74	3	3		2	-	-	-	-	-	-	-	1
10ME758	2	-	-	-	-	-	-	-	-	-	-	1
10ME769	2	-	-	-	-	-	-	-	-	-	-	1
10MEL77	1	2	-	-	-	-	-	-	-	-	-	1
10MEL78	1	2	2	-	-	-	-	-	-	-	-	1
8th SEM												
10ME81	3	3	-	2	-	-	-	-	-	-	2	1
10ME82	2	2	1	-	-	-	-	-	-	-	-	1
10ME833	2	1	-	-	-	-	-	-	-	-	-	1
10ME844	2	1	-	-	-	-	-	-	-	-	-	1
10MEL85	3	3	3	2	2	2	2	-	2	-	2	2
10MEL86	2	3	-	-	-	-	-	-	2	3	-	2
AVERAGE	**2**	**2**	**2**	**2**	**2**	**2**	**1**	**2**	**2**	**2**	**2**	**1**
PERCENTAGE	**69**	**58**	**17**	**12**	**11**	**6**	**4**	**4**	**11**	**8**	**6**	**34**

Table B.3.1.3(b): Program Level CO with PSO matrices

	Program Specific Outcomes (PSOs)			
Course Code	**1**	**2**	**3**	**4**
1st SEM				
10MAT11	1			2
10PHY12	2	1	1	1
10CIV13	2			
10EME14	2	2	1	1
10ELE15	1	1		1
10WSL16	1	1	1	
10PHYL17	2	1	1	1
10CIP18				2
2nd SEM				
10MAT21	1			2
10CHE22		1		
10CCP23				2
10CED24		2	1	
10ELN25		1		
10CPL26				2
10CHEL27		1		
10CIV28				2
3rd SEM				
10MAT31	1			2
10ME32A	2		2	1
10ME33	2	2		
10ME34	1	2		
10ME35	2		3	
10ME36A	2		1	
10MEL37A	3		2	
10MEL38A	2		2	
4th SEM				
10MAT41	1			2
10ME42			2	
10ME43	1	2		
10ME44	1	2		
10ME45	1	2		
10ME46B		2		
10MEL47B			2	
10MEL48B			2	

Course Code	1	2	3	4
5th SEM				
10ME51				2
10ME52		2	1	
10ME53	1	2		
10ME54	2	1		
10ME55	2	2		
10ME56	1	2		
10MEL57	1	2		
10MEL58	1	2		
6th SEM				
10ME61	2		2	
10ME62	1	2	2	
10ME63	2	1		
10ME64		1		
10ME654			2	
10ME664			2	
10MEL67	2	1		
10MEL68	2	1		
7th SEM				
10ME71				2
10ME72	2	1	1	
10ME73		3	1	
10ME74				2
10ME758				2
10ME769				2
10MEL77	1	2	1	
8th SEM				
10ME81	2			2
10ME82	1	2		
10ME833	1	2		
10ME844	1	2		
10MEL85	2	3	2	3
10MEL86			2	2
Total	**58**	**57**	**37**	**38**
Percentage	**95**	**93**	**61**	**62**

3.2 Attainment of Course Outcomes (50)

3.2.1 Describe the assessment processes used to gather the data upon which the evaluation of course outcomes are based (10)

The assessment includes:

a. Direct method

b. Indirect method

Direct method:

In this method, continuous evaluation through internal assessment (IA) for theory subjects and record writing in practical courses is adopted.

Indirect method:

It consists of 2 components:

a. Performance in the end semester exam based on the marks obtained.

b. Course end survey conducted at the end of the course.

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

Table B.3.2.2(a) shows the course outcomes for the courses of the programme.

Table B.3.2.2(a): Course outcomes of all courses

Course Code	CO	IA	SEE	CES	TOTAL CO Attainment 70:20:10	CO Percentage	Target attainment
14MAT11	CO-1	1.86	2.03	1.61	1.87	62	70
	CO-2	1.28	2.07	1.61	1.47	49	70
	CO-3	1.19	1.98	1.61	1.39	46	70
	CO-4	1.91	2.09	1.61	1.92	64	70
	CO-5	2.07	2.18	1.61	2.04	68	70
14PHY12/22	CO-1	1.92	2.58	**2.05**	2.07	69	70
	CO-2	1.79	2.63	2.05	1.98	66	70
	CO-3	1.19	2.31	2.05	1.50	50	70

Course Code	CO	IA	SEE	CES	TOTAL CO Attainment 70:20:10	CO Percentage	Target attainment
14CIV13/23	CO-1	2.46	2.44	2.08	2.42	81	70
	CO-2	2.47	2.52	2.08	2.44	81	70
	CO-3	2.54	2.46	2.08	2.48	83	70
	CO-4	2.70	2.49	2.08	2.60	87	70
14EME14/24	CO-1	2.73	2.87	1.74	2.66	89	70
	CO-2	2.73	2.45	1.74	2.57	86	70
	CO-3	2.33	2.36	1.49	2.25	75	70
14ELE15/25	CO-1	2.36	2.13	1.36	2.21	74	70
	CO-2	2.27	2.02	1.39	2.13	71	70
	CO-3	2.59	2.13	1.28	2.36	79	70
	CO-4	2.20	2.04	1.31	2.08	69	70
14WSL16/26	CO-1	2.85	2.67	2.65	2.79	93	70
	CO-2	2.85	2.84	2.65	2.82	94	70
	CO-3	2.85	2.31	2.65	2.72	91	70
14PHYL17/27	CO-1	2.46	2.65	2.92	2.54	85	70
	CO-2	2.46	2.87	2.92	2.58	86	70
	CO-3	2.46	2.40	2.92	2.49	83	70
14MAT21	CO-1	2.24	2.32	2.07	2.24	75	70
	CO-2	1.82	2.49	2.07	1.98	66	70
	CO-3	1.71	2.44	2.07	1.89	63	70
	CO-4	1.33	2.55	2.07	1.65	55	70
	CO-5	1.42	2.59	2.07	1.72	57	70
14CHE12/22	CO-1	2.71	2.75	2.03	2.65	88	70
	CO-2	2.50	2.60	2.03	2.47	82	70
	CO-3	2.74	2.65	2.03	2.65	88	70
	CO-4	1.14	2.60	2.03	1.52	51	70
	CO-5	1.18	2.60	2.03	1.55	52	70
14PCD13/23	CO-1	2.63	2.54	2.65	2.61	87	70
	CO-2	2.31	2.70	2.65	2.42	81	70
	CO-3	2.77	2.70	2.65	2.74	91	70
	CO-4	2.77	2.31	2.65	2.67	89	70
	CO-5	2.58	2.25	2.65	2.52	84	70
14CED14/24	CO-1	2.55	2.45	2.32	2.51	84	70
	CO-2	2.55	2.80	2.32	2.58	86	70
	CO-3	2.55	2.98	2.32	2.61	87	70
14ELN15/25	CO-1	2.12	2.12	2.52	2.16	72	70
	CO-2	2.21	2.12	2.46	2.21	74	70
	CO-3	2.51	2.12	2.35	2.41	80	70
	CO-4	2.41	2.12	2.33	2.34	78	70
14CPL16/26	CO-1	2.92	2.65	2.56	2.83	94	70
	CO-2	2.92	2.48	2.56	2.80	93	70
	CO-3	2.92	2.59	2.56	2.82	94	70
	CO-4	2.92	2.31	2.56	2.76	92	70
	CO-5	2.92	2.80	2.56	2.86	95	70
14CHEL17/27	CO-1	2.92	2.25	2.83	2.78	93	70
	CO-2	2.92	2.50	2.83	2.83	94	70
	CO-3	2.92	2.70	2.83	2.87	96	70
10MAT31	CO-1	1.71	2.13	2.21	1.84	61	70
	CO-2	2.02	2.13	2.73	2.11	70	70
	CO-3	2.51	2.13	2.42	2.43	81	70
	CO-4	2.34	2.13	2.38	2.30	77	70
	CO-5	2.06	2.13	2.33	2.10	70	70
	CO-6	1.35	2.13	2.5	1.62	54	70

Course Code	CO	IA	SEE	CES	TOTAL CO Attainment 70:20:10	CO Percentage	Target attainment
10ME32A	CO-1	2.67	1.28	2.67	2.39	80	70
	CO-2	2.67	1.28	2.77	2.40	80	70
	CO-3	2.67	1.28	2.66	2.39	80	70
	CO-4	2.67	1.28	2.71	2.39	80	70
	CO-5	2.67	1.28	2.62	2.38	79	70
10ME33	CO-1	2.62	0.37	2.46	2.15	72	70
	CO-2	2.43	0.37	2.46	2.02	67	70
	CO-3	2.37	0.37	2.50	1.98	66	70
10ME34	CO-1	1.85	0.80	2.49	1.70	57	70
	CO-2	1.85	0.80	2.49	1.70	57	70
	CO-3	1.85	0.80	2.42	1.70	57	70
	CO-4	1.85	0.80	2.49	1.70	57	70
10ME35	CO-1	2.71	1.67	2.40	2.47	82	70
	CO-2	2.71	1.67	2.60	2.49	83	70
	CO-3	2.71	1.67	2.50	2.48	83	70
10ME36A	CO-1	2.69	1.45	2.57	2.43	81	70
	CO-2	2.69	1.45	2.49	2.42	81	70
	CO-3	2.69	1.45	2.37	2.41	80	70
10MEL37A	CO-1	2.99	2.64	2.67	2.88	96	70
	CO-2	2.99	2.64	2.53	2.87	96	70
	CO-3	2.99	2.64	2.47	2.86	95	70
10MEL38A	CO-1	2.93	0.64	2.49	2.42	81	70
	CO-2	2.93	0.64	1.91	2.37	79	70
	CO-3	2.93	0.64	2.24	2.40	80	70
	CO-4	2.93	0.64	2.11	2.39	80	70
10MAT41	CO-1	1.79	1.95	2.35	1.88	63	70
	CO-2	2.38	1.95	2.70	2.33	78	70
	CO-3	2.45	1.95	2.42	2.35	78	70
	CO-4	2.23	1.95	2.42	2.19	73	70
	CO-5	1.44	1.95	2.42	1.64	55	70
	CO-6	1.31	1.95	2.56	1.56	52	70
10ME42	CO-1	2.78	2.63	2.64	2.73	91	70
	CO-2	2.78	2.63	2.52	2.72	91	70
	CO-3	2.78	2.63	2.62	2.73	91	70
10ME43	CO-1	2.76	0.94	2.60	2.38	79	70
	CO-2	2.62	0.94	2.43	2.26	75	70
	CO-3	2.59	0.94	2.55	2.25	75	70
10ME44	CO-1	2.75	1.75	2.04	2.48	83	70
	CO-2	2.75	1.75	2.16	2.49	83	70
	CO-3	2.75	1.75	2.00	2.48	83	70
	CO-4	2.75	1.75	2.05	2.48	83	70
	CO-5	2.75	1.75	2.09	2.48	83	70
	CO-6	2.75	1.75	2.10	2.49	83	70

Course Code	CO	IA	SEE	CES	TOTAL CO Attainment 70:20:10	CO Percentage	Target attainment
10ME45	CO-1	2.48	1.50	2.60	2.30	77	70
	CO-2	2.82	1.50	2.46	2.52	84	70
	CO-3	2.21	1.50	2.37	2.08	69	70
	CO-4	2.69	1.50	2.49	2.43	81	70
	CO-5	2.68	1.50	2.46	2.42	81	70
10ME46B	CO-1	2.74	0.96	2.78	2.38	79	70
	CO-2	2.63	0.96	1.57	2.19	73	70
	CO-3	2.60	0.96	1.50	2.16	72	70
10MEL47B	CO-1	2.95	2.75	1.90	2.80	93	70
	CO-2	2.95	2.75	1.60	2.77	92	70
	CO-3	2.95	2.75	3.00	2.91	97	70
10MEL48B	CO-1	2.95	0.84	1.62	2.39	80	70
	CO-2	2.95	0.84	1.72	2.40	80	70
	CO-3	2.95	0.84	1.64	2.40	80	70
10ME51	CO-1	2.35	2.52	2.52	2.40	80	70
	CO-2	2.58	2.52	2.53	2.56	85	70
	CO-3	2.70	2.52	2.84	2.68	89	70
10ME52	CO-1	2.74	0.44	2.65	2.27	76	70
	CO-2	2.74	0.44	2.50	2.26	75	70
	CO-3	2.74	0.44	2.47	2.25	75	70
	CO-4	2.74	0.44	2.39	2.25	75	70
10ME53	CO-1	2.31	0.97	2.57	2.06	69	70
	CO-2	2.38	0.97	2.45	2.11	70	70
	CO-3	2.44	0.97	2.43	2.14	71	70
10ME54	CO-1	2.73	1.10	2.20	2.35	78	70
	CO-2	2.63	1.10	1.93	2.25	75	70
	CO-3	2.1	1.10	2.07	1.90	63	70
	CO-4	2.14	1.10	2.33	1.95	65	70
10ME55	CO-1	2.80	1.79	3.00	2.62	87	70
	CO-2	2.81	1.79	2.00	2.53	84	70
	CO-3	2.80	1.79	1.00	2.42	81	70
10ME56	CO-1	2.62	0.80	2.92	2.28	76	70
	CO-2	2.35	0.80	2.08	2.01	67	70
	CO-3	2.39	0.80	1.50	1.98	66	70
10MEL57	CO-1	2.90	2.84	1.90	2.79	93	70
	CO-2	2.88	2.84	1.60	2.74	91	70
	CO-3	2.86	2.84	3.00	2.87	96	70
10MEL58	CO-1	2.93	2.10	1.75	2.65	88	70
	CO-2	2.92	2.10	1.75	2.63	88	70
	CO-3	2.92	2.10	1.75	2.63	88	70
10ME61	CO-1	2.39	1.28	2.66	2.19	73	70
	CO-2	2.54	1.28	2.61	2.29	76	70
	CO-3	2.66	1.28	2.59	2.38	79	70
	CO-4	2.43	1.28	2.70	2.22	74	70

Course Code	CO	IA	SEE	CES	TOTAL CO Attainment 70:20:10	CO Percentage	Target attainment
10ME62	CO-1	2.25	0.45	2.57	1.92	64	70
	CO-2	2.01	0.45	2.52	1.75	58	70
	CO-3	2.08	0.45	2.67	1.81	60	70
	CO-4	2.38	0.45	2.48	2.00	67	70
	CO-5	2.50	0.45	2.46	2.09	70	70
10ME63	CO-1	2.71	0.73	2.91	2.33	78	70
	CO-2	2.65	0.73	2.09	2.21	74	70
	CO-3	2.43	0.73	1.71	2.01	67	70
10ME64	CO-1	2.14	1.20	2.20	1.96	65	70
	CO-2	2.58	1.20	1.93	2.24	75	70
	CO-3	2.68	1.20	2.07	2.32	77	70
	CO-4	2.36	1.20	2.33	2.13	71	70
10ME654	CO-1	2.98	1.95	2.21	2.70	90	70
	CO-2	2.90	1.95	2.10	2.63	88	70
	CO-3	2.87	1.95	2.06	2.60	87	70
10ME664	CO-1	2.84	2.71	2.83	2.81	94	70
	CO-2	2.79	2.71	2.46	2.74	91	70
	CO-3	2.78	2.71	2.54	2.74	91	70

Course Code	CO	IA	SEE	CES	TOTAL CO Attainment 70:20:10	CO Percentage	Target attainment
10MEL67	CO-1	2.93	2.69	3.00	2.89	96	70
	CO-2	2.85	2.69	3.00	2.83	94	70
	CO-3	2.89	2.69	3.00	2.86	95	70
10MEL68	CO-1	2.93	2.51	2.68	2.82	94	70
	CO-2	2.89	2.51	2.70	2.79	93	70
	CO-3	2.90	2.51	2.60	2.79	93	70
10ME71	CO-1	2.02	2.00	2.03	2.02	67	70
	CO-2	2.32	2.00	1.75	2.19	73	70
	CO-3	2.52	2.00	1.78	2.34	78	70
10ME72	CO-1	2.37	1.07	2.57	2.13	71	70
	CO-2	1.93	1.07	2.42	1.80	60	70
	CO-3	1.64	1.07	2.59	1.62	54	70
	CO-4	1.85	1.07	2.53	1.76	59	70
10ME73	CO-1	2.73	0.93	1.81	2.28	76	70
	CO-2	2.74	0.93	2.33	2.33	78	70
	CO-3	2.73	0.93	1.00	2.20	73	70
10ME74	CO-1	2.16	1.85	2.65	2.15	72	70
	CO-2	2.45	1.85	2.45	2.33	78	70
	CO-3	2.02	1.85	2.45	2.03	68	70
	CO-4	2.08	1.85	2.55	2.08	69	70
10ME758	CO-1	2.74	1.27	2.88	2.46	82	70
	CO-2	2.80	1.27	1.58	2.37	79	70
	CO-3	2.81	1.27	1.69	2.39	80	70

Course Code	CO	IA	SEE	CES	TOTAL CO Attainment 70:20:10	CO Percentage	Target attainment
10ME769	CO-1	2.46	1.77	1.95	2.27	76	70
	CO-2	2.66	1.77	1.95	2.41	80	70
	CO-3	2.81	1.77	1.95	2.52	84	70
	CO-4	2.77	1.77	1.95	2.49	83	70
10MEL77	CO-1	3.00	2.40	2.53	2.83	94	70
	CO-2	3.00	2.40	2.59	2.84	95	70
	CO-3	3.00	2.40	2.53	2.83	94	70
	CO-4	3.00	2.40	2.47	2.83	94	70
10ME81	CO-1	1.5	1.77	3.00	1.70	57	70
	CO-2	1.5	1.80	2.70	1.68	56	70
	CO-3	2.66	1.77	2.39	2.45	82	70
	CO-4	2.44	1.77	2.44	2.31	77	70
10ME82	CO-1	2.13	1.66	2.45	2.07	69	70
	CO-2	1.85	1.66	1.45	1.77	59	70
	CO-3	2.58	1.66	1.25	2.26	75	70
	CO-4	0.58	1.66	2.50	0.99	33	70
	CO-5	1.20	1.66	1.50	1.32	44	70
10ME833	CO-1	2.91	1.97	2.50	2.68	89	70
	CO-2	2.88	1.97	2.38	2.65	88	70
	CO-3	2.88	1.97	2.30	2.64	88	70
10ME844	CO-1	2.67	1.60	2.10	2.40	80	70
	CO-2	2.86	1.60	1.78	2.50	83	70
	CO-3	2.77	1.60	1.71	2.43	81	70
	CO-4	2.67	1.60	2.14	2.40	80	70
10MEL85	CO-1	3.00	2.86	2.67	2.94	98	70
	CO-2	3.00	2.86	2.67	2.94	98	70
	CO-3	3.00	2.86	2.50	2.92	97	70
	CO-4	3.00	2.86	2.50	2.92	97	70
	CO-5	3.00	2.86	2.73	2.95	98	70
	CO-6	3.00	2.86	2.47	2.92	97	70
10MEL86	CO-1	2.99	2.99	2.82	2.97	99	70
	CO-2	2.99	2.99	2.82	2.97	99	70
	CO-3	2.99	2.99	2.82	2.97	99	70
AVERAGE		2.51	1.85	2.30	2.35	78.41	70

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

3.3.1 Describe assessment tools and processes used for measuring the attainment of each PO and PSO (10)

Assessment is done using 2 methods:

a. Direct method:

For all the theory courses, generally, 3 internal assessment tests are conducted at 6th, 10th, and 14th week of the semester. The test is conducted in the pattern of end semester examination with the schedule and question paper in-line with university and end semester examination question paper. The assessment of the conducted IA (of the blue books) is carried out by the course instructor. The instructor discusses with the student about their performance in the internal test. In the case of laboratory courses, weight is given to regular conduct of experiments and record writing. At the end of the semester, the test is conducted in-line with the conduct of practical examinations by the university. The marks are awarded for the conduct of experiments, reporting the results and viva-voce to award the IA marks. The average of the best 2 tests for a maximum of 3 tests is awarded as the internal assessment marks.

b. Indirect method:

The marks obtained in the semester end examination conducted is given a weighted of 20% in assessment of the performance. Course end survey for theory and practical courses are enclosed in Fig. 2.2.1(e) and Fig. 2.2.1(f) respectively. The survey format is on 4-point scale with responses like very strongly agree and disagree (weights 3 to 0). The survey is analyzed and reduced to 10% for the assessment.

3.3.2 Provide results of evaluation of each PO and PSO (40)

Table B.3.3.2(a): Results of evaluation

	Program Outcomes (POs) - Attainment											
Course Code	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
10MAT31	2.1	1.8										
10ME32A	2.4	2.4										2.4
10ME33	2.1	2										2.1
10ME34	1.5	1.5										1.5
10ME35	2.5											2.5
10ME36A	1.2				1.2					1.2		1.2
10MEL37A	2.9			2.9	2.9				2.9			2.9
10MEL38A	2.3			2.3					2.3			2.3
10MAT41												
10ME42	2.7			2.7					2.7			2.7
10ME43	2.3	2.3										2.3
10ME44	2.5	2.5	2.5									2.5
10ME45	1.8	1.5	0.9									1.4
10ME46B	2.3	2.2										2.3
10MEL47B	2.8			2.9					2.9			
10MEL48B	2.4			2.4					2.4			2.4
10ME51	2.6				2.7	2.5			2.5	2.7	2.7	2.6
10ME52	2.3	2.3	2.3									2.3
10ME53	1.4	1.7										1.4
10ME54	2.2	2										
10ME55	2.5	2.5	2.5		2.5				2.5	2.5		2.5
10ME56	2.1	2										2.1
10MEL57	2.8	2.8										2.8
10MEL58	2.5	2.5										2.5
10ME61	2.2	2.2	2.4	2.2								2.3
10ME62	1.9	2	2									1.9
10ME63	2.2	2.1										2.3
10ME64	2.1	2.2	2.2									2.2
10ME654	2.6	2.6										2.6
10ME664	2.8	2.7										2.8
10MEL67	2.7	2.6										2.6
10MEL68	2.7	2.6										2.7
10ME71	2	2.2	2.3									2.2
10ME72	1.9	1.7										1.8
10ME73	2.3	2.3	2.2	2.2			2.3	2.3				
10ME74	2.2	2.1		2								2.2
10ME758	2.2											2.2
10ME769	2.4											2.4
10MEL77	2.8	2.8										2.8
10MEL78												
10ME81	1.7	0		2.5							2.4	1.3
10ME82	1.7	1.1	0									1.2
10ME833	2.7	2.6										2.7
10ME844	2.4	2.4										2.4
10MEL85	2.9	2.9	2.9	2.9	2.9	2.9	2.9		2.9		2.9	2.9
10MEL86	1	1.4							2.4	0.8		1
AVERAGE	**2.1**	**1.5**	**0.5**	**0.6**	**0.3**	**0.2**	**0.2**	**0.1**	**0.6**	**0.2**	**0.2**	**1.9**
PERCENTAGE	**71**	**51**	**18**	**20**	**11**	**6**	**6**	**3**	**19**	**7**	**7**	**65**

Table B.3.3.2(b): Results of evaluation

	Program Specific Outcomes (PSOs) - Attainment			
Course Code	**1**	**2**	**3**	**4**
10MAT31				2
10ME32A	2.4		2.4	2.4
10ME33	2.1	2.0		
10ME34	1.5	1.5		
10ME35	2.5		2.5	
10ME36A	2.4		2.4	
10MEL37A	2.9		2.9	
10MEL38A	2.3		2.3	
10MAT41				2
10ME42			2.7	
10ME43	2.4	2.3		
10ME44	2.5	2.5		
10ME45	1.6	1.4		
10ME46B		2.2		
10MEL47B			2.8	
10MEL48B			2.4	
10ME51				2.6
10ME52		2.3	2.3	
10ME53	1.5	1.5		
10ME54	2.1	2.0		
10ME55	2.6	2.5		
10ME56	2.3	2.1		
10MEL57	2.8	2.9		
10MEL58	2.5	2.5		
10ME61	2.3		2.3	
10ME62	2.1	1.9	1.7	
10ME63	2.2	2.1		
10ME64		2.1		
10ME654			2.6	
10ME664			2.8	
10MEL67	2.6	2.5		
10MEL68	2.7	2.6		
10ME71				2.2
10ME72	1.7	1.7	2.1	
10ME73		2.2	2.3	
10ME74				2.1
10ME758				2.4
10ME769				2.4
10MEL77	2.8	2.8	2.8	
10MEL78				
10ME81	2.5			1.6
10ME82	1.6	1.8		
10ME833	2.7	2.7		
10ME844	2.4	2.5		
10MEL85	2.9	2.9	2.9	2.9
10MEL86	2.4	0.0		
AVERAGE	**1.46**	**1.21**	**0.92**	**0.41**
PERCENTAGE	**49**	**40**	**31**	**14**

CRITERION 4	STUDENT'S PERFORMANCE	150

4. STUDENT'S PERFORMANCE

Table B.4(a) shows the admission details for the past three years.

Table B.4(a): Admission details for the past three years

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	**CAY (2018 -19)**	**CAY m1 (2017-18)**	**CAY m2 (2016-17)**
Sanctioned intake strength in the Program (N)	120	120	120
Total number of students admitted in first year minus number of students migrated to other programs/institutions plus number of students migrated to this program (N1)	73	89	103
Number of admitted students in 2nd year in the same batch via lateral entry (N2)	NA	37	34
Separate division students, if applicable (N3)	NA	NA	NA
Total number of admitted students in the programme (N1 + N2 + N3)	73*	126	137

*Only First Year Admission without Lateral Entry

Note: Unfilled seats in first year are surrendered to CET by KEA for lateral entry admission.

Table B.4(b) shows the number of students successfully graduated without backlogs.

Table B.4(b): Number of students successfully graduated without backlogs

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**
2018-2019 (CAY)	73 (73+NA+NA)				
2017-2018 (CAYm1)	126 (89+37+NA)	51			
2016-2017 (CAYm2)	137 (103+34+NA)	40	22+8		
2015-2016 (CAYm3)	139 (113+26+NA)	65	25+5	14+4	
2014-2015 (LYG)	128 (105+23+NA)	53	39+7	29+6	28+5
2013-2014 (LYGm1)	152 (127+25+NA)	72	52+11	36+10	35+10
2012-2013 (LYGm2)	150 (125+25+NA)	82	62+13	50+10	48+10

Table B.4(c): Number of students successfully graduated with backlogs

Year of entry	N1 + N2 +N3 (As defined above)	Number of students who have successfully graduated (students with backlog in stipulated period of study)			
		I Year	II Year	III Year	IV Year
2018-2019 (CAY)	73 (73+NA+NA)				
2017-2018 (CAYm1)	126 (89+37+NA)	79			
2016-2017 (CAYm2)	137 (103+34+NA)	73	65+30		
2015-2016 (CAYm3)	139 (113+26+NA)	92	76+25	73+23	
2014-2015 (LYG)	128 (105+23+NA)	87	83+21	79+19	73+15
2013-2014 (LYGm1)	152 (127+25+NA)	108	100+23	94+21	81+17
2012-2013 (LYGm2)	150 (125+25+NA)	115	108+25	99+25	86+22

4.1 Enrolment ratio (20)

Enrolment Ratio (N1/N)

$$\frac{73+89+103}{360}=74\%$$

4.2 Success rate in the stipulated period of the program (40)

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

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

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

Success rate without backlogs in any year of study = 25 × Average SI = 25× 0.30=7.5

Table B.4.2.1: Success rate without backlogs

Item	LYG (2014-15) (CAYm4)	LYGm1 (2013-14) (CAYm5)	LYGm2 (2012-13) (CAYm6)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	128	152	150
Number of students who have graduated without backlogs in the stipulated period	33	45	58
Success index (SI)	0.25	0.29	0.38
Average SI	0.30		

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

SI = (Number of students who graduated from the program in the stipulated period of course duration) / (Number of students admitted in the first year of that batch and actual admitted in 2nd year via lateral entry and separate division, if applicable).

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

Success rate = 15 × Average SI= 15 × 0.68 = 10.2 = 10

Table B.4.2.2: Success rate with backlogs in stipulated period of study

Item	LYG (2014-15) (CAYm4)	LYGm1 (2013-14) (CAYm5)	LYGm2 (2012-13) (CAYm6)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	128	152	150
Number of students who have graduated with backlog in the stipulated period	88	98	108
Success index (SI)	0.68	0.64	0.72
Average SI	0.68		

4.3 Academic performance in third year (15)

Academic Performance = 1.5× Average API (Academic Performance Index) = 1.5 × 5.77 = 8.65 = 9

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

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

Table B.4.3: Academic performance in 3rd year

Academic Performance	**CAYm1 (2017-18)**	**CAYm2 (2016-17)**	**CAYm3 (2015-16)**
Mean of CGPA or Mean Percentage of all successful students (X)	6.01	6.36	5.98
Total number of successful students (Y)	96	98	115
Total number of students appeared in the examination (Z)	101	104	123
API = X* (Y/Z)	5.71	5.99	5.59
Average API = (AP1 + AP2 + AP3)/3	5.77		

4.4 Academic performance in second year (15)

Academic Performance Level = 1.5 × Average API (Academic Performance Index) = 1.5×4.99 = 7.49

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

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

Table B.4.4: Academic performance in 2nd year

Academic Performance	CAYm1 (2017-18)	CAYm2 (2016-17)	CAYm3 (2015-16)
Mean of CGPA or Mean Percentage of all successful students (X)	5.93	4.64	6.07
Total number of successful students (Y)	95	101	104
Total number of students appeared in the examination (Z)	107	118	110
API = X* (Y/Z)	5.26	3.97	5.74
Average API = (AP1 + AP2 + AP3)/3	4.99		

4.5 Placement, higher studies and entrepreneurship (40)

Assessment Points = 40 × average placement = 40×0.756 = 30.24

Table B.4.5: Placement, Higher Studies and Entrepreneurship for Past Three Years

Item	CAYm1 (2017-18)	CAYm2 (2016-17)	CAYm3 (2015-16)
Total No. of Final Year Students (N)*	98	115	124
No. of students placed in companies or Government Sector (x)	78	84	80
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent state or National Level Tests, GRE, GMAT etc.) (y)	02	06	05
No. of students turned entrepreneur in engineering/ technology (z)	NIL	NIL	NIL
x + y + z =	80	90	85
Placement Index: (x + y + z) /N	0.81	0.78	0.68
Average placement = (P1 + P2 + P3)/3	0.75		

* Indicates the number of students entering final year (includes backlog students), who do not qualify for placement through campus.

4.6 Professional activities (20)

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

Table 4.6.1(a): List of professional societies/chapters

Sl. No.	Professional societies/chapters
1	Society of Automotive Engineers (SAE) India
2	Forum of Acharya's Mechanical Engineers (FAME)

Table 4.6.1(b): List of professional societies/chapters and organizing engineering events

Sl. No.	Name of Professional Societies/Chapters	Organized Event and Title	Organized Period	No. of Participants/Attendees	No. of days
1	Society of Automotive Engineers (SAE) India	"SAE REEV CONCLAVE"	9/10/2018	4	1
2	Forum of Acharya's Mechanical Engineers (FAME)	"SPARK", Inauguration of Student club and Fresher's orientation	27/9/2018	185	1
3	Forum of Acharya's Mechanical Engineers (FAME)	Indian Engineering Olympiad – 2018	25/02/2018	160	1
4	Society of Automotive Engineers (SAE) India	SAE-TIFAN 2018	5/11/2018	4	1
5	Society of Automotive Engineers (SAE) India	Baja SAE INDIA 2017	14/7/2017 and 15/7/2017	2	2

4.6.2 Publication of technical magazines, newsletters (5)

Department publishes one newsletter per semester.

Table 4.6.2(a): List of publication of technical magazines, newsletters in CAY (2018-19)

Sl. No	Year	Name of the Publication of Technical Magazines/Newsletters	Month of Publication
1	2018	AIT, Mech Newsletter-Volume 7 Issue 1	Dec 2018

Table 4.6.2(b): List of publication of technical magazines, newsletters in CAYm1 (2017-18)

Sl. No	Year	Name of the Publication of Technical Magazines/Newsletters	Month of Publication
1	2018	AIT, Mech Newsletter Volume 6 Issue 2	Jun 2018
2	2017	AIT, Mech Newsletter-Volume 6 Issue 1	Dec 2017

Table 4.6.2(c): List of **publication of technical magazines, newsletters** in CAYm2 (2016-17)

Sl. No	Year	Name of the Publication of Technical Magazines/Newsletters	Month of Publication
1	2017	AIT, Mech Newsletter-Volume 5 Issue 2	Jun 2017
2	2016	AIT, Mech Newsletter-Volume 5 Issue 1	Dec 2016

Table 4.6.2(d): List of publication of technical magazines, newsletters in CAYm3 (2015-16)

Sl. No	Year	Name of the Publication of Technical Magazines/Newsletters	Month of Publication
1	2016	AIT, Mech Newsletter-Volume 4 Issue 2	Jun 2016
2	2015	AIT, Mech Newsletter-Volume 4 Issue 1	Dec 2015

*Department publishes one newsletter per semester

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

Table 4.6.3(a): Participation in inter-institute events by students

Sl. No	Date	Name of Student	Semester /Year	Event	Place	Awards
1	15/11/2018 to 17/11/2018	Vallabh V Kulkarni, Raghavendra V Bhat, Ujjwal Bhandari and Arpit Bhajpai	7th Semester	Model Exhibition at KRISHI MELA-2018.	GKVK Campus, Bengaluru	Participated
2	12/10/2018	Vallabh.V. Kulkarni. and Rahavendra Bhatt.	7th Semester	Paper Presentation, "Design and Fabrication of Manually Operated Paddy Trans planter"	Channabasaveshwara Institute of Technology, Gubbi, Tumkur	Paper Presentation
3	19/4/2018	Mr.Nashid Hazakat and Mr.Tippu Sultan	7th Semester	Workshop on "Robotics and Sensors"	Cisco, Cessna Tech Park, Marathalli, Bengaluru	Conducted Workshop
4	1/4/2018	Mr.Suman A and Mr.Vinay M V	8th Semester	"Dehumidification of atmospheric air for water production".	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET).	Publication

5	2/3/2018	A team of 27 students	3rd and 4th Year	One day training on "Engine Management System"	Nandi Toyota Automotive Training Centre, Bangalore.	Participated
6	26/2/2018 to 28/2/2018	Mr.Ravikumar S & Mr. Suraj R	4th Semester	"Anveshana" "Flexibricks for Green Building"	Shikshakara Sadana, Bangalore	Selected for Final Competition in "Anveshana"

Sl. No	**Date**	**Name of Student**	**Semester /Year**	**Event**	**Place**	**Awards**
7	1/1/2018	MR.Kumar Ramanaik.	7th Semester	CADD QUEST 2018	CADD Centre Bangalore.	Won Cash Price of Rs.5000/-
8	5/11/2017	A team of 19 students	3rd & 4th Year	SAE TIFFAN 2018	Pimpri Chinchwad College of Engineering and Research, Pune	Cleared Virtual Round
9	14/7/2017 to 15/7/2017	A team of 25 students	2nd, 3rd & 4th Year	SAE BAJA 2018	Dayananda College of Engineering, Bangalore	Cleared virtual round
10	14/9/2017 to 15/9/2017	Mr.Nashid, Mr.Ankush Dahiya, Mr.Tippu Sulthan and Mr.Dishant	7th Semester	**"**Robotics and 3D Printing"	Sri Saptagiri Pre-University College, Tumkur.	Conducted Workshop
11	7/11/2017	Mr. Nashid, Mr. Ankush Dahiya, Mr.Tippu Sulthan and Mr. Dishant	7th Semester	One day workshop on "Robotics and 3D Printing"	St. Anthony Claret School, Bangalore.	Conducted Workshop

Table 4.6.3(b): Participation in inter-institute events by students in CAY (2018-19)

Sports						
Sl. No	**Date**	**USN**	**Event**	**Place**	**Student's name**	**Awards**
1	07/11/2018	1AY16ME406	Netball	KNSIT, Bangalore	Jayanand Mahantinamath	Participated
2	07/11/2018	1AY17ME053	Netball	KNSIT, Bangalore	Nithin Gowda	Participated
3	26/10/2018 to 29/10/2018	1AY17ME069	Kho Kho	SJCIT Chikkaballapur	Sangamesh N M	Participated
4	26/10/2018 to 29/10/2018	1AY17ME053	Netball	SJCIT Chikkaballapur	Nithin Gowda	Participated
5	04/10/2018 and 05/10/2018	1AY16ME406	Softball	Sir. MVIT, Bangalore	Jayanand Mahantinamath	Participated
6	14/09/2018 and 15/09/2018	1AY15ME086	Basketball	NMIT, Bangalore	Rohan	Participated

Soft skill Training						
Sl. No	**Date**	**Title of the Training**	**No. of Participants**	**Semester**	**Name of company**	**Outcome of the Training**
1	9/12/2018	Infosys Company Specific Training	75	7	Innovation Unlimited	Enhancement of skills for better employability & Career Development.
2	3/10/2018 to 5/10/2018	Soft Skill Training	128	5	J V Global	
3	5/10/2018	Soft Skill Training	128	7	Innovation Unlimited	
4	4/10/2018	Soft Skill Training	128	7	Innovation Unlimited	
5	11/09/2018	Soft Skill Training	128	7	Innovation Unlimited	
6	23/8/2018 to 26/8/2018	Pre-Employment Skill Assessment Program	218	3, 5, 7	AMCAT (Aspiring Minds Assessment	

					Private Limited)	
Guest Lectures						
Sl. No	**Date**	**Resource Person with Designation**		**Topic**	**No. of participants**	**Semester**
1	2/11/2018	Mr. Raghu B R, Dy. Manager, Technical Training, MILE, Mahindra & Mahindra Ltd.		Recent Trends in Automotive Electronics	82	7
2	26/10/2018	Gangadhara N Sr. Business executive Manufacturing Solutions		Demonstration on 3D printing for Educators	65	5
3	9/10/2018	Mr. Sunil Gupta, Mr. Chandrashekhar P, Mr. Shashidhar P, General Motors Technology, Center India		SAE REEV Conclave	55	5
4	1/10/2018	Dr. R. Chandrashekar		Welcome to the wonderful world of Shape Memory Alloys	102	7
5	25/09/2018	Col. Vinod C Sasalatti (Retd.) Deputy Chief Engineer BMRCL, Bangalore		Army Engineers and Career Prospects for Engineers in Indian Army	120	5

Table 4.6.3(c): Participation in inter-institute events by students in CAYm1 (2017-18)

Sports						
Sl. No	**Date**	**Student Name**	**USN**	**Event**	**Place**	**Awards**
1	09/05/2018	Jayanand Mahantinamath	1AY16ME406	Archery	DBIT, Bangalore	Participated
2	13/04/2018 and 14/04/2018	Sagar B	1AY17ME423	Ball Badminton	BMSIT Bangalore	Participated
3	13/03/2018 and 14/03/2018	Vamsi K R	1AY14ME053	Handball	SCE, Bangalore	Participated

4	13/03/2018 and 14/03/2018	Jayanand Mahantinamath	1AY16ME406	Handball	SCE, Bangalore	Participated
5	13/03/2018 and 14/03/2018	Sangamesh N M	1AY17ME069	Handball	SCE, Bangalore	Participated
6	13/03/2018 and 14/03/2018	Nithin Gowda	1AY17ME053	Handball	SCE, Bangalore	Participated
7	06/03/2018 to 12/03/2018	Sagar Jaiswal	1AY15ME090	Cricket	RLJIT, Doddaballapur	Participated
8	06/03/2018 to 12/03/2018	Prabhat Bhaskar	1AY14ME080	Cricket	RLJIT, Doddaballapur	Participated
9	06/03/2018 and 07/03/2018	Ganesh M Y	1AY17ME024	Kho Kho	SJCIT Chikkaballapur	Participated
10	06/03/2018 and 07/03/2018	Sangamesh N M	1AY17ME069	Kho Kho	SJCIT Chikkaballapur	Participated
11	02/03/2018 and 03/03/2018	Prakash Konnur	1AY14ME082	Volleyball	AIT, Bangalore	Winner
12	26/02/2018 and 27/02/2018	Bheerappa	1AY16ME401	Athletics	NITTE, Mangalore	Participated
13	26/02/2018 and 27/02/2018	Bheerappa	1AY16ME401	Athletics	NITTE, Mangalore	Participated
14	20/02/2018 to 22/02/2018	Lenin Pereira	1AY17ME045	Football	SPCE, Bangalore	Participated
15	20/02/2018 to 22/02/2018	Rajesh	1AY14ME088	Football	SPCE, Bangalore	Participated
16	20/02/2018 to 22/02/2018	Madhukesh Kumar Thakur	1AY15ME059	Football	SPCE, Bangalore	Participated

17	20/02/2018 to 22/02/2018	Jayanand Mahantinamath	1AY16ME406	Football	SPCE, Bangalore	Participated
18	08/11/2017 and 09/11/2017	Bharath R	1AY17ME404	Kabaddi	MCE, Hassan	Participated
19	03/11/2017 to 06/11/2017	Bheerappa	1AY16ME401	Athletics	VTU Campus Belgaum	Participated
20	27/10/2017 and 28/10/2017	Deekshith V	1AY16ME402	Netball	GAT, Bangalore	3rd Place
21	27/10/2017 and 28/10/2017	Jayanand Mahantinamath	1AY16ME406	Netball	GAT, Bangalore	3rd Place
22	27/10/2017 and 28/10/2017	K Vamsi Krishnamraju	1AY14ME053	Netball	GAT, Bangalore	3rd Place
23	27/10/2017 and 28/10/2017	Naresh Bellave	1AY14ME071	Netball	GAT, Bangalore	3rd Place
24	27/10/2017 and 28/10/2017	Nithin Gowda	1AY17ME053	Netball	GAT, Bangalore	3rd Place
25	11/10/2017 to 12/10/2017	Jayanand Mahantinamath	1AY16ME406	Softball	AIT, Bangalore	Participated
26	23/10/2017	Prabhat Bhaskar	1AY14ME080	Cricket	SJCIT, Chikkaballapur	Participated
27	04/09/2017 and 05/09/2017	Sagar B	1AY17ME423	Badminton	ADITYA IT, Bangalore	Participated
28	27/09/2017 and 28/09/2017	D Joseph Daniel	1AY15ME036	Basketball	NMIT Bangalore	Participated
29	27/09/2017 and 28/09/2017	Naresh Bellave	1AY14ME071	Basketball	NMIT Bangalore	Participated
30	27/09/2017 and	Rohan	1AY15ME086	Basketball	NMIT Bangalore	Participated

	28/09/2017					
31	27/09/2017 and 28/09/2017	Preston Pereira	1AY15ME078	Basketball	NMIT Bangalore	Participated
Soft skill programme						
Sl. No	**Date**	**Name of company**	**Title of the Training**	**No. of Participants**	**Semester**	**Outcome of the Training**
1	9/11/2017 to 10/11/2017	Seven Sense Company	Soft Skill Training	93	1	Enhancement of skills for better employability & Career Development.
2	02/11/2017	Genesys Company		124	3, 5	
3	31/10/2017			124	3, 5	
4	30/10/2017			124	3, 5	
5	25/10/2017	Bizotic Company		59	7	
6	24/10/2017			59	7	
7	23/10/2017			59	7	
8	08/10/2017	AMCAT Aspiring Minds Assessment Private Limited	Pre-employment Skill Assessment Program	245	3, 5, 7	
9	07/10/2017	Bizotic Company	Soft Skill Training	59	7	
10	06/10/2017			59	7	
11	9/7/2017			72	7	
12	2/9/2017 to 4/9/2017	10 Seconds	Infosys Company Specific Training	30	7	
Guest lecturers						
Sl. No	**Date**	**No. of Participants**	**Resource Person with Designation**		**Topic**	**Semester**
1	19/04/2018	80	Cisco, Cessna Tech Park, Marathalli, Bengaluru		"Robotics and Sensors	6, 8
2	20/02/2018	120	17 foreign Universities		Studies in Overseas	8
3	20/11/2017	54	Mr. S N Sondur, Principal Scientific Officer –Biofuel Cell, KSCST, Bengaluru		Bio-Fuel	5

4	21/09/2017 to 23/09/2017	97	Mr. Rajat, Mr. Nitin and Mr. Sourabh, Sun Fox Technologies Pvt Ltd, Dehradun	Vehicle Designing And Engine Fundamentals	5
5	14/09/2017 to 15 /09/2017	78	Acharya Students	Robotics and 3D Printing	7
6	23/08/2017	85	Mr. Krishna Prasad A, Senior Application Engineer @ DHIO, Bengaluru	Advanced Technology in CFD and Thermal Engineering	5 , 7

Table 4.6.3(d): Participation in inter- institute events by students in CAYm2 (2016-17)

Sports						
Sl. No.	**Date**	**Student Name**	**USN**	**Event**	**Place**	**Awards**
1	15/04/2017 and 16/04/2017	Tarun Achaiah P	1AY14ME107	Hockey	BMSIT, Bangalore	Participated
2	15/04/2017 and 16/04/2017	Vijay Kumar S	1AY14ME114	Hockey	BMSIT, Bangalore	Participated
3	15/04/2017 and 16/04/2017	Akshay Bharath	1AY16ME009	Hockey	BMSIT, Bangalore	Participated
4	15/04/2017 and 16/04/2017	Naresh Bellave	1AY14ME071	Hockey	BMSIT, Bangalore	Participated
5	15/04/2017 and 16/04/2017	Sharath G L	1AY16ME078	Hockey	BMSIT, Bangalore	Participated
6	20/03/2017 to 30/03/2017	Sagar Jaiswal	1AY15ME090	Cricket	RLJIT, Doddaballapur	Participated
7	20/03/2017 to 30/03/2017	Prabhat Bhaskar	1AY14ME080	Cricket	RLJIT, Doddaballapur	Participated
8	03/03/2017 to 05/03/2017	Lenin Pereira	1AY17ME045	Football	AIT, Bangalore	3rd Place
9	03/03/2017 to 05/03/2017	Binayak Shrestha	1AY13ME026	Football	AIT, Bangalore	3rd Place
10	03/03/2017 to 05/03/2017	Rajesh	1AY14ME088	Football	AIT, Bangalore	3rd Place

11	03/03/2017 to 05/03/2017	Madhukesh Kumar Thakur	1AY15ME059	Football	AIT, Bangalore	3rd Place
12	03/03/2017 to 05/03/2017	Jayanand Mahantina math	1AY16ME406	Football	AIT, Bangalore	3rd Place
13	27/03/2017 and 28/03/2017	Vamsi K R	1AY14ME053	Handbal l	SVIT, Bangalore	Participated
14	27/03/2017 and 28/03/2017	Jayanand Mahantina math	1AY16ME406	Netball	SVIT, Bangalore	Participated
15	27/03/2017 and 28/03/2017	Rajat Kumar Singh	1AY13ME092	Handbal l	SVIT, Bangalore	Participated
16	27/03/2017 and 28/03/2017	Kiran H R	1AY14ME051	Kabaddi	SVIT, Bangalore	Participated
17	27/03/2017 and 28/03/2017	Denster J Frank	1AY16ME033	Kabaddi	SVIT, Bangalore	Participated
18	25/03/2017 to 26/03/2017	Prakash Konnur	1AY14ME082	Volley Ball	BMSIT, Bangalore	3rd Place
19	02/11/2016 to 06/11/2016	Kowshik Reddy	1AY15ME034	Softball	DBIT, Bengaluru	Participated
20	02/11/2016 to 06/11/2016	Jayanand Mahantinam ath	1AY16ME406	Softball	DBIT, Bengaluru	Participated
21	23/10/2016 and 24/10/2016	Jayanand Mahantinam ath	1AY16ME406	Netball	EWIT, Bangalore	Participated
22	23/10/2016 and 24/10/2016	Vamsi K R	1AY14ME053	Netball	EWIT, Bangalore	Participated
23	23/10/2016 and 24/10/2016	Manohar N	1AY14MEO62	Netball	EWIT, Bangalore	Participated
24	23/10/2016 and 24/10/2016	Naresh Bellave	1AY14ME071	Netball	EWIT, Bangalore	Participated
25	19/09/2016 and 20/09/2016	Suraj Rudra	1AY12ME130	Cricket	Sir. MVIT, Bangalore	Participated
26	13/09/2016 and 14/09/2016	Suraj Rudra	1AY12ME130	Chess	Vemana IT, Bangalore	Participated

27	06/09/2016 and 07/09/2016	D Joseph Daniel	1AY15ME036	Basketball	NMIT Bangalore	Participated
28	06/09/16 and 07/09/16	Kushargra I S	1AY14ME041	Basketball	NMIT Bangalore	Participated
29	06/09/2016 and 07/09/2016	NareshBellave	1AY14ME071	Basketball	NMIT Bangalore	Participated
30	02/09/2016 to 04/09/2016	Sharath G L	1AY16ME078	Hockey	BLD, Bijapur	Participated
31	30/08/2016 and 31/08/2016	Tarun Achaiah	1AY14ME107	Hockey	RLJIT, Doddabalapur	Participated
32	30/08/2016 and 31/08/2016	Vijay Kumar S	1AY14ME114	Hockey	RLJIT, Doddabalapur	Participated
33	30/08/2016 and 31/08/2016	Vaibhav K	1AY14ME110	Hockey	RLJIT, Doddabalapur	Participated
34	30/08/2016 and 31/08/2016	Manikanta J	1AY15ME404	Hockey	RLJIT, Doddabalapur	Participated
35	30/08/2016 and 31/08/2016	Naresh Bellave	1AY14ME071	Hockey	RLJIT, Doddabalapur	Participated

Soft skill training						
Sl. No	**Date**	**Name of company**	**Title of the Training**	**No. of Participants**	**Semester**	**Outcome of the Training**
1	28/10/2016	J. V. Global	Soft skill Training	105	5	Enhancement of skills for better employability & Career Development
2	27/10/2016			105	5	
3	26/10/2016			105	5	
4	26/10/2016 to 28/10/2016			117	5	
5	22/10/2016			105	5	
6	21/10/2016			105	5	
7	20/10/2016 to 22/10/2016	J. V. Global	Soft skill Training	120	3	
8	20/10/2016			105	5	
9	13/10/2016 to 15/10/2016			133	3	
10	29/8/2016			101	7	
11	15/9/2016 to 17/9/2016			127	1	
12	11/5/2017 to 13/5/2017			117	6	
13	25/4/2017 to 27/4/2017			120	4	
14	3/4/2017 to 5/4/2017			107	2	

Guest lectures					
Sl. No	**Date**	**No. of Participants**	**Resource Person with Designation**	**Topic**	**Semester**
1	13/5/2017	90	Srinivas S, Head-Engineering Services, Axil Consulting engineers	Industrial exposure to final Engineering students for their better Career	6
2	11/11/2016	93	Mr. Shivaprakash, Manager CAM/Automation , Kennametal India Limited	Cutting tools & its terminology, FEM, CAD/CAM, Automation	5

3	17/09/2016	67	Anil Kumar Sabaji, CEO & Technical Director, Terra serve,1st block,3rd phase, BSK 3rd stage, Bangalore	Solar power generation	7

Foreign Exchange Program				
Sl. No		**Foreign Exchange Programme**	**Name of the student**	**Year**
1		Carleton University, Ottawa, Canada	Abhishek, Nazeer, Abhishek, Prithvi Reddy	2016-17

Table 4.6.3(e): Participation in inter- institute events by students in CAYm3 (2015-16)

Sports						
Sl. No	**Date**	**Student Name**	**USN**	**Event**	**Place**	**Awards**
1	13/03/2015 and 14/03/2015	Binayak Shrestha	1AY13ME026	Football	RLJIT College, Doddabalapur	Participated
2	13/03/2015 and 14/03/2015	Aakrash Tandon	1AY12ME001	Football	RLJIT College, Doddabalapur	Participated
3	13/03/2015 and 14/03/2015	Rajath G	1AY12ME089	Football	RLJIT College, Doddabalapur	Participated
4	15/03/2016 and 16/03/2016	Vamsi K R	1AY14ME053	Handball	Pillappa CE. Bangalore	Participated
5	15/03/2016 and 16/03/2016	Arjun B Shetty	1AY14ME018	Handball	Pillappa CE. Bangalore	Participated
6	15/03/2016 and 16/03/2016	Rajat Kumar Singh	1AY13ME092	Handball	Pillappa CE. Bangalore	Participated
7	15/03/2016 and 16/03/2016	Shashank B P	1AY13ME113	Handball	Pillappa CE. Bangalore	Participated
8	15/03/2016 and 16/03/2016	Sri Krishna Bhargav K M	1AY13ME118	Handball	Pillappa CE. Bangalore	Participated

Sl. No	Date	Student Name	USN	Event	Place	Awards
9	08/03/2016 and 09/03/2016	Md. Khurshid Alam	1AY12ME061	Kho-Kho	NCET Chikkaballapur	Participated
10	08/03/2016 and 09/03/2016	Umesh N H	1AY12ME136	Kho-Kho	NCET Chikkaballapur	Participated
11	05/03/2016 to 09/03/2016	Rajath G	1AY12ME089	Cricket	RLJIT, Doddabalapur	Participated
12	05/03/2016 to 09/03/2016	Suraj Rudra	1AY12ME130	Cricket	RLJIT, Doddabalapur	Participated
13	29/02/2016	Manoj Kumar D N	1AY14ME063	Volleyball	Pillappa College, Bangalore	Participated
14	29/02/2016	Prakash Konnur	1AY14ME082	Volleyball	Pillappa College, Bangalore	Participated
15	29/02/2016	Shashi kUmar A H	1AY13ME114	Volleyball	Pillappa College, Bangalore	Participated
16	29/10/2015 and 30/10/2015	Arjun B Shetty	1AY14ME018	Weight lifting	GAT Bangalore	Participated
17	05/10/2015 and 06/10/2015	Konduru Vamsi K R	1AY14ME053	Netball	KLECET, Chikkodi	Participated

Guest lectures					
Sl. No	**Date**	**No. of Participants**	**Resource Person with Designation**	**Topic**	**Semester**
1	29/04/2016	40	Ramesh Rao, Kennametal India Ltd	Cutting Tools	6
2	25/03/2016	40	Kumarappa, Senior manager, Kennametal India Ltd	DFMEA (Design Failure Mode and Effect Analysis)	4
3	25/03/2016	40	Virupaksha H.S, Deputy General Manager, Ace Manufacturing System	ERP (Enterprise Resource Planning)	6
4	14/09/2015	65	Subash K.C, Founder & Director, Credence Robotics	Influence Inspire and Impact	5

5	04/05/2015	69	Dr. Mahesh Alahalli, Team Leader, International Aerospace Manufacturing Pvt. Ltd	Machining of Aerospace Components	6
6	28/04/2015	40	Nikhilesh K Reddy, General Manager, Hole making Engineering Technology, Kennametal India Ltd	Drilling Machines	4
7	21/04/2015	40	Nikhil B Wani, Design Engineer, Kennametal India Ltd	Milling Machines	6
8	17/04/2015	70	Sathyak Sundar Padhy ,Technical head, UDVAVISK Technologies	Open Source CAE Powered Engineering	6,8
9	14/03/2015	65	Col. Rana G.S, Ex-Head, Student Engagement, Manipal Banking Academy, Indian Army	CNC Grinding Technology and Automation	4
10	14/03/2015	68	Srinivas M, Asst. Manager, Micromatic Machine tools Pvt Ltd,	CNC Grinding Technology and Automation	6
11	10/03/2015	40	Vaishali Jaganath, Asst. Manager, Kennametal India Ltd	Cutting Tools	6
12	05/03/2015	40	Mahima Kulkarni, Product Engineer, Kennametal India Ltd	Cutting Tools	4
13	14/02/2015	45	Abhay Anand Kulkarni, Deputy Manager, Toyota Kirloskar Motor Pvt Ltd.	Basics of Toyota Production Systems and Supply Chain Management	6
Sl. No	**Date**	**No. of Participants**	**Resource Person with Designation**	**Topic**	**Semester**
14	07/02/2015	100	Prof. S. N. Sondur, Scientist, Biofuel cell, KSCST, IISc, Bangalore	Research opportunities in Biofuels	4,6

Soft skill Training						
Sl. No	**Date**	**Name of company**	**Title of the Training**	**No. of Participants**	**Semester**	**Outcome of the Training**
1	24/11/2015	J V Global	Soft skill Training	125	5	Enhancement of skills for better employability & Career Development
2	23/11/2015			125	5	
3	28/9/2015			68	3-B	
4	23/9/2015 to 27/9/2015			147	7	
5	23/9/2015			65	3-A	
6	21/9/2015			68	3-B	
7	19/9/2015			65	3-A	
8	09/9/2015			65	3-A	
9	31/8/2015			68	3-B	
10	26/8/2015			65	3-A	
11	24/8/2015			68	3-B	
12	19/8/2015			65	3-A	
13	17/8/2015			68	3-B	
14	10/3/2016			117	6	
15	9/3/2016	J V Global	Soft skill Training	117	6	
16	3/3/2016			117	6	
17	29/2/2016			125	6	
18	25/2/2016			125	6	
19	22/2/2016			125	6	
20	12/2/2016			68	4-B	
21	8/2/2016			67	4-A	

Foreign Exchange Program			
Sl. No	**Foreign Exchange Programme**	**Name of the student**	**Year**
1	Luebeck University of Applied Science Govt. University	Rajath, Shreyas Rao, Shubhankar	2015-16

CRITERION 5	FACULTY INFORMATION AND THEIR CONTRIBUTIONS	200

5. FACULTY INFORMATION AND THEIR CONTRIBUTIONS

Please refer ANNEXURE – II for faculty information.

5.1 Student Faculty Ratio (SFR) (20)

Table B.5.1(a)

Year	**CAY (2018-19)**	**CAYm1 (2017-18)**	**CAYm2 (2016-17)**
u1.1	120+24	120+34	120+24
u1.2	120+24	120+24	120+24
u1.3	120+24	120+24	120+24
UG1	**432**	**432**	**432**
p1.1	18	18	18
P1.2	18	18	18
PG1	**36**	**36**	**36**
P2.1	18	18	18
P2.2	18	18	18
PG2	**36**	**36**	**36**
Total No. of Students in the Department (S)	504	504	504
No. of Faculty in the Department (F)	26	26	26
No. of Faculty in first year	7	8	8
Student Faculty Ratio (SFR)	19.38	19.38	19.38
Average SFR	19.38		

Student Faculty Ratio (SFR) = S / F = 19.38

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

Table B.5.1.1(a)

Year	**Total number of regular faculty in the department**	**Total number of contractual faculty in the department**
CAY(2018-19)	33	Nil
CAYm1(2017-18)	34	Nil
CAYm2(2016-17)	34	Nil

5.2 Faculty Cadre Proportion (25)

Reference Faculty Cadre Proportion is 1(F1): 2(F2): 6(F3)

F1: Number of professors required = 1/9 x Number of faculty required to comply with 20:1 Student –Faculty Ratio based on no. of students (N) as per 5.1

F2: Number of Associate professors required = 2/9 x Number of faculty required to comply with 20: 1 Student – Faculty Ratio Based on no. of students (N) as per 5.1

F3: Number of Assistant professors required = 6/9 x Number of faculty required to comply with 20:1 Student – Faculty Ratio Based on no. of students (N) as per 5.1

Table B.5.2(a)

Sl. No.	Year	Professors		Assoc. Professors		Asst. Professors	
		RF1	AF1	RF2	AF2	RF3	AF3
1	CAY (2018-19)	3	4	6	1	17	20
2	CAYm1 (2017-18)	3	3	6	1	17	22
3	CAYm2 (2016-17)	3	3	6	1	17	22
Average		3	3.33	6	1	17	21.33

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

Cadre Proportion Marks = [(3.33/3) + (1/6) * 0.6 + (21.33/17) * 0.4] * 12.5 = 21.4

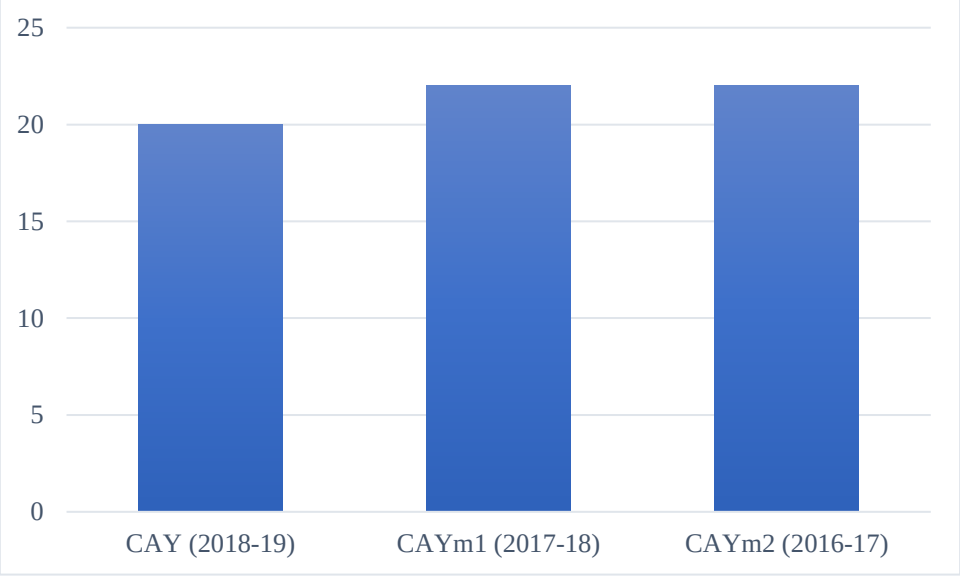


Fig. B.5.2(a): Faculty cadre proportion

5.3 Faculty Qualification (25)

FQ = 2.5 x [{10X +6Y}/F] Where X is no. of faculty with Ph.D., Y is no. of faculty with M.Tech., F is no. of faculty required to comply 1:20 Faculty Student ratio (no. of faculty and no. of students required to be calculated as per 5.1) No of faculty with regular Ph.D.

X = No. of faculty with PhD.

Y = No. of faculty with M.Tech.

F = No. of faculty required to comply with1:20 Faculty Student ratios.

Table B.5.3(a)

Sl. No.	Year	X	Y	F	FQ= 2.5[(10X + 6Y)/F]
1	CAY (2018-19)	11	15	26	19.23
2	CAY m1 (2017-18)	04	22	26	16.54
3	CAYm2 (2016-17)	04	22	26	16.54
Average Assessment					**17.43**

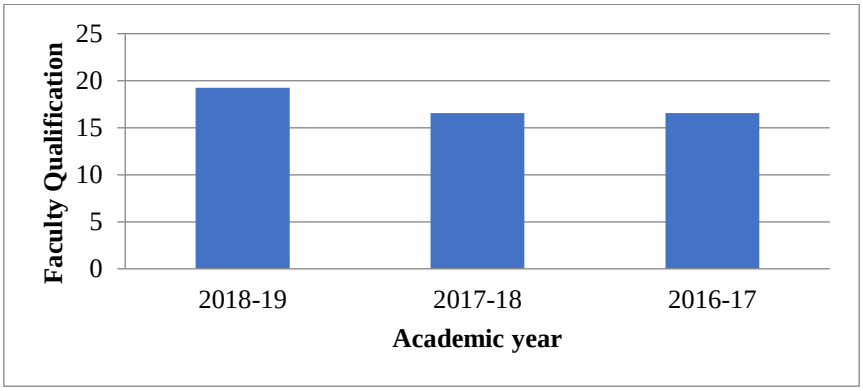


Fig. B.5.3(a): Faculty qualification

5.4 Faculty retention (25)

Table B.5.4(a)

Sl. No.	Year	No. of Faculty in previous year	No. of Faculty Retained	Percentage of Faculty Retention	Average percentage of Faculty Retention
1	CAY (2018-19)	34	26	76.47	79.63
2	CAYm1(2017-18)	34	30	88.23	
3	CAYm2 (2016-17)	31	23	74.19	

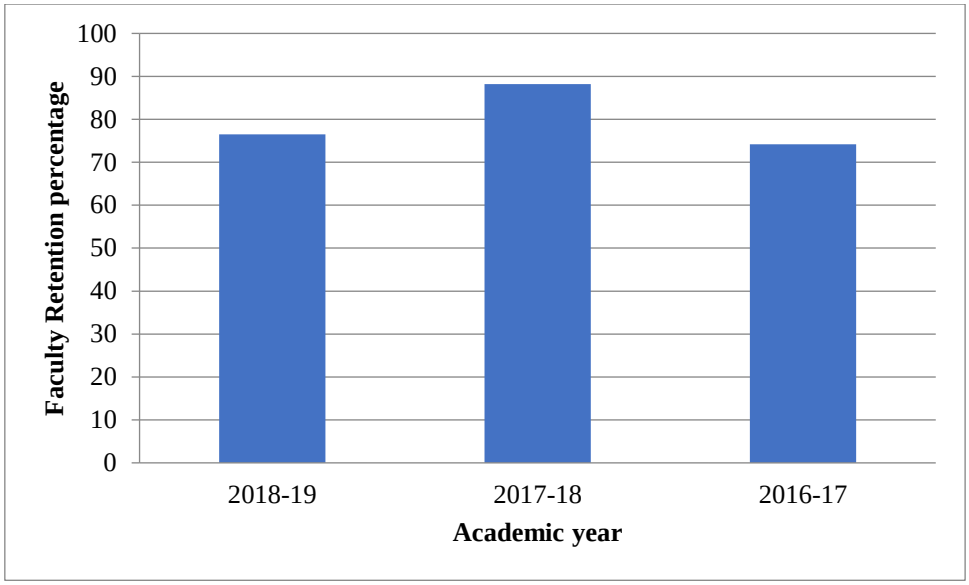


Fig. B.5.4(a): Faculty retention

5.5 Innovation by the faculty in teaching and learning (25)

Various innovations by faculty in the teaching learning process are as below:

1. Faculties provide updated study materials to the students as hand-outs, PPTs via e-mail and in classroom sessions.
2. LCD projectors are used in all classrooms providing better learning environment.
3. Self-explanatory charts, smart board and document camera are employed in laboratories for better understanding by students.
4. Usages of 3D, physical and cut section demo models are utilized in instructions for better interaction and to help in learning ability of the subjects.
5. E-Learning resources in “Learning Resource Centre” (Central Library) are shared and provides enhanced learning.
6. By conducting subject based technical quiz, seminars, poster presentation and interactive sessions are arranged for self-development and continuous improvement of the students.
7. Project exhibition is arranged for showcasing the projects carried out.
8. Real-time industrial exposures are arranged to the students through industrial visits.

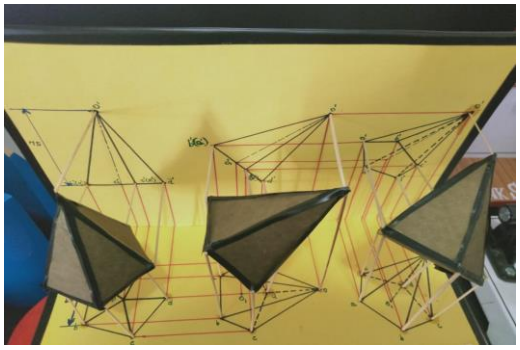
9. Encouraging students to actively participate in national level competitions like SAE-REEV, TIFAN, BAJA, institution and department wise forum club activities which include tech-fest, technical talks, etc.

To enrich their knowledge our students are motivated to participate in conferences and publish articles in journals.

Table B.5.5(a) shows the inset pictures of the facilities for innovating teaching.

Table B.5.5(a): Innovation by the faculty in teaching and learning

Class Room With Smart Board

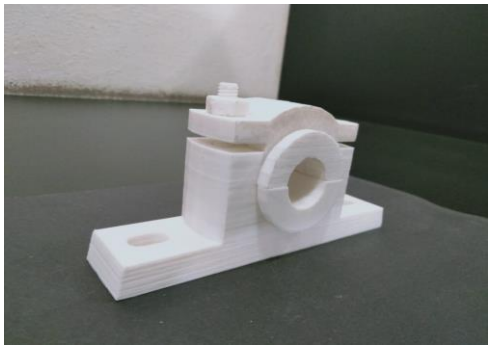


CAED Projection

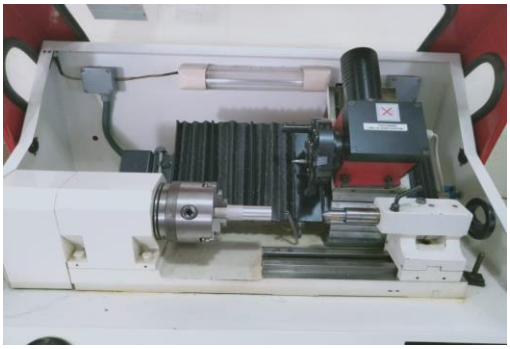
Smart Board With LCD Projector

Document Camera

Mechanical Models



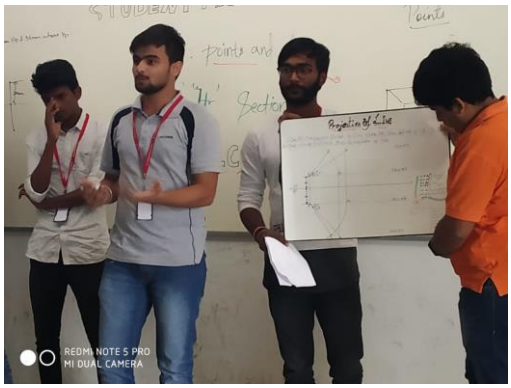
3D Printed Plummer Block



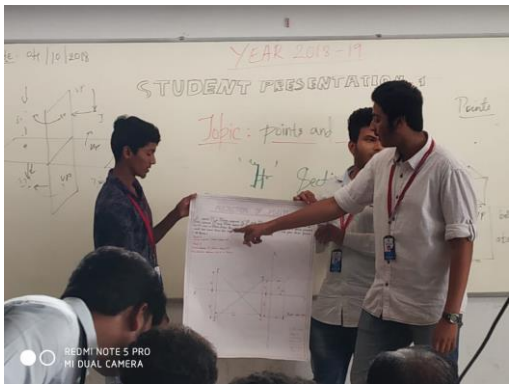
CNC Lathe

CAED Models

Table 5.5(b): First Year Mechanical Engineering Students Presentation



Applications of Points



Applications of Straight Lines

Audience and Judges

Winner - Third Prize

Winner-Second Prize

Winner-First Prize

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

NOTE:

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

Table B.5.6(a): Faculty as Participants in Faculty Development / Training Activities

Sl. No.	Name of the Faculty	Maximum 5 per Faculty		
		CAYm1 (2017-18)	CAYm2 (2016-17)	CAYm3 (2015-16)
1	Dr. S.C.Pilli	3	3	3
2	Dr. Mahesha K		3	
3	Dr. Lokesh G. N.			5
4	Mr.Pakkirappa H	3	3	
5	Mr. Shadakshari R.		5	5
6	Dr. Manjunatha B.		5	
7	Dr. AttelManjunath		3	5
8	Mr. Sachidananda K.B			
9	Mr. Vinod Kumar C.S	5	3	3
10	Dr. Basavaraju .S		3	3
11	Mr. BalachandraBingi		5	5
12	Mr. Nagaraja K C	5	3	5
13	Mr. Nagamadhu		3	3
14	Mr.Vijay R B		5	5
15	Mr.Raju.M.G			5
16	Mrs.Shashikala.A		5	5
17	Dr.SanmanShivakumar		3	
18	Mr.Harshih.C	3	3	
19	Mr. Lavakumar.S		3	
20	Mrs.Priyanka S Umarji	3	5	
21	Mrs. Richa Mishra	3	3	
22	Mr.Prasannakeerti.P.M		5	
23	Dr. RaghavendraDeshpande		5	
24	Mr. BasavarajHittinahalli	5	3	
25	Mr. Pranesh K G	3	3	
26	Mr. Shivdarshan B	5		
27	Mrs. Smitha K			5
SUM		**38**	**82**	**57**
RF=Number of faculty required to comply with 20:1 student faculty ratio as per 5:1		26	26	26
Assessment =3 * (sum / 0.5RF)		8.77	18.92	13.15
Average assessment over three years (marks limited to 15)		**13.61**		

5.7 Research and Development (30)

5.7.1 Academic research (10)

A: Details of publications in referred/SCI journals, citations. Books and book chapters (6)

TOTAL NUMBER OF PUBLICATIONS BY FACULTY

YEAR	CAY (2018-TILL JANUARY 2019)	CAYM1 (2017-18)	CAYM2 (2016-17)	CAYM3 (2015-16)
No. of publications	12	24	8	1

INDIVIDUAL PUBLICATIONS BY FACULTY

Sl. No.	Faculty Name	No. of Publications	H-index	i10-index	No. of citations
1	Dr. Prakash S Dabeer	50	4	2	54
2	Dr. S.C.Pilli	25	3	2	31
3	Dr. Mahesha K	11	2	1	25
4	Dr. ARK Swamy	5	3	2	84
5	Dr. G S Bhat	5	1		4
6	Dr. Devarajaiah R. M	6	2	2	68
7	Dr. Lokesh G. N.	7	3	2	31
8	Dr. Deburan Dutta	7			
9	Dr. Raghavendra Deshpande	4			
10	Mr.Pakkirappa H	5	1		2
11	Mr. Shadakshari R.	6	1	1	11
12	Dr. Manjunatha B.	3	1	1	11
13	Dr. AttelManjunath	17	1		8
14	Dr. VenkateGowda C	6			
15	Mr. Sachidananda K.B	5	2		5
16	Mr. Vinod Kumar C.S	3			
17	Dr. Basavaraju .S	6	2		11
18	Mr. Nagaraja K C	2			
19	Mr. Nagamadhu	8	1		4
20	Mr.Chethan.G.R	1	1		6
21	Dr.Sanman Shivakumar	14	2		12
22	Mr.Manjunath Iyer K B	2			
23	Mr. Shivdarshan Sherugar	1			
24	Mr. Santosh Kumar M	18	4	1	104

Table B.5.7.1(a): Details of paper publications by faculties CAY (2018-19)

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal	Volume No. /Issue/pp/Year	Indexing
1	Dr. B Manjunatha	Effect of Amount of Boron Carbide on Wear Loss of Al6061 Composite by Taguchi Technique and Response Surface Analysis	IOP Conf. Series: Materials Science and Engineering	376, pp.1-5, 2018	Scopus
2	Dr. AttelManjunath	Vibration analysis of poly tetra fluroethylene (PTFE) deep groove ball bearing	IOP Conf. Series: Materials Science and Engineering	376, (012137 doi:10.1088/1757-899X/376/1/012137), 2018.	Scopus
3	Mr.Vinod Kumar C S	Studies on Compressive Strength of Nickel Nanoparticles fillers in Polymer Based Nanocomposites	TRANSSTELLER-IJMPERD	Vol 8, Issue 8, 2018, 125-130.	Scopus
4	Dr.Basavaraju S	Studies on Compressive Strength of Nickel Nanoparticles fillers in Polymer Based Nanocomposites	TRANSSTELLER-IJMPERD	Vol 8, Issue 8, 2018, 125-130.	Scopus
		Studies on Comprehensive Strength of Nickel Nanoparticle Fillers in Polymer Based Nanocomposites	Journal of Computational Information Systems	14:01-Sp, pp. 23-26, 2018.	
5	Mr. K C Nagaraja	Mechanical characterization of fiber reinforced polymer matrix composites prepared by using RTM technique	STM Journals	ISBN: 978-93-88237-06-2, 2018.	

		Effect of rubber powder as filler on glass fiber reinforced epoxy composites	IJMTE	Vol B, ISSN NO: 2249-7455, 2018	
6	Dr. Sanman. S	Effect of Angle of Impingement on Air Jet Erosion Wear Behavior of Chill Cast Aluminum-Boron Carbide Composites	Elsevier-Materials Today Proceedings	Volume 5, Issue 10, Part 1, Pages 21107-21110, 2018.	Scopus
7	Mr.Harshith. C	Design and Fabrication of Multipurpose Agriculture vehicle	IJRAR	Issue 3, Volume 5, Sep 2018.	
8	Mr. Shivdarshan Sherugar	Root Cause Detection for Excess Control Rod Vibration in Fuel Injection Pump Using Shainin Methodology	International Journal of Engineering & Technology	Vol. 7, pp. 364-367, 2018.	Scopus
9	Dr. R. G. Deshpande	Machining with Cryogenically Treated Carbide Cutting Tool Inserts	Elsevier-Materials Today Proceedings	Volume 5, Pages 1872-1878, 2018.	Scopus
		Machining with Cryogenically Treated Carbide Cutting Tool Inserts		Volume 5, Pages 1872-1878, 2018.	

Table B.5.7.1(b): Details of paper publications by faculties

CAYm1 (2017-18)

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal	Volume No. /Issue/pp/Year	Indexing
1	Dr.Mahesha K	Effect of powder particle size on vibration damping behaviour of plasma sprayed alumina (Al_2O_3) coating on AISI 304 stainless steel substrate	Ceramics International	Volume 44, Issue 1, Pages 158-163, 2018	
		Vibration Damping Behaviour and Surface Characterization of Magneto-Mechanical Powder Coated AISI304 Stainless Steel	Surface and Coatings Technology	324, 382-389, 2017	
		Study of vibration damping behavior of magnetomechanical powder coated metals and alloys	Materials Today Proceedings	Volume 4, Issue 8, pp 8418-8426, 2017	
2	Dr. S. C. Pilli	Assessment of total quality of health care in rural primary health centers	IUP Journal of operations management	Vol.17, issue 2, pp 29-56, 28p, 2018.	
3	Mr. Shadakshari R	Study on mechanical and thermal loading of multiwalled carbon nanotube reinforced AA2024 composite	IJEST	Volume 9, No 12, 2017	
		Effect of heat treatment on Al2024 reinforcement with multiwalled carbon nanotube	TRANSSTELLAR-IJMMSE	Volume 8, Issue 1, pp 9-18, 2018.	

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal	Volume No. /Issue/pp/Year	Indexing
4	Mr.Manjunatha B	Effect of extrusion on strength and toughness of boron carbide reinforced aluminum metal matrix composites	IJETSR	Vol.4, Issue 12, 2017	
5	Mr. AttelManjunath	Acoustic emission analysis of deep	International Journal of Engineering	Pp.137-144, March 2017.	

		groove polyacetal (POM) ball bearing	Sciences & Management		
6	Mr. K.B. Sachidananda	Effect of powder particle size on vibration damping behaviour of plasma sprayed alumina (Al_2O_3) coating on AISI 304 stainless steel substrate	Ceramics International	Volume 44, Issue 1, Pages 158-163, 2018	Scopus
		Vibration Damping Behaviour and Surface Characterization of Magneto-Mechanical Powder Coated AISI304 Stainless Steel	Surface and Coatings Technology	324, 382-389, 2017	
		Study of vibration damping behavior of magnetomechanical powder coated metals and alloys	Materials Today Proceedings	Volume 4, Issue 8, pp 8418-8426, 2017	
7	Mr. Vinod Kumar C S	Experimental and numerical modeling of Hemp-polyester composites	Wood is Good, Springer	pp 333-342, ISBN: 978-981-10-3115-1, 2017	Scopus

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal	Volume No. /Issue/pp/Year	Indexing
8	Mr.Basavaraju S	Dynamic Mech properties of effect of Nio in polysernano composites	IJRASET	2321-9653/2555, 2018.	Scopus
		Studies on DMA of Nickel nanopacticle in Polyester matrix composite	IJRASET	2321-9653,1395-402, 2018	
9	Mr. M. Nagamadhu	Effect of stacking sequence on mechanical properties neem wood veneer plastic composites	AIP Conference Proceedings	1943, 020029 (2018); DOI: 10.1063/1.5029605	Scopus
		A novel approach to determine the thermal transition of gum powder/hydro-gels using dynamic mechanical analysis	AIP Conference Proceedings	1943, 020029 (2018); Doi: 10.1063/1.5029605	
		The effect of alkaline treatment on their properties of Jute fiber mat and its vinyl ester composites	Elsevier-Materials Today Proceedings	4(2), pp-3371-3379, 2017.	
10	Mr. Sanman S	Effect of sand concentration on erosive – corrosive wear behavior of chill cast aluminum – boron carbide composites	Elsevier-Materials Today Proceedings	Volume 5, Issue1, Part3,pp 2951-2954, 2018	Scopus
11	Mr. Pakirappa H	Vibration Damping Behaviour and Surface Characterization of Magneto-Mechanical Powder Coated AISI304 Stainless Steel	Surface and Coatings Technology	324, 382-389, 2017	Scopus
		Study of vibration damping behavior of magnetomechanical powder coated metals and alloys	Materials Today Proceedings	Volume 4, Issue 8, pp 8418-8426, 2017	Scopus
		Design and development of polycrystalline silica solar concentrator	IRJET	Volume 4, Issue 8, pp 1265-1269, 2017	

		for power generation			
		Effect of heat treatment on Al2024 reinforcement with multiwalled carbon nanotube	TRANSSTELLAR-IJMMSE	Volume 8, Issue 1, pp 9-18, 2018.	
12	R. G. Deshpande	Controlling Mechanical Properties of warm extruded V-65 alloy	Elsevier-Materials Today Proceedings	Volume 4, pp 322-329, 2017	Scopus
		Controlling Thermo-Mechanical Properties of Warm Rolled Commercial Al-Cu-Mg Alloy by Addition of Second Phase Particles		Volume 4, pp 7579-7585, 2017	

Table B.5.7.1(c): Details of paper publications by faculties CAYm2 (2016-17)

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal	Volume No. /Issue/pp/Year	Indexing
1	Dr. K Mahesha	Mechanical Characterization of AA7068-ZrO_2 Reinforced Matrix Composites	Elsevier-Materials Today Proceedings	4, pp.3122-3130, 2017	Scopus
2	Dr. S. C. Pilli	Computer Assisted Process Planning of Asymmetrical Prismatic Parts	ASME Journal of Computing and Information Science in Engineering		Scopus

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal	Volume No. /Issue/pp/Year	Indexing
3	Dr. R M Devarajaiah	Optimization of testing parameters on two-body abrasive wear behaviour of nanooMMT filled C-E composites based on Taguchi method	Int Journal of Nanotechnology (Inderscience publishers)	Vol 14 (9-11), pp 915-929, 2017	Scopus
		Role of organo-modified montmorillonite Nano particles on wet sand abrasion of Carbon fabric reinforced epoxy composites	Indian journal of Engineering Materials and Sciences	Vol.23, pp 411-417, 2016	
4	Mr.Manjunatha B	Mechanical Design and Analysis of Ceramic Blade for an Axial Turbine Rotor	Proceeding of the Asian Congress on Gas Turbines ACGT 2016	ACGT2016-081, pp 1-4	

5	Sanman S	Modeling of Interface Heat Flux and Thermal Field of Mold Materials during Gravity Die Casting	Materials Science Forum	Vol, 895, pp. 85-88, 2017.	Scopus
		Experimental Investigation on Erosive Wear Plasma Spray Coated Stainless Steel	IOP Conf. Series: Materials Science and Engineering	191, pp.1-5, 2017	
6	Mr. H. Pakkirappa	Experimental Study on Physical and Mechanical Properties of Date Palm Fronds Polymer Composites	International Journal of ChemTech Research	Vol.10, No.4,pp. 270-278,2017.	

Table B.5.7.1(d): Details of paper publications by faculties CAYm3 (2015-16)

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal	Volume No. /Issue/pp/Year	Indexing
1	Manjunatha B	The effect of mechanical and thermal loading on boron carbide particles reinforced Al-6061 alloy	Elsevier-Materials Science & Engineering -A	Vol.632, 2015.	Scopus

BOOKS PUBLISHED:

Table B.5.7.1(e): List of books published CAY (2018-19)

Sl. No.	Name of The Author	Title of The Book	Publisher	ISBN/Year
1	Dr. S. C. Pilli	Mechanics of Materials (Strength of materials)	Cengage Learning	ISBN: 978-93-86668-50-9, 2018
2	Dr G. S. Bhat	Basic and Applied Thermodynamics	Yes Dee Publishing	ISBN: 9789388005074, 9388005074, Edition-2019

Table B.5.7.1(f): List of books published CAYm1 (2017-18)

Sl. No.	Name of The Author	Title of The Book	Publisher	ISBN/Year
1	Shashikala. A	Computer Integrated Manufacturing (Scanner)	Suggi Publising	2018

Table B.5.7.1(g): List of books published CAYm2 (2016-17)

Sl. No.	Name of The Author	Title of The Book	Publisher	ISBN/Year
1	Shashikala. A	Product Lifecycle Management	Suggi Publishing	1st Edition, 2016.

Table B.5.7.1(h): List of books published CAYm3 (2015-16)

Sl. No.	Name of The Author	Title of The Book	Publisher	ISBN/Year
1	Dr. S. C. Pilli	Elements of Machine Design	IK International Publishing House,	ISBN: 978-938458-850-2, 2016.

B. Faculties awarded Ph.D. during the assessment period while working in the institute (4)

Sl. No.	Name of the Faculty	Name of the Guide	Research Centre		Area of Research topic	University/ Year of Registration	Year of Award
			AIT	Others			
1	Dr. AttelManjunath	Dr. D V Girish		Y	Materials and Design Engineering	VTU- 2006	2018
2	Dr. R. G. Deshpande	Dr. K A Venugopal		Y	Machining Science	VTU- 2006	2018
3	Dr.Manjunatha B	Dr. H.B. Niranjan	Y		MMCs	VTU-2010	2018
4	Dr.Basavaraju S	Dr.ChandrashekharBendigeri		Y	Nano Composite	Bangalore-UVCE-2012	2018
5	Dr. VenkateGowda C	Dr. S Rajanna		Y	Hybrid Composites	VTU-2012	2018
6	Dr. Sanman S	Dr. K V SreenivasRao		Y	MMCs	VTU-2013	2018

Details of Ph.D. guidance during the assessment period in the institute

Sl. No	Name of the Guide		Name of Research Scholar	Category		Area of Research topic	University /Year of Registration	Status
	Internal	External		Full Time/ Part Time	Internal/ External			
			Dr S R Basavaraddi	Part Time	External	"Theoretical studies on the agglomeration properties of carbon epoxy hybrid nanocomposites"	VTU	Awared Jan 2016

			Guruprasda H S	Part Time	External	"Parametric Assessment on prototype Manufacturing of Tungsten Carbide Insert by Green Manufacturing Process"	VTU	Course work in progress
			Sunil I. Sangolli	Part Time	External	"Feature Recognition of Solid Models and Computer Assisted Process Planning"	VTU	Awarded March, 2018
			Uday V Kokatnur	Part Time	External	"Quality Assessment of Health Care Services in Primary Health Care Centers"	VTU	Awarded November 2018
			G R pashputhatimath	Part Time	External	"Design And Development of Global Engineering Offshore Outsourcing Model"	VTU	Submitted Dec. 2018
			Shilpa C	Part Time	External	Study on Fatigue and Damping Properties of Ceramic Coatings by Thermal Spray Techniques.	VTU-2013	Comprehensive completed
			Study on Tribological & Failure Behaviour of	VTU-2013	Comprehensive completed	Sunil Kumar S	Part Time	External

			Thermal Sprayed Ceramic Coatings.					
			ManjunathIyer	Part Time	Internal	"Characterisation of Crygonic Treated Composite of Aluminium Alloy and Tungsten carbide"	VTU - 2018	Registered
2.	Dr. Prakash S Dabeer		PathanKhizar Ahmed	Full Time	External	An investigation of influence of nozzle pressure ratio and control jets location in suddenly expanded flows	SPPU, PUNE 2015	Thesis Submitted
3		Dr. Mahesha K	H. Pakkirappa	Part Time	Internal	Study on Damping Characteristics of Magneto-Mechanical Material coated alloys.	VTU-2011	Thesis Submitted
			Madhusudhan M	Part Time	External	Development and Characterization of AA7068 - Zirconium Dioxide Metal Matrix Composites	VTU-2012	Thesis Submitted
			Sachidananda K.B.	Part Time	Internal	Development and Characterization of Ceramic by Plasma Spray Technique.	VTU-2012	Thesis Submitted

			Sharan Kumar Gopasetty	Part Time	External	Effect of thermal treatment on the Characterization and dynamic vibration behavior of electron-21alloy.	VTU-2012	Course Work Completed
4	Dr. A R K Swamy		BhaskarRaju S A	Part Time	External	Synthesis and Property Evaluation of AI6061-Graphite Tungsten Carbide Hybrid Composites using Powder Metallurgy Technique	VTU-2014	Course Work Completed.
			Simpson Ignatius	Part Time	External	Design and analysis of aerolastic flutter energy harvester	VTU-2015	Course Work in progress
			Harendra Kumar H V	Part Time	External	"Fatigue & Mechanical Properties evaluation of A16061-Ti-c-in-Situ Aluminium Metal matrix composites."	VTU-2015	Course Work in progress
			Rakshith A N	Part Time	External	Synthesis and evaluation of mechanical and tribological behaviour of Al6061-ZrB2 in situ	VTU-2015	Doctoral Committee Submitted.

						composites ."		
5	DrChandrappa C N		BhargavGangadhara	Full Time	External	"Optimize Utility in Cloud Manufacturing System Using Service and development Model."	VTU-2014	Comprehensive Viva-voce Completed
			Ashok Kumar A	Part Time	External	The Influence of heat Treatment parameters on the Mechanical Properties &wear behaviour of grain refined& Modified permanent mold (PM) cast A356 reinforced with dual size alumina."	VTU-2015	In progress
			Venkata Shiva Reddy N	Part Time	Internal	Study of the effect of heat treatment parameters on the mechanical and tribological properties of squeeze cast A357 reinforced with dual size silicon carbide particles."	VTU-2015	In progress
			Shankar Gouda	Part Time	External	"The mechanical properties and wear behaviour of grain	VTU-2016	In progress

						refined and modified permanent mold (PM) cast, heat treated A357 reinforced with triple size alumina."		
			PavanTejaswi	Part Time	External	"Studies on retrogression and reaging of aluminumzing-mangensiul (7075) alloy."	VTU-2016 Change of R&D From MSRIT To AIT	In Progress of writing research paper
6		Dr M H Annaiah	Chandraiah M T	Part Time	External	The Effect of High Temperature Solutionising on the Mechanical and tribological Properties of Grain Refined and Modified Squeeze Cast A356 Reinforces with Dual Size Silicon Carbide Particles."	VTU-2014	In progress
			Mohan Kumar A R	Part Time	External	Study of the effect of high temperature solutionising on the mechanical and tribological properties of grain	VTU-2014	In progress

						refined and modified squeeze cast A356 reinforced with silicon carbide and graphite."		
			Karthik Raj K V	Part Time	External	The effect of heat treatment variables on the mechanical and tribological properties of A390 Reinforced with boron carbide."	VTU-2015	In progress
			Yathiraj K	Part Time	External	"The influence of heat treatment parameters on the mechanical and tribological properties of gravity die cast, grain refined and modified A357 reinforced with triple size silicon carbide and graphite."	VTU-2015	In progress
			S N Pramod	Part Time	External	"Study of the effect of heat treatment patameters on the mechanical and tribological properties of gravity die cast	VTU-2016	In progress

						AL-Si-Mg Alloy (A357) Reinforced with dual size alumina and graphite."		
7		DrPrabhakara S S	S Selvakumar	Part Time	External	High speed CNC machining of Titaniumalloyl; Investiagtion on cutting parameters on surface roughness and material removal rate."	VTU-2014	In progress
			Channegowda B K	Part Time	External	"Performance Evaluation of An-Algal Bio-fuel on Compression Ignition Engine."	VTU-2014	Course Work Completed.
			M Eliza Rose Bell	Part Time	External	Investigation on Effect of Micro Structural Changes During High Speed CNC Machining of Aluminium Metal Matrix Composites."	VTU-2014	Course Work Completed.
			Lohith A G	Part Time	External	Optimization & Characterization of	VTU-2014	Course Work Completed.

						Methyl Ester & Their performance in Single Cylinder 4-Stroke CI Engine Using Yellow Oleander Seed Oil."		
8		Dr. H.B. Niranjan	Dr. Manjunatha B.	Part Time	Internal	"Study and characterization of Ceramic Particle reinforced Aluminum alloy under Severe Plastic Deformation."	VTU-2010	Awarded
			Shadakshari R.	Part Time	Internal	Study on the Behaviour of Aluminium - Nano Composites under Plastic Deformation."	VTU-2010	Thesis submitted
9		Dr. Madhu	Nagaprasad K.S.	Part Time	External	A Study on effect of fluid injection on Diesel Engine performance and emission."	VTU-2010	Course Work Completed.
10		Dr. A.S. Ravindran	Seetharamaiah R	Part Time	External	Production of Bio-Diesel from Selected Sources and Evaluation of Efficiency	VTU-2011	Comprehensive Viva-voce Completed

						with Special Reference to Existing Diesel Engine System."		

5.7.2 Sponsored Research (5)

CAY m1 (2017-18)

Sl. No.	Title of the project	Amount sanctioned	Funding agency	Month and year of sanction	Status of project as on CAY	Name of the principal/Co principal investigator
NIL						

CAY m2 (2016-17)

Sl. No.	Title of the project	Amount sanctioned	Funding agency	Month and year of sanction	Status of project as on CAY	Name of the principal/Co principal investigator
NIL						

CAY m3 (2015-16)

Sl. No.	Title of the project	Amount sanctioned	Funding agency	Month and year of sanction	Status of project as on CAY	Name of the principal/Co principal investigator
1	Studies on damping characteristics of magneto-mechanical coated alloys	Rs. 20 lakhs Rs. 5 lakhs	(AICTE - RPS scheme) JMJ EDUCATION SOCIETY	12/08/13	Completed	Dr. Mahesha K

5.7.3 Development Activities (10)

A. Product development

Sl. No.	Assessment year	Type of product developed	Funding Agency	Faculty & student's involved
1	CAY (2018-19)	SAE-REEV HYBRID VEHICLE	J M J EDUCATION SOCIETY	Mr. Praveen B B Mr. BasavarajHittinahalli Mr. Prasad Salunke Dr. Sanman S
2	CAY m1 (2017-18)	ALL TERRAIN VEHICLE – SAE BAJA		Mr. Chethan G R
		ONION HARVESTER – SAE TIFAN		Mr. ManjunathIyer
		ALL TERRAIN VEHICLE – FMAE-BAJA		Mr. Praveen B B Mr. BasavarajHittinahalli
3	CAYm2 (2016-17	NIL		
4	CAYm3 (2015-16)	NIL		

B. Research laboratories

Sl. No.	Facility Name	Area in which the students are expected to have enhanced learning
1	DMA Analyzer	Material Testing
2	Computerized UTM	Material Testing
3	Computerized Optical Microscope	Micro Structural Analysis
4	Pin on Disc Wear Testing Machine	Material Testing
5	Fatigue Tester	Material Testing
6	TIG	Fabrication
7	MIG	Fabrication
8	Lathe Tool Dynamometer	Cutting Force Analysis
9	Drill Tool Dynamometer	Cutting Force Analysis
10	Mill Tool Dynamometer	Cutting Force Analysis
11	Tool Tip Temperature Measurement	Cutting Temperature Analysis
12	Ball Mill	Fabrication
13	Electric Melting Furnace	Fabrication
14	Induction Melting Furnace	Fabrication

C. Instructional materials

Sl. No.	Nature of Instructional material	User of the material	Prepared by
1	Lecture Notes	Students	Faculty
2	Lab Manuals	Students	Faculty
3	Question Bank	Students	Faculty
4	E-Resources	Faculty/students/research scholar	Central Library

D. Working models / charts / monograms

SL. NO.	MODELS	CHARTS
1	Non – dissected model on drawing set of 18 (2 sets)	Foundry and Forging Processes
2	2 stroke petrol engines	Work shop Practice – Fitting, Sheet metal and Welding Processes
3	4 stroke petrol engines	Energy Conversion Processes
4	Cone step pulley (IV)	Machine Tool Operation Models
5	Three stage spur gears	Fluid Machinery Lab
6	Herringbone gears	Heat and Mass Transfer Lab
7	Internal gear pinion drive	Design Lab
8	Reversing gear	Material Testing Lab
9	Gear box (3 speed reverse gear) with clutch	Metrology and Measurement Lab
10	Differential gear	
11	Geneva gear drives	
12	Oscillating cylinder mechanism (II)	
13	Whitworth quick return mechanism (III)	
14	Ellipse tracer model	
15	Watt’s mechanism	
16	Peaucellier linkage drive mechanism	
17	Pantograph mechanism	
18	Crank slotted lever apparatus (fully calibrated)	
19	Action of CAMs	
20	Hook’s coupling	
21	Flexible coupling	
22	Flanged coupling	
23	Split muff coupling	
24	Oldham’s coupling	
25	Shafting general bearing (set of 6)	
26	Bearings	
27	Knuckle joints	
28	Cotter joints	

29	Gib and cotter joints	
30	Sleeve and cotter joint	
31	Socket and spigot joint	
32	Riveted joints	
33	Plate clutch	
34	Centrifugal clutch	
35	Double shoe brake	
36	Band brake	
37	Internally expanding brake	
38	Disk brake model	
39	Single stage bevel gear	
40	Pawl and ratchet rod model	
41	Epicyclic gear (sun & planet)	
42	CNC Lathe Machine	

5.7.4 Consultancy (from Industry) (5)

Funding amount (Cumulative during assessment years):

Amount > 10 Lacs – 5 Marks

Amount >= 8 Lacs and <= 10 lacs – 4 Marks

Amount >= 6 Lacs and < 8 lacs – 3 Marks

Amount >= 4 Lacs and < 6 lacs – 2 Marks

Amount >= 2 Lacs and < 4 lacs – 1 Mark

Amount < 2 Lacs – 0 Marks

Sl. No	Year	Nature/Title of Work	Duration	Amount (Rs.)	Faculty In-Charge
1.	2018-19	A.M.I.E Training	Each SEM/ 20 Days	1,28,000	R. Shadakshari
	2017-18			1,84,000	
	2016-17			64,000	
	2015-16			1,36,000	
2.	2018-19	D.M.A Analyzer		12000	Sachidananda K B
	2017-18			6300	
	2016-17			1000	
	2015-16			8000	
3.	2018-19	Pin-on-Disc Wear Testing Machine		------	Pranesh K G
	2017-18			3000	
	2016-17			3100	
	2015-16			3100	
4.	2018-19	Fatigue Testing Machine		1900	Pranesh K G
	2017-18			3500	

	2016-17			1500	
	2015-16			6100	
5	2018-19	Ball Mill		---------	Pranesh K G
	2017-18			---------	
	2016-17			1000	
	2015-16			800	

5.8 Faculty performance appraisal and development system (30)

Performance appraisal of faculty and support staff:

Faculty performance consisting of performance consisting of 3 parts Part A1 personal data /general information, Part A2 self-appraisal 8 consisting eating learning and evaluation activities in category 1 professional development co-curricular and extension activities. Under category 2 and category 3 consists of:

1. Research activity, publications, and consultancy
2. Book published as author/research
3. Project, research guidance, and patents also appraisal by students, IQAC assessment of TLP, appraisal by Head of the Department and Principal, redressal in mechanism is built into the system.

The sample of the format is enclosed.

Faculty and staff appraisal systems in AIT have been operational in various forms over the past few years. With the introduction of ERP systems and to facilitate on-line entries by students and to inculcate efficacy in appraisals by peers and management levels, the formats are made more user friendly. The written and subjective parts have been modified to facilitate quantifying quality. The Performance Based Appraisal System is modelled on recommendations made by MHRD, Pay Commission Report and the Guidelines issued by UGC. These have been enunciated clearly with appraisals based on performance. Annual Staff and faculty performance appraisal systems have been introduced.

The system consists of:

1. Self-appraisal
2. TLP
3. Head of department/section
4. Appraisal by the principal
5. Appraisal by students

Weightages given to the faculty appraisals are:

Self-appraisal	:	40%
IQAC assessment of TLP	:	20%
Evaluation by HOD	:	10%
Evaluation by Principal	:	10%
Appraisal by students	:	20%

Source data for appraisal:

While student's appraisals are on-line, are supervised by a group of mentors to avoid bias or fear, the peer team-HOD, principal-management and even the annual confidential report shall use the data for the year of appraisal available with each Institution or department in the faculty.

IQAC documents are submitted by the faculty are:

1. Personal Folder
2. Mentor Folder
3. Performance Folder
4. Course file

These documents are with the respective heads of departments under quality implementation system.

System of awards and accountability:

The appraisal system is the basis for the increments promotions and appreciation of service. The accountability is appraised yearly based upon participation in academic curricular and extracurricular activities. The performance below the targets is counseled by the head of the department and / or the principal. The student feedback is communicated to faculty by the head of the department. In the PBAS format, after the self-appraisal, the head of the department, the principal, audit of the IQAC for TLP practices and student feedback are assessed cumulatively on a scale of 100.

Provision is also made for any grievance in the PBAS process and ratification is done by an independent committee of senior faculty. This score is communicated to the faculty and filled in the personal files. Any faculty getting less than 65/100 is counseled and advised with hand folding for subsequent improvement.

To enhance the professional development of teaching and nonteaching staff, the institution has initiated the following efforts:

1. Faculty members are encouraged and allowed to improve their qualifications and knowledge up graduations by permitting them to join for courses, PhDs. Official leave is also granted.
2. Encourage the faculty to participate in workshops and present papers in conferences and seminars.
3. Faculty development programs and skills enhancement programs are organized regularly on campus. Also, faculty is deputed to participate in refresher courses, FDPs summer/winter training programs etc.
4. Faculty internships in industries has helped to a great extent to gain practical experience to face the challenges and changing needs of learning and industries.

5. The faculty are also encouraged to deliver to various groups and engage themselves in extension programs
6. In house skill development programs are organized at regular intervals to upgrade the skills of non-teaching staff.
7. For administrative skill development of staff, the Institute organizes corporate training programs
8. For personality development, teaching skill development and social and technical up gradation, the Institute organizes training program.
9. The institute deputes the faculty for training programmes organized by other organizations.
10. The institute invites resources persons such as industrialists, researchers and academicians of reports for interactions with the staff.
11. Conducting orientation program about the policies and procedures prevailing in the institution
12. The institute encourages the senior faculty to motivate the junior faculty in following ways:
    a. Giving essential inputs, providing personal training on lecture/ laboratory work delivery/seminar-project guiding, counseling on career advancement.
    b. Involving them in discussions syllabus.
    c. Creating an open atmosphere for personal growth and to clarify the doubts, concepts and difficulties.

FACULTY PERFORMANCE APPRAISAL

PART – A1 PERSONAL DATA / GENERAL INFORMATION

1. Name			
2. Department			
3. Designation			
4. Contact Address	Residence Mobile:		E-mail:
5. Date of Birth and age	(d/m/y)		Age (as on 1st July)
6. Qualifications			
Name of the University /Institution	Diploma /Degree/ M. Tech./ M. Phil /PhD	Year	Percentage/CGPA
i.			
ii.			
iii.			
iv.			
7. Areas of Specialization:			
8. Experience at Acharya Institutes Date of Joining: Total years of service at Acharya:	PG Courses : UG Courses:		
9. Past Service (Including Industry Experience)			
Name of the Institution	Position held		Period/years
9.1			
9.2			
9.3			
10. Total Teaching experience/Service as on 1st July 2017(Sum of Item 8+9): Years: …….. Months: …….			
11. Honors, Awards and prizes:			
Name of the Award/Honor	Name of the Organization/Institution		Year
11.1			
11.2			
11.3			
12. Additional Qualifications/Certification acquired during the Academic Year			
Institution	Program		Year/Period
12.1			
12.2			
12.3			

PART – A2 SELF APPRAISAL (TO BE FILLED BY THE FACULTY MEMBER)

CATEGORY – I Teaching, Learning and Evaluation Related Activities

1. Brief duties and responsibilities discharged:					**Max. Points**	**Points allocated**	**Points Approved**
2. Courses Taught/Name of the Course	ODD/EVEN Semester	Number of Hours per week	Maximum No. of Class/Sem.	Actual No. of Classes Taken			
2.1.							
2.2.							
2.3.							
2.4.							
3. Innovative Teaching Methods adopted:							
3.1.Use of ICTs in Teaching:					05		
3.2.Participatory Learning Modules (Assignments, Presentation, Quiz, Mini projects, Group Seminars):					05		
4. Effectiveness of Mentoring the students and Challenges faced during mentoring of Students					05		
5. Innovative and Unique Plans and proposals envisaged for the development of the Department/College (5)					05		
Maximum Points					20		

CATEGORY – II Professional Development, Co-Curricular, Extension Activities

Contribution Towards Activities During the Academic Year		**Max. Points**	**Points allocated**	**Points Approved**
Type of Activity	Substantiate the work accomplished			
1. **Academic activities**				
Conferences Organized / Seminars Organized / Workshops conducted		05*		
2. **Co-curricular, Extension and Field based activities for students**				
Field studies / Educational Tours / Industry visits		05		
3. **Community Services**				
NSS, NCC , Community Services & Sports coordination		05		
4. Governance – Provide details of the following roles/coordination				
Member of Executive Council Academic council of the universities or Member of the University level committees BOS,BOE, etc or		05		

Dean, Chairperson and Members of IQAC, heads of the department, Chief Warden, Chief Proctor				
5. **Member of the committees at the college/Department level** :				
a) Placement/ Proctor/Alumni, Library Committee/Forums, MARS/ IEEE /CSI/ASME etc. at College Level		05		
b) Time Table/Test Coordinators at Department level.		05		
6. Professional Development				
a. Participation in Conference/Seminar/ Workshop July 2016- June 2017 (3 points per program, Max. of 5 points)	Name of the Conference: Dates: Venue: Organizers: Title of the paper presented:	05		
b. Invitation to deliver Lectures/Keynote address July 2016- June 2017 (2 points per activity, Max. of 5 points)	Name of the Conference: Dates: Venue: Organizers: Title of the paper presented:	05		
c. Membership in professional associations/societies (2points per membership)		05		
d. Members in editorial committee of Journal and other publications		05		
7. Industry – Institute Interaction Initiations or MoU		05		
8. Exchange programs initiated		05		
9. Any other Innovative activities		05		
Maximum Points		**65**		

* Secretary/Convener: 5 points, Coordinators: 02, Members of committees: 01

CATEGORY – III Research, Publications, Consultancy and Academic Related Contributions

1. Publication in scientific journals / conference / seminar / proceedings

Sl. No.	Author/s	Title of the Paper	Name of the Journal/Proceedings Publisher, Volume No., Year and Pages	Authorship position in case of co-authors	Max. Points	**Points allocated**	**Points Approved**
1					05		
2							
3							

2. Books published as author/editor and chapters contributed

Sl. No.	Author/s	Title of the Book/Chapter	Name of the Editor/ Name of the Publisher, Editor, Volume Number, Year and Pages	Authorship position in case of co-authors	Max. Points	**Points allocated**	**Points Approved**
1					05		
2							

3. Research projects

	Max. Points	**Points allocated**	**Points Approved**
Proposal submitted	02		
Ongoing or completed	03		

4. Consultancies & services

Sl. No.	Title of the Consultancy / Services	Organization/Institution	Period and date of Commencement	Revenue Generated (in Rs. Lakh)	Collaborators/Team Members	Max. Points	**Points allocated**	**Points Approved**
1						05		
2								

5. Research guidance

Sl. No.	Name of the Research Scholar	Title of the Research	Name of the University and year of registration	Whether PhD	Whether Degree Awarded/Thesis submitted	**Max. Points**	**Points allocated**	**Points Approved**
1						05		
2								

6. Patents:

Sl. No.	Title of the Proposal	Status	Awarded Date	Agency	Collaborators/Team Members	**Max. Points**	**Points allocated**	**Points Approved**
1						05		
2								

7. Training programs, faculty development programs and teaching-learning technology programs attended:

Sl. No.	Program	Organized by	Duration	Venue	Details of Sponsorship/ Deputation	**Max. Points**	**Points allocated**	**Points Approved**
1						05[$]		
2								

*Minimum of two days at a time and 01 point per day of attendance.

Points Obtained	CATEGORY – I	CATEGORY – II	CATEGORY – III	Total
Maximum points	20	65	35	120
Points obtained/ category wise	X=	Y=	Z=	
Points for review: :0.5*X+.4*Y+0.1*Z:			(Minimum Required :20)	

I certify that the information provided is correct and have records to substantiate.

Date Signature of the Faculty

Name and Designation:

[For Use / To Be Filled by the Administration/Management]

APPRAISAL BY HEAD OF THE DEPARTMENT (REPORTING OFFICER)

Sl. No.	Assessment Indicators	**Max. Points**	**Points awarded**
1.	Discipline, Regularity, Punctuality	05	
2	Teaching Abilities	05	
3	Interaction with Students/Motivation to the Students	05	
4	Maintenance of Records and involvement in Department Activities	05	
5.	Initiatives (including networking) taken and ability to work under pressure	05	
Maximum Points Awarded		25	

Points Obtained on a scale of 10= Points Obtained*10/25 =

Date: Name and Signature of Head of the Department

APPRAISAL BY THE PRINCIPAL OF THE COLLEGE (REVIEWING OFFICER)

Sl. No.	Assessment Indicators	**Max. Points**	**Points awarded**
1.	Involvement in the Academic/Administrative management of the Institution	05	
2	Participation in Policy Planning/Project Proposals/Research Projects and Guidance, Extension activities	05	
3	Discipline, Regularity, Punctuality	05	
4	Potential to be groomed for institutional/ personal growth	05	
5.	Rating of the Faculty	05	
Maximum Points Awarded		25	

Points Obtained on a scale of 10= Points Obtained*10/25 =

Date: NAME AND SIGNATURE OF THE PRINCIPAL

(Office Seal)

SUMMARY OF SCORES

[Self-Assessment Report, Students Feedback, TLP, Head of the Department and Principal]

Sl. No.	Academic Performance Parameters	Maximum Points Allotted	Points Obtained
1.	Self-Appraisal by the Faculty	40	
(Minimum Points To Be obtained for the Satisfactory performance is 20/40)			
2	Students Feedback	20	
3	IQAC assessment of TLP	20	
4	Appraisal by Head of the Department	10	
5.	Appraisal by the Principal of the College	10	
(Minimum Points To Be obtained for the Satisfactory performance is 45/60)			
	Grand Total	100	

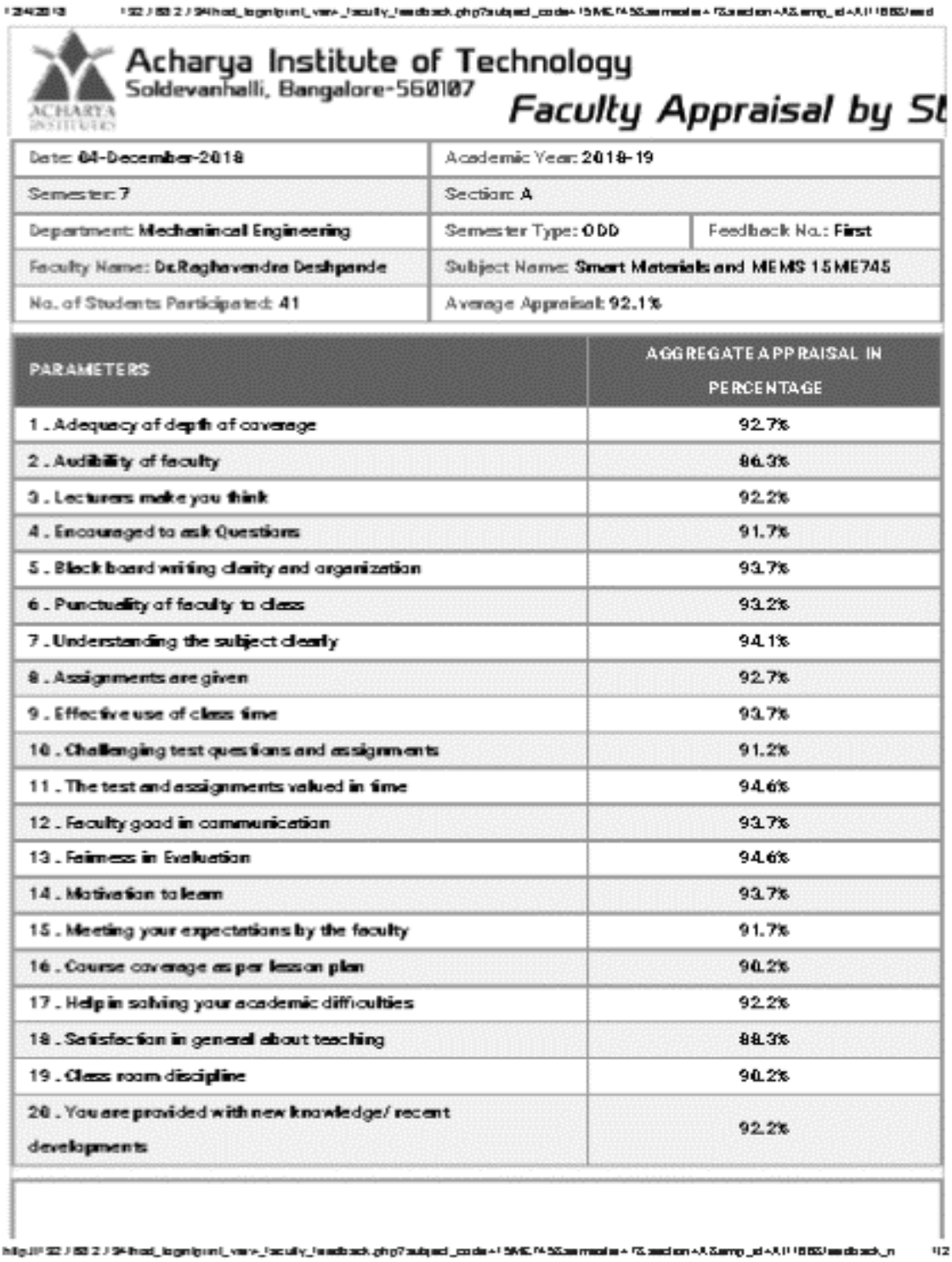
Verified the scores of all parameters

Dean Administration

Signature and Date of Interaction with the concerned Faculty Member with Remarks:
SIGNATURE OF THE FACULTY **SIGNATURE OF THE PRINCIPAL**

ACCEPTING AUTHORITY
CHAIRMAN, ACHARYA INSTITUTES **OR PERSON NOMINATED/DELEGATED BY THE CHAIRMAN**

STUDENTS FEEDBACK



Acharya Institute of Technology
Soldevanhalli, Bangalore-560107

Faculty Appraisal by St

Date: 04-December-2018	Academic Year: 2018-19	
Semester: 7	Section: A	
Department: Mechanincal Engineering	Semester Type: ODD	Feedback No.: First
Faculty Name: Dr.Raghavendra Deshpande	Subject Name: Smart Materials and MEMS 15ME745	
No. of Students Participated: 41	Average Appraisal: 92.1%	

PARAMETERS	AGGREGATE APPRAISAL IN PERCENTAGE
1 . Adequacy of depth of coverage	92.7%
2 . Audibility of faculty	86.3%
3 . Lecturers make you think	92.2%
4 . Encouraged to ask Questions	91.7%
5 . Black board writing clarity and organization	93.7%
6 . Punctuality of faculty to class	93.2%
7 . Understanding the subject clearly	94.1%
8 . Assignments are given	92.7%
9 . Effective use of class time	93.7%
10 . Challenging test questions and assignments	91.2%
11 . The test and assignments valued in time	94.6%
12 . Faculty good in communication	93.7%
13 . Fairness in Evaluation	94.6%
14 . Motivation to learn	93.7%
15 . Meeting your expectations by the faculty	91.7%
16 . Course coverage as per lesson plan	90.2%
17 . Help in solving your academic difficulties	92.2%
18 . Satisfaction in general about teaching	88.3%
19 . Class room discipline	90.2%
20 . You are provided with new knowledge/ recent developments	92.2%

5.9 Visiting/adjunct/emeritus faculty (10)

The institute has been following the policy of inviting experts from outside, adjunct faculty and emeritus faculty.

CAYm1 (2017-18)

Sl. No.	Name of the Visiting faculty	Designation	Topic assigned for teaching and interaction	dd/mm/yy	Number of contact hours
1	Mr. Jayashankar	Professor (Visiting Faculty)	Computer Aided Engineering Drawing	1/2/2018	64 Hrs

CAY m3 (2015-16)

Sl. No.	Name of the Visiting faculty	Designation	Topic assigned for teaching and interaction	dd/mm/yy	Number of contact hours
NIL					

CRITERION 6	FACILITIES AND TECHNICAL SUPPORT	80

6. FACILITIES AND TECHNICAL SUPPORT

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

Table B.6.1 shows the facilities in the department.

Table B.6.1

Sl. 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	CAED Lab-1	60	Solid edge ST9	8 batches Engineering Drawing lab per week	Hareesh D Naik	Instructor	BE
2	CAED lab-2	60/20/60	Solid edge ST9, Ansys V19, FeMap, CADem	2 batches CAMD, 6 batches Analysis lab, 2 batches CIM and automation lab, per week	Hulluraiah H	Instructor	Dip ME
3	Workshop lab-1	30	Arc Welding	8 batches per week	Ravikumar B M	Instructor	Dip ME
4	Workshop lab-2	30	Arc Welding	8 batches per week	Ravikumar B M, Vasu Ram Chaun	Instructor	Dip ME
5	Material Testing Lab	20	Universal testing machine	6 batches per week	Narayanan S P	Instructor	Dip ME
6	Foundry and Forging Lab	20	Melting furnace	6 batches per week	Vasu Ram Chaun	Instructor	BE
7	Machine shop	20	Centre Lathe, Milling machine	6 batches per week	Manjunatha D R, Paul D	Instructor	Dip ME, ITI (Machinist)
8	Metrology and Measurements lab	20	Profile projector	6 batches per week	Jayashankara R	Instructor	Dip ME

9	Fluid Machines lab	20	Francis turbines	6 batches per week	Siddeshwara D	Asst.Insturctor	Dip ME
10	Energy Conversion lab	20	Multi cylinder petrol engine	6 batches per week	Ashwath K R	Asst.Insturctor	NAC
11	CAMA Lab	20	Ansys V19, FeMap	6 batches per week (Shared with CAED lab 2)	Hulluraiah H	Instructor	Dip ME
12	Heat and Mass Transfer lab	20	A/C Test rig	6 batches per week	Ashwath K R	Asst.Insturctor	NAC
13	Design lab	20	polariscope	6 batches per week	Jayashankara R	Instructor	Dip ME
14	CIM and Automation Lab	20	CNC Turning Machine	2 batches per week (Shared with CAED lab 2)	Hulluraiah H	Instructor	Dip ME

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

Table B.6.2: Additional facilities

Sl. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which The students are expected to have enhanced learning	Relevance to POs/PSOs
1	Computerized UTM	UTE-40 Electronic UTM	R&D facility	Demonstration for UG students and R&D work	Material Testing	PO4, PSO3
2	Computerized Optical Microscope	DMI-CROWN Metallurgical micro scope with Image analyser	R&D facility	Demonstration for UG students and R&D work	Micro structural analysis	PO4
3	Wear Testing Machine	DUCOM Rotary PIN ON DISC Tribometer	R&D facility	Demonstration for UG students and R&D work	Material Testing	PO1, PO4, PSO1
4	Fatigue Tester	DUCOM Rotating Beam Fatigue Tester	R&D facility	Demonstration for UG students and R&D work	Material Testing	PO1, PO4, PSO3
5	TIG	CTW TIG 200i	Fabrication	4 hr per week	Fabrication	PO4, PO6, PSO3

6	MIG	CWM MIG 200i	Fabrication	4 hr per week	Fabrication	PO4, PO6, PSO3
7	Lathe Tool Dynamometer	Industrial engineering instruments	R&D facility	R&D work	Cutting force analysis	PO4, PO6, PSO3
8	Drill Tool Dynamometer	Industrial engineering instruments	R&D facility	R&D work	Cutting force analysis	PO4, PO6, PSO3
9	Mill Tool Dynamometer	Efficient engineers	R&D facility	R&D work	Cutting force analysis	PO4, PO6, PSO3
10	Tool Tip temperature measurement	Efficient engineers	R&D facility	Demonstration for UG students	Cutting Temperature analysis	PO4, PO6, PSO3

6.3 Laboratories: maintenance and overall ambiance (10)

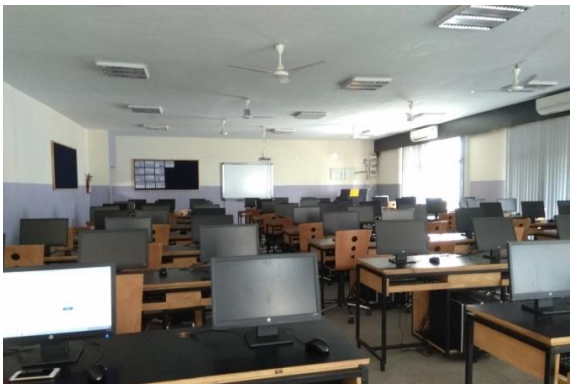
All the laboratories are well equipped and maintained.

1. Maintenance of the instruments are carried out as a routine and annually
2. Calibration of the instruments are carried out annually
3. Technical Staffs are trained to maintain the laboratories
4. Well-equipped classrooms and laboratories are provided
5. A good ambiance with ventilation and lighting in classrooms and laboratories
6. LED Projectors are provided in CAED lab

Table B.6.3 shows the inset of laboratory facilities.

Table B.6.3: Laboratory facilities

CAED Lab-1



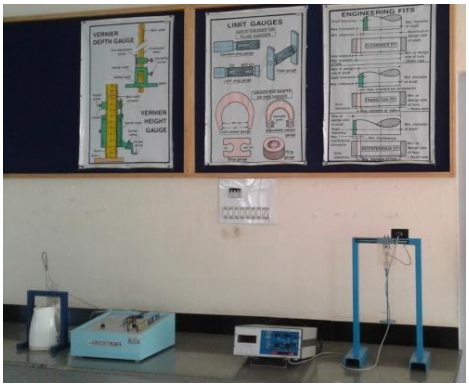
CAED Lab-2

Workshop Lab

Material Testing Lab

Foundry and Forging Lab

Machine shop



Mechanical measurements and metrology Lab

Energy Conversion Lab

Fluid Machines Lab

Heat and Mass Transfer Lab

Design Lab

6.4 Project laboratory: facilities (5)

Sl. No.	Name of Equipment	Utilization
1	Pin on Disc wear testing rig	UG/PG/Research Projects, Consultancy services
2	Electric Melting Furnace	
3	Ball Mill	
4	Hydraulic press	
5	Induction melting furnace	
6	Dynamic Mechanical Analyser	
7	Computerized Metallurgical Microscope	
8	Computerized UTM	

Table B.6.4 shows the list of facilities and photographs provided for carrying out projects.

Table B.6.4

Pin on Disc wear testing rig

Electric Melting Furnace

Ball Mill

Hydraulic press

Induction melting furnace

Dynamic Mechanical Analyser

Computerized Metallurgical Microscope

Computerized UTM

6.5 Safety measures in laboratories (10)

Table B.6.5(a) shows the safety measures taken in all the laboratories. A display of safety measures is in place.

Table B.6.5(a)

Sl. No	Name of the Laboratory	Safety measures
1	CAED lab-1	All labs are Equipped with 1. Fire extinguisher 2. First aid box 3. Water supply 4. Display boards showing
2	CAED lab-2	
3	Workshop lab-1	
4	Workshop lab-2	
5	Material Testing Lab	

6	Foundry and Forging Lab	• Do's • Don'ts • Safety measures
7	Machine shop	
8	Metrology and Measurements lab	
9	Fluid Machines lab	
10	Energy Conversion lab	
11	Heat and Mass Transfer lab	
12	Design lab	

First aid box

Fire extinguisher

Do's

- Wear Shoes and uniforms before entering the laboratory.
- Wear the I. D. Card before entering the laboratory.
- EATABLES prohibited in the laboratory.
- KEEP SILENCE & maintain discipline in the laboratory.
- It is compulsory to bring the calculator and graph sheet.
- Shut Down the power supply after the experiments.
- Return the given equipments after completing the Experiments.

Don'ts

- Mobile Phones are STRICTLY PROHIBITED in the lab.
- Do not start the experiment without Instructions.
- Do not touch any machines in the absence of the lab instructor.
- Do not tamper the instrument.
- Do not run, shout and knock Inside the lab.
- Don't touch the instruments without instruction from the instructor.

Safety measures

- Equipped with fire extinguishers
- Fairest aid box facility is provided
- Handle the oil and grease carefully, it may cause accident if it falls on the floor.
- If you have long hair or loose clothes, make sure it is tied back or confined

Display boards

CRITERION 7	CONTINUOUS IMPROVEMENT	50

7. CONTINUOUS IMPROVEMENT

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

Table 7.1(a) POs Attainment Levels and Actions for improvement – CAY (2014-18)

POs		Target Level	Attainment Level	Observations
PO1: Engineering knowledge				
PO1		2.07	2.1	Target accomplished.
PO2: Problem analysis				
PO2		1.56	1.5	Target not reached.
Action: To emphasize on analysis and problem solving.				
PO3: Design/development of solutions				
PO3		0.54	0.5	Observations: Target was not reached.
Action: To impart skills in designing.				
PO4: Conduct investigations of complex problems				
PO4		0.34	0.6	Target attained.
PO5: Modern tool usage				
PO5		0.2	0.3	Target attained.
PO6: The engineer and society				
PO6	0.07	0.2		Target attained.
PO7: Environment and sustainability				
PO7	0.03	0.2		Target attained.
PO8: Ethics				
PO8	0.1	0.1		Target attained.
PO9: Individual and team work				
PO9	1.8	0.6		Target not accomplished, very few courses like project and laboratory experiments accommodate team work.
Action: To encourage the students to involve in group projects and mini projects.				
PO10: Communication				
PO10	0.68	0.2		Target not attained.
Action: To emphasize on assignments to improve communication.				
PO11: Project management and finance				
PO11	0.1	0.2		Target attained.
PO12: Life-long learning				
PO12	1.76	1.9		Target attained.

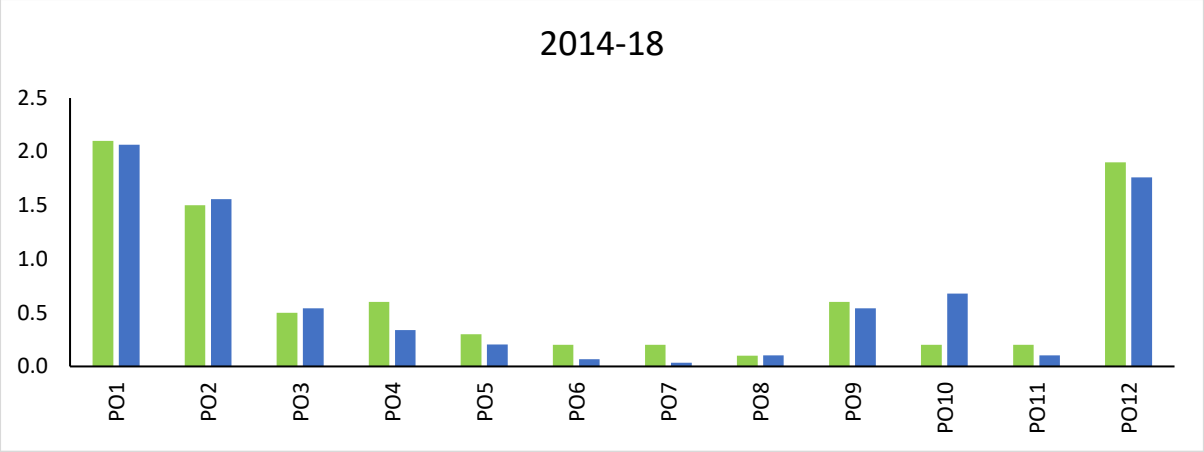


Fig. B.7.1(a): POs for 2014 - 2018

Table 7.1(b): PSOs Attainment Levels and Actions for improvement – CAY (2014-18)

PSOs	Target Level	Attainment Level	PSO Statement: Determine the performance of a given mechanical component or a system using computational tools.
PSO1	1.32	1.46	Target attained.
PSO 2	1.05	1.21	Target attained.
PSO 3	0.64	0.92	Target attained.
PSO 4	0.44	0.41	Target not reached.
Action: To emphasize on the use of ICT and optimization skills and managerial functions in lifecycle management.			

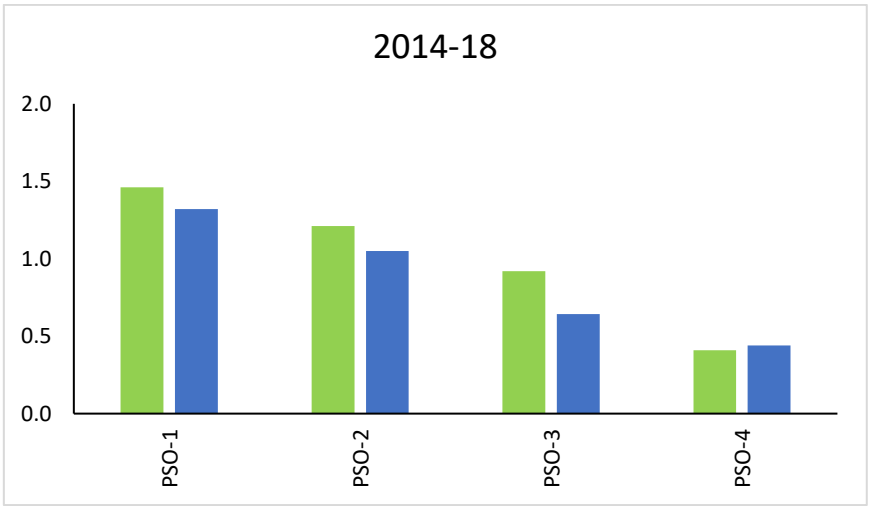


Fig. B.7.1(b): PSOs for 2014-2018

Table 7.1(c): POs Attainment Levels and Actions for improvement – CAY (2013-17)

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge			
PO1	1.92	1.99	Target accomplished.
PO2: Problem analysis			
PO2	1.45	1.44	Target not reached.
Action: To emphasize students to involve in solving different types of engineering problems.			
PO3: Design/development of solutions			
PO3	0.5	0.56	Target attained.
PO4: Conduct investigations of complex problems			
PO4	0.31	0.58	Target attained.
PO5: Modern tool usage			
PO5	0.19	0.24	Target attained.
PO6: The engineer and society			
PO6	0.06	0.23	Target attained.
PO7: Environment and sustainability			
PO7	0.03	0.22	Target attained.
PO8: Ethics			
PO8	0.09	0.07	Target not accomplished.
Action: The curriculum has less focus on ethical aspects.			
PO9: Individual and team work			
PO9	0.5	0.31	Target not accomplished.
Action: To make the students to carryout mini projects and group assignments.			
PO10: Communication			
PO10	0.63	0.29	Target not accomplished.
Action: To emphasize on assignments.			
PO11: Project management and finance			
PO11	0.09	0.21	Target attained.
PO12: Life-long learning			
PO12	1.64	1.89	Target accomplished.

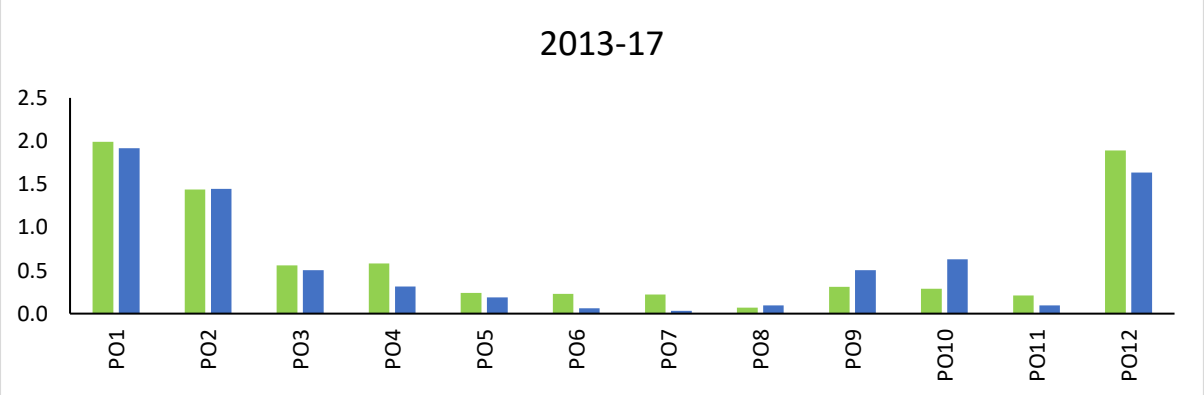


Fig. B.7.1(c): POs for 2013-2017

Table 7.1(d): PSOs Attainment Levels and Actions for improvement – CAY (2013-17)

PSOs	Target Level	Attainment Level	PSO Statement: Determine the performance of a given mechanical component or a system using computational tools.
PSO 1	1.23	1.14	Target not accomplished.
Action: To provide additional skills by using computational tools and analysis.			
PSOs	Target Level	Attainment Level	PSO Statement: Design mechanical systems including drives, energy conversion systems (IC engines, turbo machines, and power plant components), RAC and fluid power systems along with their embedded controllers as per specifications
PSO 2	0.98	0.99	Target not accomplished.
PSOs	Target Level	Attainment Level	PSO Statement: Select, plan, and implement the process for manufacturing mechanical elements and for assembly of mechanical sub systems and systems
PSO 3	0.6	1.04	Target reached.
PSOs	Target Level	Attainment Level	PSO Statement Optimize the use of resources and processes, using managerial techniques, ICT tools and life cycle management for a safe environmentally friendly system for sustainable society.
PSO 4	0.41	0.53	Target reached.

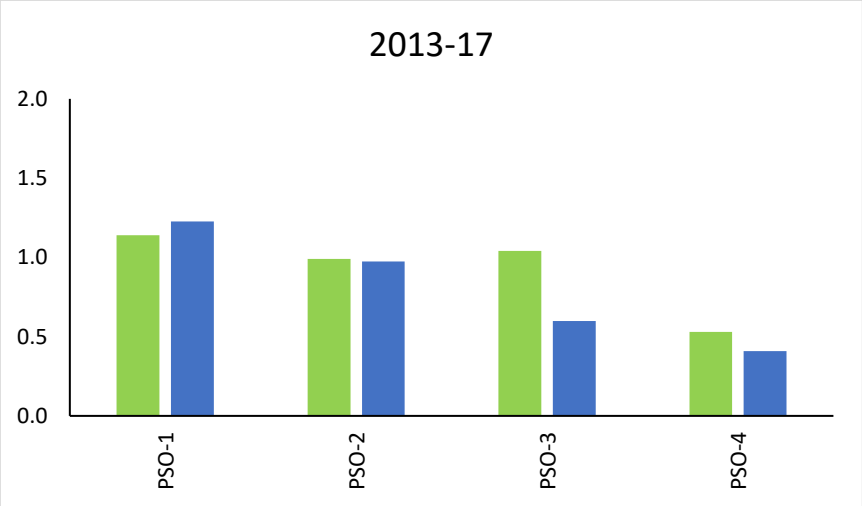


Fig. B.7.1(d): PSOs for 2013-2017

Table 7.1(e): POs Attainment Levels and Actions for improvement – CAY (2012-16)

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge			
PO1	1.77	2.56	Target attained.
PO2: Problem analysis			
PO2	1.34	1.85	Target attained.
PO3: Design/development of solutions			
PO3	0.46	0.51	Target attained.
PO4: Conduct investigations of complex problems			
PO4	0.29	0.57	Target attained.
PO5: Modern tool usage			
PO5	0.17	0.26	Target attained.
PO6: The engineer and society			
PO6	0.06	0.4	Target attained.
PO7: Environment and sustainability			
PO7	0.03	0.41	Target attained.
PO8: Ethics			
PO8	0.09	0.00	Target not accomplished
Action: The curriculum has less focus on ethical aspects.			
PO9: Individual and team work			
PO9	0.46	0.74	Target attained.
PO10: Communication			
PO10	0.58	0.28	Target not accomplished.
Action: To emphasize on assignments.			
PO11: Project management and finance			
PO11	0.09	0.26	Target attained.
PO12: Life-long learning			
PO12	1.51	2.18	Target attained.

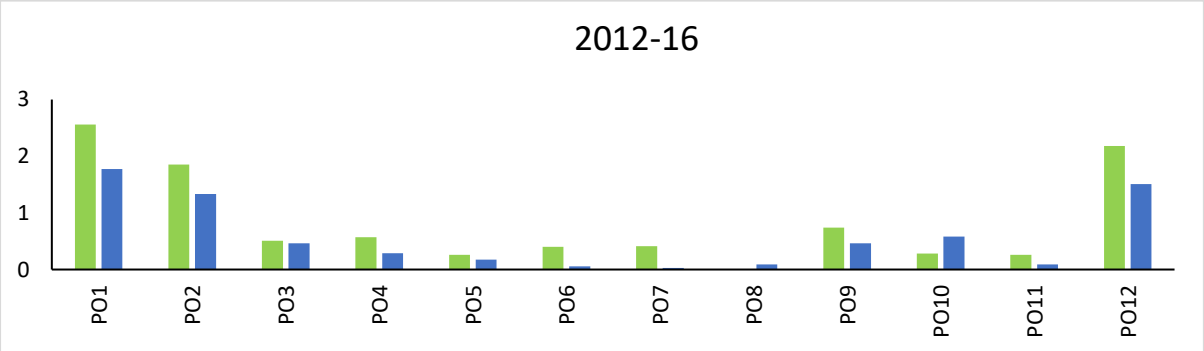


Fig. B.7.1(e): POs for 2012-2016

Table 7.1(f): PSOs Attainment Levels and Actions for improvement – CAY (2012-16)

PSOs	Target Level	Attainment Level	PSO Statement: Determine the performance of a given mechanical component or a system using computational tools.
PSO 1	1.13	1.24	Target attained.
PSOs	Target Level	Attainment Level	PSO Statement: Design mechanical systems including drives, energy conversion systems (IC engines, turbo machines, and power plant components), RAC and fluid power systems along with their embedded controllers as per specifications
PSO 2	0.9	1.25	Target attained.
PSOs	Target Level	Attainment Level	PSO Statement: Select, plan, and implement the process for manufacturing mechanical elements and for assembly of mechanical sub systems and systems
PSO 3	0.55	1.68	Target reached.
PSOs	Target Level	Attainment Level	PSO Statement Optimize the use of resources and processes, using managerial techniques, ICT tools and life cycle management for a safe environmentally friendly system for sustainable society.
PSO 4	0.38	0.94	Target reached.

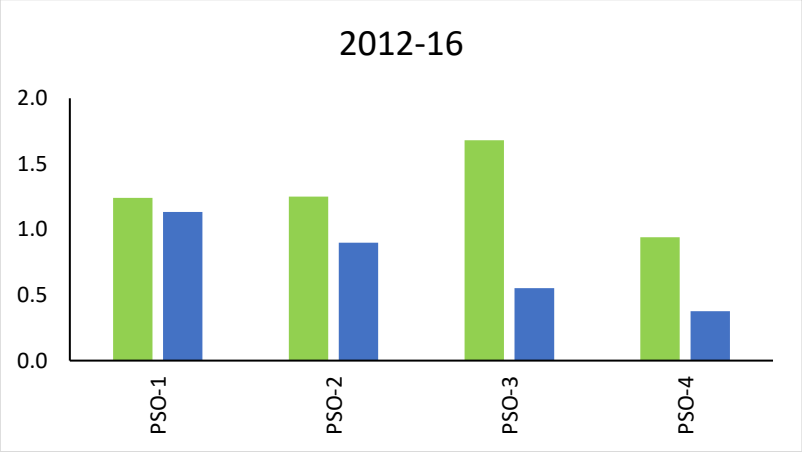


Fig. B.7.1(f): PSOs for 2012-2016

Table B.7.1(g): Summary of POs

Year	PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2012-16	**Attainment**	2.56	1.85	0.51	0.57	0.26	0.4	0.41	0.00	0.74	0.28	0.26	2.18
	Target	1.77	1.34	0.46	0.29	0.17	0.06	0.03	0.09	0.46	0.58	0.09	1.51
2013-17	**Attainment**	1.99	1.44	0.56	0.58	0.24	0.23	0.22	0.07	0.31	0.29	0.21	1.89
	Target	1.92	1.45	0.50	0.31	0.19	0.06	0.03	0.09	0.50	0.63	0.09	1.64
2014-18	**Attainment**	2.10	1.50	0.50	0.60	0.30	0.20	0.20	0.10	0.60	0.20	0.20	1.90
	Target	2.07	1.56	0.54	0.34	0.20	0.07	0.03	0.10	0.54	0.68	0.10	1.76

Table B.7.1(h): Summary of PSOs

Year	PSO's	PSO-1	PSO-2	PSO-3	PSO-4
2012-16	Attainment	1.24	1.25	1.68	0.94
	Target	1.13	0.90	0.55	0.38
2013-17	Attainment	1.14	0.99	1.04	0.53
	Target	1.23	0.98	0.60	0.41
2014-18	Attainment	1.46	1.21	0.92	0.41
	Target	1.32	1.05	0.64	0.44

7.2 Academic audit and actions taken thereof during the period of assessment (10)

The institution has adopted an integrated framework for quality assurance of academic and administrative activities.

1. Internal Quality Assurance Cell continuously acts to improve the academic performance of the institution.
2. Calendar of Events (CoE) for every semester is released at the starting of the semester. Some of the details comprised in CoE are semester start date, schedule of internal assessment tests, institute fest, annual sports meet, and each department add schedule of department activities.
3. Faculty growth and development is kept track by maintaining personal file and performance file by each faculty. These files are regularly audited by IQAC.
4. Course folder for each course is maintained by the faculty handling that course. This folder comprises of course objectives and outcomes, lesson plan, lecture notes, teaching aids used, assignments, question bank, mapping of course outcomes to program outcomes and programme educational objectives. This folder is monitored and audited by concerned department heads and by IQAC.
5. Proctorial system is in place catering to student community by closely monitoring and guiding the students in making them responsible citizens.

6. Academic audit is carried out by the IQAC committee and the report is finally approved by the Principal.
7. The members in the audit committee will be drawn from the IQAC, Heads of the various Departments and senior faculty in the institution.
8. An academic audit format is prepared with different criteria of TLP as columns and names of faculty of a given department constituting the rows and circulated to the departments. The audit team is to evaluate each faculty with respect to criteria along with substantial documentation and proof.
9. The HOD takes responsibility for smooth implementation of the Academic audit process.
10. The short comings listed by the TLP audit committee are communicated to the faculty through the respective heads indicating the areas which need the attention for improvements.
11. The faculty overcome the shortcomings by making necessary changes and report the same to the TLP audit committee.
12. The good practices followed by a faculty are also briefed to the faculty through heads and the concerned faculty is given a word of encouragement by appreciation.
13. The TLP audit takes place twice in a semester. In the beginning of the semester, the preparedness of the faculty to deliver the curriculum effectively is checked wherein the course outcomes, lesson plans are to be kept ready and presented to the audit committee. At the end of the semester, the CO attainment, PO attainment, proctor file and performance file are audited to find out the work carried out by the faculty. In the event of curricular gap, it is advised by the IQAC to the department to conduct appropriate workshops/seminars/conferences/industrial visits etc. to bridge the gap.

7.3 Improvement in placement, higher studies and entrepreneurship (10)

Item	CAYm1 (2017-18)	CAYm2 (2016-17)	CAYm3 (2015-16)
Total no of final year students	98	115	123
Number of students placed in companies or government sector (quality placement)	78	84	80
Pay packages	3.24 LPA	3.39 LPA	2.62 LPA
Number of students who opted for higher studies with valid qualifying scores/ranks	2	6	5
Total number of students turned entrepreneur of engineering & technology	0	0	0

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

Table B.7.3

Item		CAY (2018-19)	CAYm1 (2017-18)	CAYm2 (2016-17)
National Level Entrance Examination (COMED-K)	No. of students admitted	6	10	19
	Opening score/rank	20191	13399	31131
	Closing score/rank	58753	43612	44355
State/University/Level Entrance Examination/ Others (Name of Entrance Exam: CET)	No. of students admitted	45	50	48
	Opening score/rank	21426	1175	13146
	Closing score/rank	45848	35423	24992
Management	No. of students admitted	21	27	32
Name of the Entrance Examination For the Lateral Entry or lateral entry details	No. of students admitted	33	28	24
	Opening score/rank	1530	637	401
	Closing score/rank	7789	4191	3334

CRITERION 8	FIRST YEAR ACADEMICS	50

8. FIRST YEAR ACADEMICS (50)

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

Table B.8.1(a)

Year	Number of students (approved intake strength)	Number of faculty members (Considering fractional workload)	FYSFR	Assessment=(5x20)/FYSFR (Limited to Max.5)
CAY (2018-19)	1020	59	1:17.2	5x20/17.2=5.81
CAYm1 (2017-18)	1170	60	1:19.5	5x20/19.5=5.12
CAYm2 (2016-17)	1170	57	1:20.5	5x20/20.5=4.87
Average	**1120**	**58.6**	**19.0**	**5.0**

*Note: If FYSFR is greater than 25, then assessment equal to zero.

8.2 Qualification of teaching first year common courses (5)

Assessment of qualification = (5x +3y)/RF

x = Number of Regular Faculty with Ph.D.

y = Number of Regular Faculty with Post-graduate qualification

RF = Number of faculty members required as per SFR of 20:1

Table B.8.2: Average Assessment Calculation

Year	X	Y	RF	Assessment of faculty qualification(5x+3y)/RF
CAY (2018-19)	10	49	51	(5x10+3x49)/51=3.86
CAYm1 (2017-18)	9	51	58.5	(5x9+3x51)/58.5=3.38
CAYm2 (2016-17)	11	46	58.5	(5x11+3x46)/58.5=3.29
Average Assessment				**3.51**

8.3 First year academic performance (10)

Academic Performance = ((Mean of 1st Year Grade Point Average of all successful Students on a 10-point scale) or (Mean of the Percentage of marks in First Year of all successful students/10)) x (number of successful students/number of students appeared in the examination). Successful students are those who are permitted to proceed to the second year.

Table B.8.3(a): Academic performance at department level

Item	CAY (2017-18)	CAYm1 (2016-17)	CAYm2 (2015-16)
Mean of percentage of marks/Grade point average(X)	7.44	5.82	6.4
Total Number of successful students(Y)	83	92	110
No of students appeared in examination(Z)	91	119	131
AP=[X*(Y/Z)]	6.78	4.49	5.37
Average Academic Performance	5.54		

Table B.8.3(b): Academic performance at college level

Branch/Academic year	No. of students appeared in the exam	No. of successful students proceeded to 2nd year	Academic Performance AP = Mean of Successful Students X Successful Students/ No. of Students Appeared
CAY(2017-18)			
ECE	105	99	6.45
CSE	125	116	6.7
ME	91	83	6.78
CV	114	88	5.64
MT	68	61	6.95
CAYm1(2016-17)			
ECE	119	103	5.9
CSE	130	115	6.4
ME	119	92	4.5
CV	89	72	4.7
MT	67	54	4.5
CAYm2(2015-16)			
ECE	114	97	5.4
CSE	129	116	6.44
ME	131	110	5.3
CV	114	91	4.8
MT	51	46	5.4

8.4 Attainment of course outcome of first year courses (10)

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

Assessment process for course outcomes (CO's) computation

<table>
<tr><td rowspan="2">Direct Assessment</td><td colspan="2">Continuous Internal Assessment (CIE)</td><td colspan="2">60%</td></tr>
<tr><td colspan="2">Semester End Exams (SEE)</td><td colspan="2">40%</td></tr>
<tr><td rowspan="4">CIE(Theory)</td><td colspan="2">Internal Assessment</td><td colspan="2">30</td></tr>
<tr><td colspan="2">Assignments</td><td colspan="2" rowspan="3">10</td></tr>
<tr><td colspan="2">Seminars</td></tr>
<tr><td colspan="2">Quiz</td></tr>
<tr><td>CIE(Lab)</td><td colspan="4">Divided in to two components</td></tr>
<tr><td rowspan="6">Marks breakup for Engineering chemistry Lab(17CHEL17)</td><td colspan="2">Continuous Assessment(30marks)</td><td colspan="2">Internal Assessment(10marks)</td></tr>
<tr><td colspan="2">• The student will be assessed during the performance of each experiment.
• Each experiment will be evaluated for 30 marks.</td><td colspan="2">After the completion of all experiments an internal test shall be conducted for 100 marks and scaled to 10 marks.</td></tr>
<tr><td>Attributes</td><td>Marks</td><td>Attributes</td><td>Marks</td></tr>
<tr><td>Procedure write-up</td><td>5</td><td>Procedure write-up</td><td>15</td></tr>
<tr><td>Conduction of Experiment</td><td>16</td><td>Conduction of Experiment</td><td>52</td></tr>
<tr><td>Calculations and Record submission</td><td>4</td><td>Calculations</td><td>18</td></tr>
<tr><td>Viva voce</td><td>5</td><td>Viva voce</td><td>15</td></tr>
<tr><td>Total</td><td>30</td><td></td><td>100</td></tr>
</table>

8.4.2 Record the attainment of course outcomes of all first-year courses (5)

Program shall have set attainment levels for all first-year courses. The attainment levels shall be set considering average performance levels in the university examination or any higher value set as target for the assessment years. Attainment level is to be measured in terms of student performance in internal assessments with respect to the COs of a subject plus the performance in the University examination.

Table B.8.4.2(a)

C. No.*	SUBJECT CODE SUBJECT	NAME
101	17MAT11	Engineering Mathematics I
102	17CHE12	Engineering Chemistry
103	17PCD13	Programming in C & Data structures
104	17CED14	Computer Aided and Engineering Drawing
105	17ELN15	Basic Electronics
106	17CPL16	Computer Engineering Lab
107	17CHEL17	Engineering Chemistry Lab
201	17MAT21	Engineering Mathematics II
202	17PHY22	Engineering Physics
203	17CIV23	Elements of Civil Engineering and Mechanics
204	17EME24	Elements of Mechanical Engineering
205	17ELE25	Basic Electrical Engineering
206	17WSL26	Workshop Practice
207	17PHYL27	Engineering Physics Lab

The Table above shows the entries of all first-year courses of 2017-18 CBCS batch with VTU code (second column) and NBA Code (first column). Course is delivered and attainment of CO's is determined using internal tests 1, 2 and 3 and semester end university examination results. For CO attainments, level threshold is set by First Year Academic Committee (FYAC) as given in the table below:

Table B.8.4.2(b)

Level threshold set by FYAC	
Level 1	Students scoring <40% marks in internal assessments (IA) and semester end examination (SEE).
Level 2	Students scoring 40 to 59% marks in internal assessments (IA) and semester end examination (SEE)
Level 3	Students scoring 60% marks or above in internal assessments (IA) and semester end examination (SEE)

While analysing direct assessments for attainment of CO's, 60% weightage is given to internal assessments and 40% weightage is given to semester end examinations as recommended by FYAC.

Attainment of all course outcomes of all first-year courses are tabulated (next page):

CAY 2017-18

SUBJECT	CO	CIE	SEE	Total	Individual CO Attainment %	Final Attainment	% of Attainment
17MAT11/21	1	2.59	2.07	2.38	79.48	2.41	80.34
	2	2.71	2.07	2.46	81.87		
	3	2.6	2.07	2.39	79.66		
17PHY12/22	1	2.76	1.53	2.27	75.51	2.15	71.57
	2	2.5	1.53	2.11	70.43		
	3	2.42	1.53	2.06	68.78		
17CIV13/23	1	2.69	1.15	2.07	69.13	1.85	61.78
	2	2.67	1.15	2.06	68.67		
	3	1.61	1.15	1.43	47.56		
17EME14/24	1	2.9	1.45	2.32	77.33	2.25	75.11
	2	2.9	1.45	2.32	77.33		
	3	2.9	0.95	2.12	70.67		
	4	2.9	0.95	2.12	70.67		
17ELE15/25	1	2.56	2.23	2.43	80.94	2.19	72.96
	2	2.21	2.01	2.13	70.92		
	3	2.14	1.82	2.01	67.03		
17WSL16/26	1	2.92	1.8	2.47	82.3	2.47	82.3
	2	2.92	1.8	2.47	82.3		
	3	2.92	1.8	2.47	82.3		
17PHYL17/27	1	2.73	2.18	2.51	83.5	2.51	83.5
	2	2.73	2.18	2.51	83.5		
	3	2.73	2.18	2.51	83.5		
17MAT22	1	2.6	2.02	2.37	78.9	2.37	78.9
	2	2.65	2.02	2.4	79.86		
	3	2.55	2.02	2.34	77.94		
17CHE12/22	1	2.91	1.67	2.41	80.47	2.38	79.37

	2	2.8	1.67	2.35	78.27		
	3			0			
17PCD13/23	1	2.55	1.42	2.1	69.93	2.1	69.87
	2	2.76	1.42	2.22	74.13		
	3	2.33	1.42	1.97	65.53		
17CED14/24	1	2.8	2.19	2.55	85.13	2.43	80.93
	2	2.34	2.19	2.28	75.93		
	3	2.63	2.19	2.45	81.73		
17ELN15/25	1	2.79	1.88	2.43	80.87	2.36	78.76
	2	2.77	1.88	2.41	80.37		
	3	2.43	1.88	2.21	73.63		
	4	2.76	1.88	2.41	80.17		
17CPL16/26	1	2.99	2.71	2.88	95.93	2.88	95.93
	2	2.99	2.71	2.88	95.93		
	3	2.99	2.71	2.88	95.93		
17CHEL17/27	1	2.8	2.9	2.84	94.67	2.84	94.67
	2	2.8	2.9	2.84	94.67		
	3	2.8	2.9	2.84	94.67		

CAYm1(2016-17)

SUBJECT	CO	CIE	SEE	Total	Individual CO Attainment %	Final Attainment	% of Attainment
15MAT11	1.00	2.62	2.06	2.40	79.85	2.40	80.06
	2.00	2.67	2.06	2.43	80.96		
	3.00	2.59	2.06	2.38	79.37		
15PHY21/22	1.00	2.57	1.68	2.21	73.82	2.17	72.36
	2.00	2.55	1.68	2.20	73.35		
	3.00	2.38	1.68	2.10	69.90		
15CIV13/23	1.00	2.32	2.10	2.23	74.33	2.18	72.64
	2.00	2.00	2.10	2.04	68.00		
	3.00	2.38	2.10	2.27	75.60		
15EME14/24	1.00	2.55	2.55	2.55	85.00	2.27	75.56

	2.00	2.55	2.55	2.55	85.00		
	3.00	1.70	1.70	1.70	56.67		
	4.00	1.70	1.70	1.70	56.67		
15ELE15/25	1.00	2.14	1.29	1.80	59.95	1.73	57.73
	2.00	2.11	1.32	1.79	59.75		
	3.00	1.99	1.03	1.60	53.48		
15WSL16/26	1.00	2.96	2.96	2.96	98.67	2.96	98.67
	2.00	2.96	2.96	2.96	98.67		
	3.00	2.96	2.96	2.96	98.67		
15PHYL17/27	1.00	2.06	2.06	2.06	68.67	2.06	68.67
	2.00	2.06	2.06	2.06	68.67		
	3.00	2.06	2.06	2.06	68.67		
15MAT22	1.00	2.53	1.73	2.21	73.72	2.16	71.88
	2.00	2.48	1.73	2.18	72.72		
	3.00	2.31	1.73	2.08	69.20		
15CHE11/22	1.00	2.80	1.68	2.35	78.41	2.23	74.37
	2.00	2.53	1.68	2.19	73.04		
	3.00	2.46	1.68	2.15	71.67		
15PCD13/23	1.00	1.72	1.82	1.76	58.67	1.83	60.87
	2.00	2.26	1.82	2.08	69.47		
	3.00	1.51	1.82	1.63	54.47		
15CED14/24	1.00	2.10	2.10	2.10	70.00	2.10	70.00
	2.00	2.10	2.10	2.10	70.00		
	3.00	2.10	2.10	2.10	70.00		

SUBJECT	CO	CIE	SEE	Total	Individual CO Attainment %	Final Attainment	% of Attainment
15ELN15/25	1.00	2.20	1.90	1.32	44.00	2.07	69.10
	2.00	1.91	1.90	2.52	83.89		
	3.00	1.11	1.90	2.27	75.62		
	4.00	1.13	1.90	2.19	72.89		
SUBJECT	CO	CIE	SEE	Total	Individual CO Attainment %	Final Attainment	% of Attainment
15CPL16/26	1.00	2.82	2.55	2.71	90.40	2.71	90.40
	2.00	2.82	2.55	2.71	90.40		
	3.00	2.82	2.55	2.71	90.40		
SUBJECT	CO	CIE	SEE	Total	Individual CO Attainment %	Final Attainment	% of Attainment
15CHEL17/27	1.00	2.75	2.75	2.75	91.55	2.75	91.55
	2.00	2.75	2.75	2.75	91.55		
	3.00	2.75	2.75	2.75	91.55		

CAYm2(2015-16)

SUBJECT	CO	CIE	SEE	Total	Individual CO Attainment %	Final Attainment	% of Attainment
15MAT11	1	1.99	2.26	2.09	69.78	2.06	68.64
	2	2.08	2.26	2.15	71.72		
	3	1.96	2.26	2.08	69.33		
	4	1.77	2.26	1.96	65.41		
	5	1.65	2.26	1.89	63.00		
	6	2.13	2.26	2.18	72.63		
15PHY21/22	1	2.02	**1.56**	1.84	61.17	1.80	60.07
	2	2.05	1.56	1.85	61.70		
	3	1.83	1.56	1.72	57.33		
15CIV13/23	1	2.32	2.54	2.41	80.27	2.53	84.31
	2	2.65	2.54	2.61	86.87		
	3	2.60	2.54	2.57	85.80		
15EME15/25	1	2.09	**2.09**	2.09	69.79	1.81	60.49

	2	2.09	2.09	2.09	69.79		
	3	1.68	1.68	1.68	55.83		
	4	1.26	1.26	1.26	41.88		
	5	1.26	1.26	1.26	41.88		
15ELE14/24	1	2.28	1.47	1.96	65.20	1.96	65.40
	2	2.39	1.31	1.95	65.10		
	3	2.50	1.34	2.03	67.70		
	4	2.14	1.56	1.91	63.60		
15WSL16/26	1	2.02	2.02	2.02	67.17	2.02	67.17
	2	2.02	2.02	2.02	67.17		
	3	2.02	2.02	2.02	67.17		
15PHYL17/27	1	2.17	2.17	2.17	72.30	2.17	72.30
	2	2.17	2.17	2.17	72.30		
	3	2.17	2.17	2.17	72.30		
15MAT21	1	1.98	2.16	2.06	68.52	1.75	58.46
	2	1.98	2.16	2.05	68.38		
	3	1.69	2.16	1.88	62.69		
	4	1.12	2.16	1.54	51.26		
	5	0.89	2.16	1.40	46.58		
	6	1.22	2.16	1.60	53.33		
15CHE11/22	**1**	2.10	1.92	2.03	67.60	1.96	65.30
	2	2.20	1.92	2.09	69.60		
	3	2.40	1.92	2.21	73.60		
	4	2.50	1.92	2.27	75.60		
	5	1.12	1.92	1.44	48.00		
	6	1.59	1.92	1.72	57.40		

SUBJECT	CO	CIE	SEE	Total	Individual CO Attainment %	Final Attainment	% of Attainment
15PCD13/23	1	2.50	2.11	2.34	78.13	2.24	74.53
	2	2.37	2.11	2.27	75.53		
	3	2.42	2.11	2.30	76.53		
	4	2.27	2.11	2.21	73.53		
	5	2.09	2.11	2.10	69.93		
15CED14/24	1	2.28	**2.28**	2.28	76.00	2.28	76.00
	2	2.28	2.28	2.28	76.00		
	3	2.28	2.28	2.28	76.00		
15ELN15/25	1	2.27	1.88	2.11	70.40	2.15	71.71
	2	2.09	1.83	1.98	66.13		
	3	2.48	1.88	2.24	74.60		
	4	2.12	1.88	2.02	67.40		
	5	2.79	1.83	2.40	80.03		
15CPL16/26	1	3.00	2.51	2.80	93.47	2.80	93.47
	2	3.00	2.51	2.80	93.47		
	3	3.00	2.51	2.80	93.47		
	4	3.00	2.51	2.80	93.47		
	5	3.00	2.51	2.80	93.47		
15CHEL17/27	1	2.48	2.48	2.48	82.81	2.48	82.81
	2	2.48	2.48	2.48	82.81		
	3	2.48	2.48	2.48	82.81		

Attainment percentage for all first-year courses is tabulated.

CAY (2017-18)

Physics Cycle			
Course	**Target Attainment (CIE+SEE)**	**Attainment Level (CIE+SEE)**	**Remarks**
17MAT11	70	80	Attainment Reached
17PHY12/22	70	72	Attainment Reached
17CIV13/23	70	62	Attainment Not Reached
17EME14/24	70	75	Attainment Reached
17ELE15/25	70	73	Attainment Reached
17WSL16/26	70	82	Attainment Reached
17PHYL17/27	70	84	Attainment Reached
Chemistry Cycle			
17MAT22	70	79	Attainment Reached
17CHE12/22	70	79	Attainment Reached
17PCD13/23	70	70	Attainment Reached
17CED14/24	70	81	Attainment Reached
17ELN15/25	70	79	Attainment Reached
17CPL16/26	70	96	Attainment Reached
17CHEL17/27	70	95	Attainment Reached

CAYm1 (2016-17)

Physics Cycle			
Course	**Target Attainment (CIE+SEE)**	**Attainment Level (CIE+SEE)**	**Remarks**
15MAT11	65	80	Attainment Reached
15PHY12/22	65	72	Attainment Reached
15CIV13/23	65	73	Attainment Reached
15EME14/24	65	76	Attainment Reached
15ELE15/25	65	58	Attainment Not Reached
15WSL16/26	65	99	Attainment Reached
15PHYL17/27	65	68	Attainment Reached
Chemistry Cycle			
15MAT22	65	72	Attainment Reached
15CHE12/22	65	74	Attainment Reached
15PCD13/23	65	61	Attainment Not Reached
15CED14/24	65	70	Attainment Reached
15ELN15/25	65	69	Attainment Reached
15CPL16/26	65	90	Attainment Reached
15CHEL17/27	65	92	Attainment Reached

CAYm2 (2015-16)

Physics Cycle			
Course	**Target Attainment (CIE+SEE)**	**Attainment Level (CIE+SEE)**	**Remarks**
15MAT11	**60**	69	Attainment Reached
15PHY12/22	60	60	Attainment Reached
15CIV13/23	60	84	Attainment Reached
15EME14/24	60	60	Attainment Reached
15ELE15/25	60	65	Attainment Reached
15WSL16/26	60	67	Attainment Reached
15PHYL17/27	60	72	Attainment Reached
Chemistry Cycle			
15MAT22	60	58	Attainment Not Reached
15CHE12/22	60	65	Attainment Reached
15PCD13/23	60	75	Attainment Reached
15CED14/24	60	76	Attainment Reached
15ELN15/25	60	72	Attainment Reached
15CPL16/26	60	93	Attainment Reached
15CHEL17/27	60	83	Attainment Reached

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

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

The relevant program outcomes that are to be addressed at first year need to be identified by the institution. Program Outcome attainment levels shall be set for all relevant POs. The Program Outcomes (POs) as presented in criteria 3 and defined by NBA are reproduced below for referencing in this section.

PO#	Program Outcomes
PO 1	Engineering knowledge
PO 2	Problem analysis
PO 3	Design/development of solutions
PO 4	Conduct investigations of complex problems
PO 5	Modern tool usage
PO 6	The engineer and society
PO 7	Environment and sustainability
PO 8	Ethics
PO 9	Individual and team work
PO 10	Communication
PO 11	Project management and finance
PO 12	Life-long learning

POs ADDRESSED	TARGET LEVEL		
	2017-18	2016-17	2015-16
1	2.35	2.3	2.0
2	2.35	2.3	2.0
6	2.35	2.3	2.0
7	2.35	2.3	2.0
12	2.35	2.3	2.0

The first-year courses for all the UG engineering branches are handled by various departments, viz., Mathematics, Physics, Chemistry, ECE, EEE, Mechanical, CSE, and Civil. These departments define the CO-PO correlation matrices for the corresponding subjects/ courses handled by them for all the branches of engineering i.e., the definition is at the Institution level. The entries in the CO-PO correlation matrix are the correlation levels as defined in Criteria 3 & reproduced.

Correlation level assignment				
Assignment level	1	2	3	'- 'or no entry/blank
Description	Slightly correlated (low)	Moderately correlate (medium)	Substantially correlated (high)	Implies no correlation

PO attainment of all first-year courses is tabulated below:

CAY (2017-18)

Table B.8.5.1(a)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P010	PO11	PO12
17MAT11/21	2.4	2.4										
17PHY12/22	2.19	2.06										2.27
17CIV13/23	1.43	1.43				2.07						
17EME14/24	2.85	2.12					2.32					2.22
17ELE15/25	2.19	2.06										2.13
17WSL16/26	2.47	2.47				2.47						2.47
17PHYL17/27	2.51	2.51										
17CHE12/22	2.38	2.35				2.35	2.35					
17PCD13/23	2.1	2.1										2.1
17CED14/24	2.43	2.43										2.43
17ELN15/25	2.37	2.41										
17CPL16/26	2.88	2.88										
17CHEL17/27	2.84	2.84				2.84	2.84					2.84
Direct Attainment*	2.22	2.15				2.43	2.5					2.35

CAYm1 (2016-17)

Table B.8.5.1(b)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P010	PO11	PO12
15MAT11/21	2.4	2.4										
15PHY12/22	1.83	2.1										2.21
15CIV13/23	2.27	2.27				2.23						
15EME14/24	2.32	1.7					2.55					2.13
15ELE15/25	1.73	1.68										1.79
15WSL16/26	2.06	2.96				2.96						2.96
15PHYL17/27	2.21	2.1										
15CHE12/22	2.27	2.16				2.19	2.19					
15PCD13/23	1.83	1.76										1.83
15CED14/24	2.1	2.1										2.1
15ELN15/25	2.1	2.27										
15CPL16/26	2.71	2.71										
15CHEL17/27	2.75	2.75				2.75	2.75					2.75
Direct Attainment*	2.2	2.23				2.53	2.5					2.25

CAYm2 (2015-16)

Table B.8.5.1(c)

Course	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P01 0	PO1 1	PO1 2
15MAT11/21	2.06	2.06										
15PHY12/22	1.84	1.72										1.84
15CIV13/23	2.57	2.57				2.41						
15EME14/24	1.88	1.26					2.09					1.68
15ELE15/25	1.96	1.98										1.91
15WSL16/26	2.02	2.02				2.02						
15PHYL17/27	2.17	2.17										
15CHE12/22	1.86	2.03				2.09	2.05					
15PCD13/23	1.75	2.22										2.3
15CED14/24	2.28	2.28										2.28
15ELN15/25	2.15	2.11										
15CPL16/26	2.8	2.8										
15CHEL17/27	2.48	2.48				2.48	2.48					2.48
Direct Attainment*	1.99	1.98				2.25	2.21					2.08

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

CAY (2017-18)

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge			
PO1	**2.35**	**2.22**	Attainment not reached Fall short by 5.6%

Observations:

1. Students rarely have set carrier goals, so need orientation towards possible carrier options.
2. Faculty expressed disparity between the course content and the allotted number of lecture hours by university.

Actions:

1. One extra hour per week than the university prescribed number of hours is allotted to conduct tutorials to motivate students to improve their understanding in basic engineering subjects
2. Seminars and invited talks are arranged on need of basic concepts of first year topics in higher semester courses
3. Branch specific seminars by industry experts to give over view of latest technology

<table>
<tr><td colspan="4">PO2: Problem analysis</td></tr>
<tr><td>PO2</td><td>2.35</td><td>2.15</td><td>Attainment not reached
Fall short by 8.6%</td></tr>
<tr><td colspan="4">Observations:
1. Students lacking in problem analyzing skills.
2. Faculty expressed students lack in understanding of basic concepts required for first year engineering subjects.
3. Student needed motivation to connect first year subjects to their chosen branch of engineering.
Actions:
To Improve analytical thinking skills in first year engineering subjects following steps were taken
1. Group Activities to be conducted to enhance presentation skills & thinking skill etc.
2. Special classes to be conducted to revise prerequisite required for first year subjects.
3. Additional programs are solved in class hours and hands on to be conducted.
4. Encouraged to solve Additional problems to enhance the performance in solving the complex engineering
Problems.
5. Video lectures, Animated PPTs and models were used by faculty for deeper understanding applications of concepts.</td></tr>
<tr><td colspan="4">PO3: Design/development of solutions</td></tr>
<tr><td>PO3</td><td></td><td></td><td>NO MAPPING</td></tr>
<tr><td colspan="4">PO4: Conduct investigations of complex problems</td></tr>
<tr><td>PO4</td><td></td><td></td><td>NO MAPPING</td></tr>
<tr><td colspan="4">PO 5: Modern tool usage</td></tr>
<tr><td>PO5</td><td></td><td></td><td>NO MAPPING</td></tr>
<tr><td colspan="4">PO6: The engineer and society</td></tr>
<tr><td>PO6</td><td>2.35</td><td>2.43</td><td>Attainment Reached</td></tr>
<tr><td colspan="4">PO7: Environment and sustainability</td></tr>
<tr><td>PO7</td><td>2.35</td><td>2.5</td><td>Attainment Reached</td></tr>
<tr><td colspan="4">PO8: Ethics</td></tr>
<tr><td>PO8</td><td></td><td></td><td>NO MAPPING</td></tr>
<tr><td colspan="4">PO9: Individual and team work</td></tr>
<tr><td>PO9</td><td></td><td></td><td>NO MAPPING</td></tr>
<tr><td colspan="4">PO10: Communication</td></tr>
<tr><td>PO10</td><td></td><td></td><td>NO MAPPING</td></tr>
<tr><td colspan="4">PO11: Project management and finance</td></tr>
<tr><td>PO11</td><td></td><td></td><td>NO MAPPING</td></tr>
<tr><td colspan="4">PO12: Life-long learning</td></tr>
<tr><td>PO12</td><td>2.35</td><td>2.35</td><td>Attainment Reached</td></tr>
</table>

CAYm2 (2016-17)

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge			
PO1	**2.3**	**2.2**	**Attainment Not Reached** **Fall short by 4.4%**
Observations: 1. Some students expressed use of audio video clippings in regular classes will give them better understanding of concepts. 2. Reduction in Results of problematic courses of first year engineering. 3. Students requested for industrial/museum visit for practical exposure of theoretical concepts. **Actions planned:** 1. Use of innovative teaching methods (ITC tools) by all faculties in regular classes if needed. 2. Remedial classes shall be conducted to improve results. 3. Practical exposure of theoretical concepts by arranging industrial/museum visits. 4. In house Faculty development Programme on innovative teaching skills shall be organized to make newly added faculty to implement better TLP. 5. Students were motivated for engineering exam structure and study techniques required for semester pattern			
PO2:: Problem analysis			
PO2	**2.3**	**2.23**	**Attainment Not Reached** **Fall short by 3.1%**
Observations. 1. Faculty expressed that the knowledge of fundamental in Physics Chemistry &Mathematics is insufficient to cope for the first-year engineering syllabus. 2. Students requested for type of university exam questions and some set of practice questions for developing confidence for external exams. **Actions planned:** 1. Diagnostic test in Physics, Chemistry and Mathematics to analyze students entry-level problem-solving capacity 2. One-week induction Programme on teaching basic concepts of Engineering Physics, Engineering Chemistry& Engineering Mathematics. 3. Practice problems were given to solve in class under teacher supervision for all subjects.			
PO3: Design/development of solutions			
PO3			**NO MAPPING**
PO4: Conduct investigations of complex problems			
PO4			**NO MAPPING**
PO 5: Modern tool usage			
PO5			**NO MAPPING**
PO6: The engineer and society			
PO6	**2.3**	**2.53**	**Attainment Reached**
PO7: Environment and sustainability			
PO7	**2.3**	**2.5**	**Attainment Reached**
PO8: Ethics			
PO8			**NO MAPPING**

PO9 : Individual and team work			
PO9			**NO MAPPING**
PO10: Communication			
PO10			**NO MAPPING**
Action1:			
PO11: Project management and finance			
PO11			**NO MAPPING**
PO12: Life-long learning			
PO12	**2.3**	**2.55**	**Attainment Reached**

CAYm2 (2015-16)

POs	**Target Level**	**Attainment Level**	**Observations**
PO1: Engineering knowledge			
PO1	**2.0**	**1.99**	**Attainment Not Reached Fall short by 1%**

Observations

1.Newly joined faculty expressed need for training in teaching methodology

2.Students finding difficult to adjust for engineering course pattern

3.Faculty couldn't complete syllabus due to heterogeneity of class which includes students from various states and countries

Actions planned

1. In house Faculty development Programme on innovative teaching skills to make faculty to

Implement better TLP.

2. Students were motivated for engineering exam structure and study techniques required for

semester pattern.

3. Extra classes to be conducted if faculty requires to complete syllabus following the TLP

PO2: Problem analysis			
PO2	**2.0**	**1.98**	**Attainment Not Reached Fall short by 1%**

Observations

1.Some students who have not learnt basics of programming up to 12^{th} standard need extra support in

Programming courses.

2.Students had no exposure about applications of basic science in engineering

3. Majority of Students up to 12^{th} standard is used to teacher supported learning process.

Actions Planned

1. Additional programs are solved in class hours and hands on conducted in labs.
2. Handouts covering problems and applications of various concepts were distributed
3. Question bank including previous University exams and some challenging questions to be given after completion of every module.

PO3: Design/development of solutions			
PO3			**NO MAPPING**
PO4: Conduct investigations of complex problems			
PO4			**NO MAPPING**
PO 5: Modern tool usage			
PO5			**NO MAPPING**
PO6: The engineer and society			
PO6	**2.0**	**2.25**	**Attainment Reached**
PO7: Environment and sustainability			
PO7	**2.0**	**2.21**	**Attainment Reached**
PO8: Ethics			
PO8			**NO MAPPING**
PO9: Individual and team work			
PO9			**NO MAPPING**
PO10: Communication			
PO10			**NO MAPPING**
PO11: Project management and finance			
PO11			**NO MAPPING**
PO12: Life-long learning			
PO12	**2.0**	**2.08**	**Attainment Reached**

CRITERION 9	STUDENT SUPPORT SYSTEMS	50

9. STUDENT SUPPORT SYSTEMS (50)

9.1 Mentoring system to help at individual level (5)

Acharya Institute of Technology has a very strong system of mentoring to provide students a sense of security, bonhomie, guidance for academic and personal needs. A mentor or proctor, a member of the faculty, so entrusted with the responsibility, pays personal attention to and monitors students' academic progress in institution hours and behavioral attitude outside the campus.

A mentor records personal data of each student including parent contact details, regular attendance, academic and communication to parents into ERP portal of the institute. The Chief Proctor, Head of the Department and the Principal has access to ERP data of the students and intervene if necessary. This process helps to closely monitor student's progress in terms of his/her attendance, academic performance, behavior and learning capabilities. Also, it helps to identify, outside the curricular requirements, the student's habitual deviations and attitudinal aberrations, utilization of facilities and associative growth of personal attributes.

The system provides an early warning through the mentor's feedback on a periodic basis to the parents/guardians, heads of departments, class teacher, course instructor, Principal. The mentors, counselors, conduct psycho-social counseling.

The process of mentoring consists of:

1) A student after admission to the programme is allotted a mentor by the department and communicated through the chief proctor.
2) The students meet the mentor and his/her record is created in ERP.
3) Mentor and the students meet fortnightly as per schedules.
4) Mentor reviews the academic and all-round progress of the mentees and makes the record of observations.

5) An SMS/email is used to communicate the progress/observations to the parents/guardians.

6) In case of nonperformance, the mentor speaks to the parents and briefs them the possible measures to improve the students' performance.

7) Parents are also encouraged to contact the mentor to keep track of the ward.

8) All communications with parents/guardians are recorded electronically in https://www.acharyainstitutes.in/

9) The placement cell briefs the need of training for soft skills, analytical skills and life skills to aspire for the career goal.

10) The training to the placements is planned for all the four years integrating the training into the academic calendar.

11) Profiling of the student is carried out at the beginning of the first year to understand his/her learning abilities and suggest the way of learning.

12) A three-week induction programme in line with the AICTE guide lines is carried out from the academic year 2018-19 emphasizing on professional ethics and values.

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

Yes, the feedback is collected on teaching learning process, support for curricular and extracurricular activities, the hostilities give feedback on living and food thorough online system. Student feedback is analyzed by HOD, warden and administrative heads. Any grievances are addressed by bringing into the notice of the principal and all concerned.

9.3 Feedback on facilities (5)

Feedback is taken on teaching, infrastructure for learning, the learning environment, and learning resources. In case of difficulty in learning from a faculty discussion are held with the concerned faculty and supported to overcome the grievances. Any infrastructure requirements

are assessed, and procurement / provisions of the facility is provided. The library provides all learning resources required by procuring all subscribing. In hostels the grievances are addressed by the chief warden and the wardens for any shortcomings. The grievances are also considered through the feedback given by the parents during the parents-teachers meeting conducted every semester. These grievances are addressed, and actions taken accordingly.

9.4 Self-Learning (5)

1. Learning at Acharya Institute of Technology is student-centric encouraging students self-learning. The assignments and exercises are provided to learn individually and team.
2. Projects are encouraged to implement the concepts learnt.
3. Encouraged to use e-learning resources of NPTEL, UDACITY, MIT-OCW, EDX and KHAN academy which can be accessed on local area network by the students.

Figure B.9.4(a) shows NPTEL certificate:

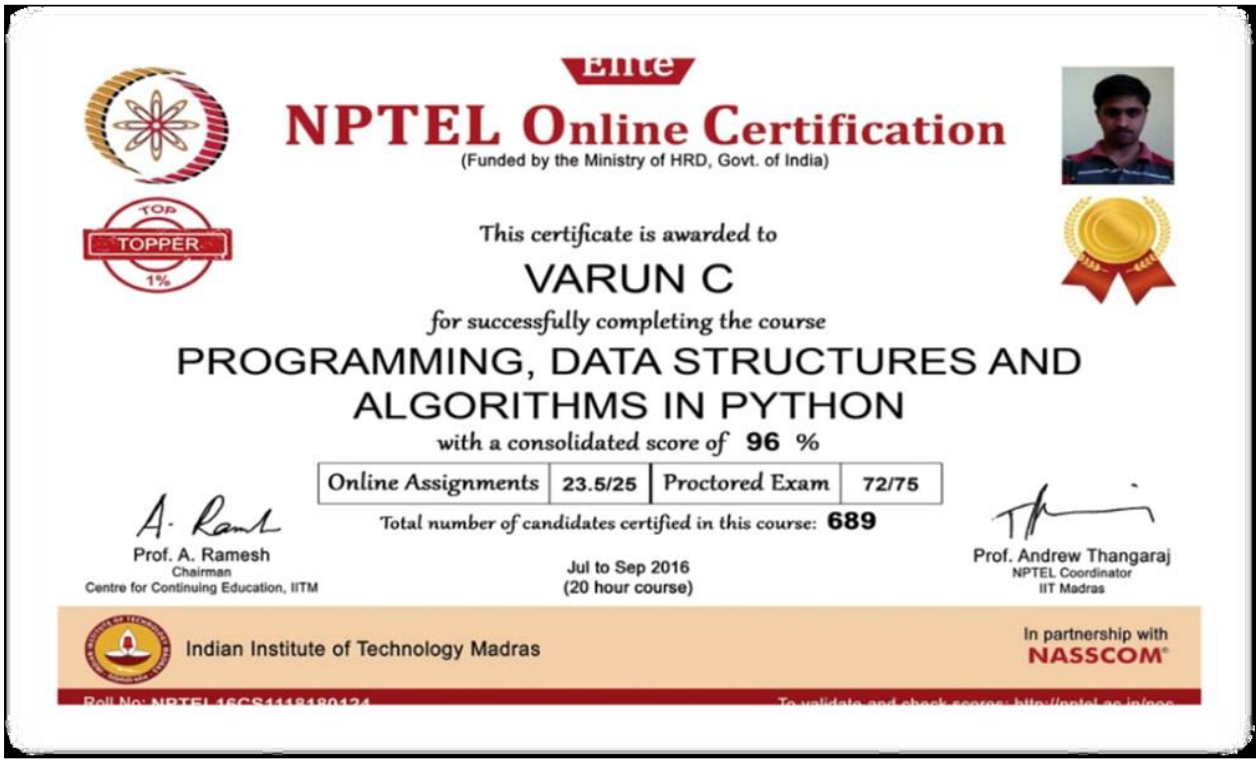


Fig. B.9.1(a) NPTEL certificate by student

1. 24x7 Wi-Fi network of 1Gbps is a back bone of learning through e-resources.
2. Industrial training/Internships help in enhancing learning capability.
3. The department's forums and technical clubs' activities exposing the students to newer technologies, process and products.

Table B.9.4(a): Department forums

Name of the department	Forum Name
Aeronautical Engineering	Udaan
Automobile Engineering	Cruze
Bio Technology	Bio-Infinity
Civil Engineering	Srujan
Computer Science and Engineering	Lakshya
Construction Technology and Management	Tecton
Electronics and Communication Engineering	Spectra
Electrical and Electronics Engineering	Elexso
Information Science and Engineering	Stigen
Mechanical Engineering and Manufacturing Science and Engineering	Fame
Mechatronics	Renisanse
Mining Engineering	Magnum
Master of Business Administration	Pragma
Master of Computer Applications	e-Disha

1. The student chapters such as ISTE, ASME, IEEE, IEI, CSI, ASAE support self-learning by conducting technical activities.
2. Departments organize alumni expert series, which gives platform for students to interact and learn from their seniors.
3. Institute supports students to take up projects by funding and showcasing in workshops, conferences and exhibitions.
4. Experts from reputed Industries/R & D organization are invited to the campus to deliver their expertise provide a platform for student interaction.
5. A common English and language laboratory help to improve the communication.
6. Field trips, survey camps and industrial visits are arranged.
7. Seminars and presentations are held on regular basis.

9.5 Career Guidance, Training, Placement (10)

The institution has a structured and organized training and placement cell. Domain specific training and skill-based trainings through outsourced agencies and in-house training is conducted during four years of programme in the last three years.

Career guidance

All the students of Acharya Institute of Technology are provided with intense and multidimensional career guidance throughout the course duration. Professional organizations and consultants/experts in higher education conduct seminars and counselling sessions, group wise. Special emphasize is given to induce students to undertake higher education in forms of master's degree, doctoral degrees in India and abroad.

Training and placement facilities

Acharya Institute of Technology has an exclusive training department which takes care of the training needs of all its departments. The training imparted includes aptitude, communication, analytical reasoning, problem solving along with the basic etiquettes. In addition, domain training for the respective departments is provided both by the centralised training department as well as from the departments themselves. The placement at Acharya campus is a dynamic, real-time process which is inclusive, proactive, ambitious and wholesome. The placement process is constantly tuned based on industry need and feedback. The placement cell monitors the employment opportunities and arranges campus recruitment process interviews for the final year students and provides internship opportunities for pre-final year students. A dedicated training and placement cell work round the year to provide efficient, effective training and employment opportunities for all the students.

Industrial Visits

Industrial visits are organized by all the departments to ensure practical and industrial exposure to students. The students acquire ample knowledge on current trends in technology through real time learning based on the actual industrial standards and practises.

GATE, GRE, TOEFL Training

Each department has a GATE coordinator who coordinates GATE training to students of the respective department with the support of all faculty in the department. The English Language Lab provides necessary support required by students for GRE and TOEFL. The students are also given the opportunity to learn foreign languages required for jobs and higher studies in countries like Germany, France and Japan.

Workshops and Seminars

Workshops, Seminars and Guest lectures are organised in respective departments where industrial experts are invited to deliver lectures and conduct workshops in order to create awareness among the students about the latest trends in industry and research. The students also acquire hands on experience during the sessions.

Fig. 9.5(a): Guest Lectures by industrial experts

Fig. 9.5(b): Industrial Visit and Students at Krishi Mela

9.6 Entrepreneurship Cell (5)

Acharya Institute of Technology has incubation cell to convert innovative ideas into products. To encourage entrepreneurial skills, institute has started Technology Business Incubator (TBI), to nurture and leverage innovative minds in embracing on sustainable business.

Objectives

1) To foster innovative ideas and support sustainable growth
2) To create a viable entrepreneurial ecosystem

Impact of the efforts

A good number of student projects have been undertaken under the SASKEN innovation laboratory

Some of the noteworthy ones are mentioned below.

1) 4KUHD- Modify the existing H.265 codec to make it efficient in terms of Power and resolution for UHD TV's
2) Audio analysis- to extract the information and meaning from audio signals for analysis, classification, storage in the development of new audio-related products and services.
3) I See You- a Java based GUI that can be used to locate persons

4) RFID-range extender by developing RF repeaters
5) Master hub- a low cost universal master hub device that can be used for multiple applications
6) Mobile hearing aid-Mobile phone-based body ware digital hearing aid (MBW) device
7) ANNOVIL- Vehicle to vehicle communication through light
8) Object locator- a low cost object locator device that can be used for multiple applications
9) Mobile Glass- android application that can be used as reading glass/ magnifying glass
10) Lane departure detecting system in highway
11) Students and faculty mentors have participated in Smart India Hackathon and Chattra Vishwakarma Projects Award competition for the consecutive last two years.

Some of the successful enterprises incubated under the IBM Acharya Incubation Centre are:

1) INFOBOUTIQUE - Fully incubated and product launched in the market
2) TECHNOCRAT - Incubation done at Acharya incubation centre
3) CODE PIP - Incubation done at Acharya incubation centre
4) ATOM ROBOTICS - Incubated by Mechatronics Engineering students and robot called Jarvis sent for Patenting
5) SKY IMAGINATIONS - one developed by Mechatronics Engineering student and one being used commercially

6) MAVITRONICS –Student's from Mechatronics who successfully developed a 3D printer and for which they have won several national prizes

Some of the projects have been taken for commercialisations with various industries are as follows:

1) 3D Printer (Machine)
2) Automated coir-plyer
3) Multipurpose wheelchair for Neurologically Disabled People
4) Development of noise contour for Bangalore city
5) *In vitro* Anti diabetic Study by Glucose uptake assay on Skeletal Muscle cell line and Glut4gene expression studies
6) Auto irrigation based on IOT
7) Floating solar panel
8) Prototype of UAV for agricultural applications
9) MUD concrete block using C and D waste

Collaboration with Foreign Universities to Enhance and Encourage Entrepreneurship

Acharya Institutes has MOU's with the following universities in the areas of student and faculty exchange, research collaboration, internships, joint programs etc. to enhance Entrepreneurship among the students. Under these MOU's our students are engaged in Research Projects under the mentorship of the Foreign University and the same is completed in a period of about 8-10 months and finally the best students are selected to do an internship at the respective University. We have MoUs with Universities and with Industries

Last year 13 students went to ODU, 14 students went to Carleton University and 15 went to Lubbock, Germany for internship. This year also, 13 students at ODU and 30 students at Northern Illinois University are expected to do internship.

Few of these students are continuing their work with the mentors from the ODU.

Alumni network

Acharya Institute of Technology has a well-established alumni network comprising of about more than 15000 students who have graduated from our institution of which over 100 students have become entrepreneurs.

Network with various industries and industrial associations

Acharya Institute of Technology has understandings with various industries and industrial associations. Some of these are as mentioned below: -

National Aeronautics Ltd, Sasken Communication Technologies Limited, Moog India Tech. Centre, IBM India Pvt. Ltd., UTL Tech. Pvt. Ltd., SAP India Pvt. Ltd., Dynamatic Technologies Ltd, Prasiddi Engineers, Trinity Institute of NDT Technology, Mahindra and Mahindra Ltd., Infosys Campus Connect Program, Edall Systems, TIME.

Network with foreign institutions

Acharya Institute of Technology has a very good network with several foreign institutions. Some of these are 1)Illinois Institute of Technology, Chicago, USA 2)Florida International University, Florida, USA 3)Northern Illinois University, Dekalb, Illinois, USA, 4)Harrisburg University, PA, USA, 5)Carleton University, Ottawa, Canada, 6)Trinity Western University, Canada, 7)Old Dominion University, Norfolk, USA, 8)University of Illinois, Rockford, USA, 9)The University Institute of the Coast, Cameron, 10) Waljat Institution of

Applied Sciences, Muscat, Sultanate of Oman,11)University of Applied Sciences, Lubeck, Germany

Evidence of success

Details on entrepreneurship orientation for faculty/and proposed AITBI team.

Acharya Institutes TBI has entered a MoU with Entrepreneurship Development Institute of India (EDII), Ahmedabad, and a pioneer institution in the field of entrepreneurship education. To ensure that all the AI-TBI members have a common understanding of entrepreneurship and management of an Incubation Centre, EDII designed a bespoke training program.

A 20-member team underwent the training workshop that was spread over four days residential program at EDII, Ahmadabad. The program was delivered by resource persons from various segments of the startup ecosystem and included Incubation.

The program also involved interaction with the CIIE, IIM-Ahmadabad. The core team is also interacting with NSRCEL, the Incubator at IIM, Bangalore. AI-TBI members are already exposed to entrepreneurship.

Problems encountered and resources required

Since BOX-AITBI is at its inception and yet to convert an idea in to incubation. Till now it is more of discussions and sharing of ideas and handholding. No specific difficulties have been noticed. Table shows a few prominent startups by AIT alumni.

Table 9.6(a): Startups by AIT alumni

Name of the Alumni	Organization/Company	Website
Hirpararavi	Nixapp technologies	http://www.nixapp.com
Sauravchoudhary	Shree Balajee industries	http://www.shreebalajiindustries.org
Parsanavipul	Swat Info system	http://www.swatinfosystem. com
Manoranjanjena	Jena informaticspvt. Ltd.	http://www.jenainformatics. com
Revathy K	Finsol	http://finsolconsultancy.com
Nisha G and Mahanthesha H	Keenkite It Solutions Pvt. Ltd.	http://www.keenkite.com/
Ashwin B N	THT Technologies	http://www.thttechnologies.com
Lakshmikanth	Quals Technologies Pvt Ltd.	http://www.qualstech.com
Bhojrajsahu	Jena informaticspvt. Ltd.	http://www.jenainformatics.com
Luitjyoti and kanhaiyalal	Signoryle solutions	http://www.signoryle.com
Balajij, website:	Shoot bob	http://www.shootbob.com/
Jasmeetsingh	Softlogique it solutions (p) ltd	http://www.softlogique.com
Ketanjaiswal	Director, hsrk foods and beverages pvt. Ltd	http://wwwaurnate.com
Aravind G.	DOGMA GLOBAL	http://dogmaglobal.com/
Naveen P	Npn-12 Service Network, Bangalore	http://npn12.com/
Parthsharma	Knight srobocorp, Bangalore	http://knightsrobocorp.com
Prakash Ranjan	Asperify Technologies	http://aspirify.in

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

The institution has the policy to identify and nurture the talents among the students. At the beginning of every academic year during induction program students are appraised about facilities and opportunities to exhibit their talent by participating in extracurricular and co-curricular activities. Also scheduling the events are sent through circulars and campus network e-news. Strategies for scouting and nurturing the talents in sports, cultural activities and

debates/discussions and quiz/competition are by holding institutional level competitions and by participating in other institution program Following are some of the strategies adopted to promote student's participation in extracurricular and co-curricular activities.

1) Students can participate in various intra and inter institution competitions like, Technical quiz/symposiums to develop their competition skills.

2) Various sports activities are well published on the notice board and campus News e-network. The interested students are subjected to selection process, talented and eligible students are encouraged to improve the skills and participate in different events. Students after getting medals are honored/acknowledged through institution website and news Acharya

3) Every department on campus has a forum and here technical skills, technical competitions like Robo soccer, technical seminar, debits, paper presentation, guest lecture etc. are organized.

4) Cultural events are regularly planned within the university level and inter institution. After proper rehearsal different groups are identified to participate and represent at the inter institution and university level youth festivals.

5) The Department of Physical Education and Sports has six dedicated sports teachers for different kinds of games and organize many sports events.

6) Tennis court, Basketball court, cricket stadium, Volley Ball, Badminton, Table Tennis, Kabaddi, Kho-Kho, Shuttle Badminton, Weight Lifting and Power Lifting, Softball, Archery and indoor games facilities are available on campus. Horse riding training is given for the interested students. College has multipurpose stadium with a capacity of 20,000, which caters to events like Cricket, Foot Ball, Hockey, Softball, Handball and Athletics.

7) The Department faculty and student representatives from Cultural committees. This committee will identify students having interest in cultural activities and encourage/support them to participate in the institution day function/other institution.

8) Seminar halls & auditorium are available for performing events.

Additional academic support

1) Students represented state/nation at junior level is given scholarships during admissions.

2) Attendance benefit is given to students as and when they represent the Institution, University or National level sports as well as Cultural events.

3) Special classes and Makeup Internal assessment tests are conducted for those students who tend to miss their regular academic classes on account of extracurricular and co-curricular activities.

Special dietary requirements, sports uniform and materials

Special dietary requirements, sports uniform and materials are provided, during practice and match sessions.

1) Uniforms and ID cards are provided to all sports teams representing the institution.

2) Sports materials and kits are provided whenever necessary.

3) During matches, TA and DA are given as per the norms fixed by Sports Committee of the Institution.

Any other

1) Every year, for first year student's science department conducts activities under "Science Forum" in which students are allowed to participate in events like Quiz, Poster presentation, Fun with Maths, Mathematical modeling.

2) Each Department has an association namely Forum, Lakshya, Spectra etc. which conduct various programs like Technical quiz, collage etc. This helps students to gain confidence in communication, organizing capability, budgeting, leadership, fund management, and team building.

3) Every year Kreeda habba is celebrated as a part of Acharya Habba, where maximum students participate in Athletics and in games like volleyball, basketball, chess etc.

4) To encourage Cricket interest among the students, Acharya Premier League (APL) is conducted by the institution with cash prize of Rs.70,000 for winning team.

5) Acharya Institute of Technology also has horse riding training and facility.

6) The institute also has Archery training facility.

7) The institute also has a nature club to create environment and societal importance.

Figure 9.7a: Acharya Premier League

Figure 9.7b: Graduation Day Celebration at AIT

Figure 9.7c: Kannada Rajyotsava Celebration at AIT

Figure 9.7d: Outbound Training Program for First Year BE students' celebrations

Figure 9.7e: Onam Celebrations

Fig. 9.7f: Acharya received cash prize of 1,00,000.

Fig. 9.7f1 Acharya Football League

Fig. 9.7g: SAEINDIA REEV Virtuals

Figure 9.7h: Horse Riding Facility

Table 9.7a: Sports and Cultural Achievers

Year	Name of the award/ medal	National/ International	Sports/ Cultural	Name of the student
2015-16	Inter University	South Zone	Sports	Charan V P
2015-16	Inter University	South Zone	Sports	Manjunath Swamy
2015-16	Inter University	South Zone	Sports	Kruthi j Rao
2015-16	Inter University	South Zone	Sports	Lahari Shree Y
2015-16	Inter University	All India	Sports	Harsha M V
2015-16	1 Bronze	All India	Sports	Shirisha K
2015-16	Inter University	South –Zone	Sports	Harshitha S J
2015-16	Inter University	South –Zone	Sports	Jai Kiran
2015-16	Inter University	South –Zone	Sports	Srushti K
2015-16	Inter University	All India	Sports	Mahalakshmi
2015-16	Inter University	All India	Sports	Surekha hiroli
2015-16	Inter University	All India	Sports	Disha Niranjan
2015-16	Inter University	All India	Sports	Adithya K E
2015-16	Inter University	All India	Sports	Swathi K H
2015-16	Inter University	All India	Sports	Monish M
2015-16	Inter University	All India	Sports	Prajwal S
2015-16	Inter University	All India	Sports	Rohith Sriranga K S
2016-17	Inter University	South Zone	Sports	Aishwarya Basker
2016-17	Inter University	South Zone	Sports	Neetu Kadam

2016-17	Inter University	South Zone	Sports	Adarsh M S
2016-17	Inter University	South Zone	Sports	Sushma Bhat
2016-17	Inter University	All India	Sports	Bharath M C
2016-17	Inter University	All India	Sports	Thevadas Visvajith
2016-17	Inter University	All India	Sports	Lakshmisree M O
2016-17	Inter University	All India	Sports	Adithya K E
2016-17	Inter University	All India	Sports	Swathi K H
2016-17	Inter University	All India	Sports	Rakshith S
2016-17	Inter University	All India	Sports	Surekha hiroli
2016-17	Inter University	All India	Sports	Neetu Kadam
2016-17	Inter University	All India	Sports	Aishwarya Yadav S
2017-18	Inter University	South Zone	Sports	Sushma Bhat
2017-18	1 Bronze	South Zone	Sports	Madhan Kumar S
2017-18	1 Bronze	South Zone	Sports	Charan V P
2017-18	Inter University	South Zone	Sports	Raghavendra M D
2017-18	Inter University	All India	Sports	Khushnaaz Soni
2017-18	Inter University	All India	Sports	Mohammed parvez R S
2017-18	Inter University	All India	Sports	Sumeeth B S
2017-18	Inter University	All India	Sports	Prashanth M
2017-18	Inter University	All India	Sports	Shrigouri Jumnalkar
2017-18	Inter University	All India	Sports	Disha B S

2017-18	Inter University	All India	Sports	Adithya K E
2017-18	Inter University	All India	Sports	Shrigouri Jumnalkar
2017-18	Inter University	All India	Sports	Likitha S
2017-18	Inter University	All India	Sports	Charan V P
2017-18	Inter University	All India	Sports	Madhan Kumar S
2017-18	Inter University	South Zone	Sports	Sharath G S
2017-18	Inter University	South Zone	Sports	Roshan I M
2017-18	Inter University	Federation Cup	Sports	Mohammed parvez R S
2017-18	Inter University	Senior Nationals	Sports	Likitha S
2017-18	Inter University	Senior Nationals	Sports	Madhan Kumar S
2017-18	Inter University	Senior Nationals	Sports	Charan V P
2017-18	Inter University	Senior Nationals	Sports	Supriya M
2017-18	Inter University	Senior Nationals	Sports	Aishwarya Yadav S
2017-18	Inter University	Senior Nationals	Sports	Prashanth M
2017-18	Inter University	Senior Nationals	Sports	Mohammed parvez R S
2017-18	Inter University	Senior Nationals	Sports	Lakshmisree M O
2017-18	Inter University	Senior Nationals	Sports	D Srinivas
2017-18	Inter University	Senior Nationals	Sports	Adithya K E
2017-18	Represented India	International	Sports	Vishnu K K
2015-16	1st Place	National	Cultural	Arya V
2016-17	3rd Prize	University	Cultural	Chinmay Bhat & Soumya G Bhat

ACHARYA HABBA

Every year Acharya Habba a techno-cultural festival is celebrated in the month of March. The extravaganza is considered as the most happening event among all engineering colleges in Bangalore.

The event witness's variety of events both technical and cultural events. A due recognition is given to all foreign nationals to exhibit their tradition and culture in terms of International Habba.

Figure 9.7i: Acharya Habba

NSS Unit of the college

National Service Scheme is a student centered programme and it is complementary to education. It is a noble experiment in academic extension. It inculcates the spirit of voluntary work among students and teachers through sustained community interaction. It brings our academic institutions closer to the society.

It is a link between the campus and community, the college and village, knowledge and action.

The overall aim of NSS is the Personality Development of students through community service. It gives an extension dimension to Higher Education system and orients the student youth to community service.

Objectives

The broad objectives of NSS are to: -

- Understand the community in which they work and in relation to other community
- Identify the needs and problems of the community and involve them in problem solving process;
- Develop among themselves a sense of social and civic responsibility;
- Develop capacity to meet emergencies and natural disaster and Practice national integration and social harmony.

Table 9.7b: Composition of the NSS Cell:

Sl. No.	Name	Designation	Role
1.	Dr. Prakash M R	Principal	Chairperson
2.	Dr. S M Gopinath	Prof and HOD, BT	Chief Program Officer
3.	Dr. Aruna M	Asst. Prof., EEE	Coordinator
4.	Mr. Praveen B B	Asst. Prof., ME	Coordinator
5.	Mr. Narasimhamurthy	Asst. Prof., MI	Coordinator
6.	Ms. Thriveni	Asst. Prof., BT	Member
7.	Mr. Mahanthayya	Asst. Prof., AE	Member
8.	Mr. Mallikarjun	Asst. Prof., Phy	Member
9.	Mr. Satish K B	Asst. Prof., Chem	Member
10.	Ms. Bhagirathi	Asst. Prof., MT	Member
11.	Mr. Chetan	Asst. Prof., Maths	Member
12.	Mr. Dhananjaya	Asst. Prof., CV	Member
13.	Mr. Swamy M R	Asst. Prof., MCA	Member
14.	Mr. Avinash	Asst. Prof., CSE	Member
15.	Mr. Arun Kenchapur	Asst. Prof., ISE	Member
16.	Ms. Nagapushpa	Asst. Prof., ECE	Member
17.	Mr. Prajwal	Asst. Prof., AU	Member
18.	Mr. Lohit	Asst. Prof., MS	Member
19.	Mr.Suhas Patil	Asst. Prof., MBA	Member

Number of activities were held under the guidance of NSS cell and are shown in the following table.

Sl.No	Name of the activity	Organising unit/ agency/ collaborating agency	Year of the activity	Number of teachers participated	Number of students participated in such activities
1	Blood Donation Camp	Acharya Institute of Technology	2018	18	200
2	Digital Banking and Related mobile Application uses	Seven days NSS Special Camp at Hoskere, GubbiTaluk, Tumkur District	2017	14	100
3.	International Earth Day and Seed Bomb Program	NSS and Acharya Institute of Technology	2018	18	250
4.	Blood donation camp organised by INDIAN RED CROSS SOCIETY	Indian red cross society, Karnataka state Branch	2018	25	100
5.	Blood Donation Camp	NSS and Lions Blood Bank	2018	15	519
6.	National service scheme (NSS) Special camp	Acharya institute of Technology with National Service Scheme (NSS) and VTU Hoskere Gubbi Taluk, Tumakuru(Dist)	2017	10	60
7.	Blood Donation Camp	Lions Blood Bank	2017	20	88

Figure 9.7j: Celebration of Earth Day and Seed Bomb Program under NSS

Figure 9.7k: NSS Camp at Hoskere Gubbi Taluk, Tumakuru(Dist)-Plantation, Yoga and Cultural

Figure 9.7l: NSS Camp at Hoskere Gubbi Taluk, Tumakuru(Dist)-Swachh Bharath

Figure 9.7m: NSS Camp at Hoskere Gubbi Taluk, Tumakuru(Dist)-Health Camp

Figure 9.7n: Blood Donation Camp

Figure 9.7o: Guinness World of Records

NCC at AIT

An NCC COY (9 KAR BATTALION) is also available in the campus where students of AIT are a part.

Motto of NCC: “Unity and Discipline".

Aims and Objectives of NCC

To create a human resource of organized, trained and motivated youth, to provide leadership in all walks of life and be always available for the service of the nation.

To provide a suitable environment to motivate the youth to take up a career in the Armed Forces.

To develop character, comradeship, discipline, leadership, secular outlook, spirit of adventure, and ideals of selfless service amongst the youth of the country.

Figure 9.7p: NCC Parade on Independence Day

Figure 9.7q: Guard of Honour to Chief Guest by NCC students on Independence Day

Criteria 10	GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES(120)	120

10.1 Organization, Governance and Transparency (40)

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

Vision:

"Acharya Institute of Technology, committed to the cause of sustainable value-based education in all disciplines, envisions itself as a global fountainhead of innovative human enterprise, with inspirational initiatives for Academic Excellence."

Mission:

"Acharya Institute of Technology strives to provide excellent academic ambience to the students for achieving global standards of technical education, foster intellectual and personal development, meaningful research, ethical, and sustainable service to societal needs."

The vision and mission statements are communicated to all the staff, students and parents and stake holders through the institute website, prospectus, and induction programme, back cover page of blue books, departmental newsletter, and institute magazine. These statements are also displayed at prominent places of the institute.

Values: Pursuit of Excellence

Integrity and Transparency

Leadership

Motto "Nurturing Aspiration and supporting Growth"

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

List the governing, senate and all other academic and administrative bodies; their memberships, functions, and responsibilities; frequency of the meetings; and attendance there in, in a tabular form. A few sample minutes of the meetings and action-taken reports should be annexed. The published rules including service rules, policies and procedures; year of publication shall be listed. Also state the extent of awareness among the employees/students.

Acharya Institute of Technology is having well defined Governing Structure under the aegis of JMJ Education Society Governed by the Secretary of the Society Shri B. Premnath Reddy. The Governing Council of Acharya Institute of Technology is constituted as per the norms of the AICTE/affiliating university. The structure of the Governing Council is as shown in Fig: 10.1.

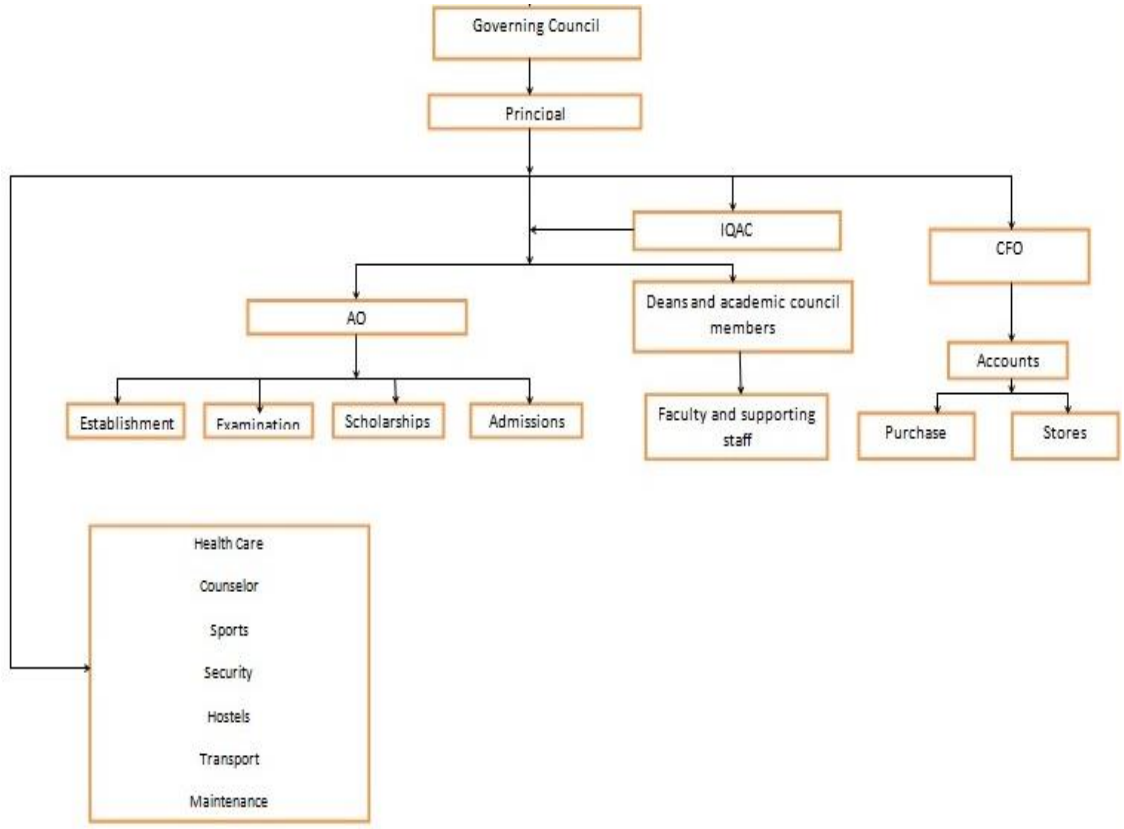


Fig: 10.1: Organization structure of the institute

The current members in the Governing Council is shown in Table 10.1a: composition, roles, responsibilities, functions and frequency of meeting of each defined functionalities are as follows:

Table 10.1a: Composition of the Governing Council

Sl no.	Name	Designation
1	Mr. B. PREMNATH REDDY, Founder Chairman, Acharya Institute of Technology	Chairman
2	Dr. K. RAMACHANDRA , Former Director, GTRE, Bangalore	Member
3	Mr. GEORGE PUNNOOSE ,Chief Operations Officer, Kalkitech	Member
4	Dr. H. N.SHIVA SHANKAR, Director, RNSIT, Bangalore	Member
5	Dr. D.K. SUBRAMANYAM, RETD. Prof. IISc, Govt. Nominee	Member
6	Dr. R. NATARAJAN , Former AICTE Chairman	Member
7	Director of Technical Education, Govt. of Karnataka, Bangalore.	Member
8	Mr. VENKAT SATHISH, VTU Nominee	Member
9	Dr. RAJESWARI, Prof. &HOD-E&CE, Representative of faculty	Member
10	Dr. Y. VENKATARAMI REDDY, Former, Vice-Chancellor, JNTU	Member
11	Dr. PRAKASH M R, Principal, Acharya Institute of Technology	Member secretary

Roles, Responsibilities and functions of the Governing Council

The function of the Governing council is to plan strategically the development of the institution, approve the budgets, purchases and recruitment of human resources.

To review the progress of the student progression, the research activities, staff development periodically and guide the Principal for functioning of the institution to achieve the vision and mission envisaged.

College Academic Council:

This is the academic body of the institute with all the deans and heads of the department as its members with Principal being the chairman. The Academic Council meets regularly, plans the academic calendar and monitors its implementation. The agenda of the meeting is contributed by its members for deliberations.

Commitees

The Institute has a host of committees for its functioning. The committees are

1. Internal Quality Assurance Cell (IQAC)
2. Anti Ragging
3. Anti Sexual Harassment
4. Women's Cell
5. Equal opportunity Cell
6. Library Committee
7. Hostel Committee
8. Student welfare
9. Examination Cell
10. Research & Development
11. Innovation Cell
12. Sports & Cultural
13. Training & Placement Cell
14. Grievance Cell

Internal Quality Assurance Cell (IQAC)

The IQAC committee monitors the quality assurance of academic delivery. It consists of a Coordinator and fifteen members with Principal being the Chairperson. The composition as per the UGC guidelines is shown in Table 10.1b. It monitors the performance appraisal of academic performance and the implementation of academic calendar.

Table 10.1b: IQAC composition

Sl. No.	Name	Designation	Role
1.	Dr. Prakash M R	Principal	Chairperson
2.	Dr. Kiran Reddy	Member	Management representative
3.	Dr. Gopinath S M	HOD, BT	Co-ordinator
4.	Dr. Gaddagimath	Dean, Learning Resources	Member
5.	Dr. Ganesh Rao	Dean, Circuit Branches	Member
6.	Dr. Prakash R	HOD, EEE	Member
7.	Dr. GururajUrs	Professor, MBA	Member
8.	Dr. Ramesh Hegde	HOD, MCA	Member
9.	Dr. Renuka Devi	Administrative Officer	Member
10.	Dr. B Manjunath	Associate Professor	Member
11.	Mr. Gangadhar	Gram Panchayath Member, Alur	Member from Local Society
12.	Mr. K H Chandrashekar	Kennametal	Member from Industry
13.	Dr. Gurunath Rao Vaidya	Parent	Member from Stakeholders
14.	Mr. AbhinavTiwari	6th Sem. ISE	Student Member
15.	Mr. Naveen	Alumni, CSE	Alumni Member
16.	Mr. Shreyas Karnick	Asst. Professor	Member Secretary

Roles, responsibilities and functions:

1. Development and application of quality parameters for performance appraisal.
2. Facilitating the creation of a learner-centric environment conducive to quality education and faculty development program to adopt the required knowledge and technology for participatory teaching and learning process.

3. Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes.
4. Dissemination of information on various quality parameters of higher education.
5. Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles.
6. Development and maintenance of institutional database through MIS for the purpose of maintaining/enhancing the institutional quality.
7. Preparation of the Annual Quality Assurance Report (AQAR) as per guidelines and parameters of NAAC, to be submitted to NAAC.
8. The Cell audits the academic records (course file, personal file, performance file and Mentor file). Suggests any changes to be incorporated time to time and continuously monitor its progress.
9. IQAC meets once on every mid of semester to present the TLP audit.

Anti-Ragging Committee

The Anti-Ragging Committee is constituted as per the guidelines prescribed by the UGC hosted on http://www.antiragging.in/Site/Infopack.aspx.

The committee constitution is shown in Table 10.1c

Table 10.1c: Composition of Anti-ragging committee

Composition	**Role**
Principal	Chairman
Management representative	Member
HODs – 16	Members
Students representative	14 members
Police inspector	Member
General administrator	Member
Dean Student Affairs	Member
Medical Officer	Member
Hostel Warden / Chief warden	Members

Anti-ragging squad committee constituted with the composition of Faculty representative as members from every department to monitor the students on academic campus, hostels and residential premises in general.

Anti-sexual Harassment committee

This committee is constituted as per the norms of the statutory bodies for Prevention of Sexual Harassment (POSH)

Table 10.1d: Composition of Anti sexual harassment

Sl. No.	Name	Designation	Role
1.	Dr. Prakash M R	Principal	Chairperson
2.	Dr. Uma Warrier	NGO	Member
3.	Ms. Varalakshmi B D	Asst. Prof., CSE	Presiding Officer
4.	Mr. Hanumanthe Gowda	Asst. Prof., Humanities	Member
5.	Dr. Gopinath	HOD, BT	Member
6.	Dr. Renuka Devi	AO	Member
7.	Ms. Ayushi Sharan G	Student, ECE	Member
8.	Ms. Nikita Murgud	Student, MCA	Member
9.	Mr. Shreyas Karnick	Assistant Professor	Member
10.	Ms. Nagapushpa	Asst. Prof. ECE	Member Secretary

The composition in the committee will be re-constituted once in every Two years.

Women's Cell

Women cell is working with the main aim of Gender equality, Prevention of sexual harassment and to protect women safely.

This cell is to ensure the equal opportunity to women faculty and girl students monitoring the gender equality on campus.

Equal opportunity cell

The Institute has constituted the equal opportunity cell with the objective of creating the awareness and optimal benefits extended by the Government and other bodies for the students' welfare.

Library Committee

Library committee consists of Chief Librarian, Librarian, faculty and student representatives headed by the Principal. The procurement of reading resources is generalized by this committee which recommends the procurement of books, journals and e-resources. The composition is shown as in the table 10.1e.

Table 10.1e: Composition of Library Committee

Chairman	Head of the Institution
Members from the Teaching Faculty	Head of the Departments or their nominees
Members from Students	One student from each of the departments
Member from Accounts	Accounts Officer
Member-Secretary	Chief Librarian

Term of the Committee is for 2 years. After its tenure, fresh committee is formed.

Hostel Committee

Hostel committee headed by the chief warden, wardens both men and women supervise the living of the students and their welfare in the hostels on the campus. Composition of the hostel committee is shown in table 10.1f.

Table 10.1f: Hostel Committee

Sl. No.	Name	Designation	Role
1.	Dr. Prakash M R	Principal	Chairperson
2.	Mr. R Shadakshari	Asst. Prof, Mechanical and Chief Warden	Member Secretary
3.	Dr. A R K Swamy	Professor, Mechanical and Warden	Member
4.	Mr. Vijay Hashia	Hostel Manager	Member

Sl. No.	Name	Designation	Role
5.	Mrs. Ramashree	Manager Operations	Member
6	Mrs. Asha Pulli	Facility Manager	Member
7	Mr. Ramakrishna Gowda	General Admin	Member
8.	Mr. Dinesh	Head, Security	Member
9	Students representatives - 10 No.	Girl students / Boy students	Members

Student Affairs /Welfare Committee.

The committee is headed by Dean Students Affairs along Assistant deans, one faculty member from each department is nominated by respective Head of the Departments acts as its mentor coordinator. They meet once in a month to discuss academic progress of the students and any other issues related to students. The committee looks after academic issues, co-curricular activities.

Examination Committee

The committee under the Principal who is the Chief Superintendent, functions for smooth and effective conduct of university examinations and liaison with the university in examination related matters of the college.

They meet regularly two times in a semester and whenever situation arises. The term of the committee is two years and shall continue until further reconstitution.

Research and Development Cell

Acharya Institute of Technology has established R & D cell in 2015 with objective to promote and disseminate the research on campus. It plays an active role in institutional ethos, intellectual culture and educational experience conducive to critical discourse, intellectual curiosity, tolerance and a diversity of views. The committee also reviews the project and funding proposals.

Innovation Cell

Acharya Institute of Technology has established Institute Innovation Council (IIC) as per the norms of the HRD Ministry, Government of India. The cell conducts activities in line with the MHRD initiated activities, grass root innovation sessions for the students and faculty members. The students are encouraged to come up with their innovative ideas in all disciplines, which are curated by the Acharya Technology Incubator on campus for further product/ service development. The cell also encourages the students and faculty to participate in the national and international level competitions for innovations. The cell consists of the chairperson, staff and student members including alumni.

Sports and Cultural Committee

This committee is constituted with Principal as its chairman, physical education director as its member secretary and seven teaching faculty as its members. They meet once in the beginning of every semester and prepare a plan of action along with the calendar of events of VTU and our institution.

Roles, Responsibilities and Functions

The committee frames the policies and its implementation. The Committee co- ordinates for organizing the sports events at intra and inter level comprises regional, state level, national and international level for faculty and the students regularly. The cell identifies new talents by selection trails/auditions that will be conducted at the start of academic year for all sports.

The committee co-ordinates for selection process done by professional experts from respective sports. In case of cultural activities, the cultural committees conduct auditions to select teams and individual participations for various cultural events. This activity encourages students to develop their physical and mental health and enhance their skills. Sports facilities at Acharya Institute of Technology are: Outdoor: Football, Cricket, Basketball, Volley ball, Kabaddi, Softball, Archery, Ball Badminton, Handball, Tennis, Kho-Kho and Athletics.

Indoor: Table Tennis, Chess and Carom, Multi Gym, Power Lifting, Weight Lifting.

Placement and Training Cell

The Cell is having well defined policy and works within the frame work with the main objectives of training of:

- To have a positive impact on educational outcomes by advancing training and job placement for students, establishing a model for Placement Oriented Training for the students.
- Develop the physical and mental potential and the problem-solving capacity of individuals
- To develop and enrich students; inquisitive ability and raise their creativity and interest.
- To make education, training and research appropriately integrated with development by focusing on research.

  The cell comprises of the staff as members from department of training and placement, faculty representatives from each department of the institute as coordinators headed by the Director Training and placement. The composition of the cell is as follows in the Table 10.1g

Table 10.1gThe composition of the Placement & Training cell

Sl.No.	Name	Designation
1.	Mr. C.B.M Bhooshan	Director Training and Placements
2.	Prof. Iqbal Ahmed	Dy Director Training
3.	Dr. Ismail Shareef	Training and Placement Officer
4.	Mr. Vijay.T.Nayak.	Executive Placements
5.	Ms. Rashmi.N.Mahesh	Sr. Executive Placements
6.	Mr. Irshad Ahmed S	Assistant Director Placements
7.	Mr. Basavaraju M	Assistant for Training
8.	Ms.Sirisha Reddy	Asst. Director/ Asst. Professor, Dept. of Civil Engg.
9.	Faculty representatives - from every department	Asst Professors as coordinators

The cell prepares the students for placement, is responsible for inviting tenders and selection of training team, preparation of time table for training in coordinating with the HODs, arrangement for training, pre and post evaluation of the training.

The cell has student's modules, client modules, placement staff coordinator module for organizing and coordinating in recruitment and selection process where internal and external students will participate in the recruitment process, pool events, internship events and off campus events. Placement department also maintain database of clients, and selected candidates, their offer letters/ appointment letters. The cell meets every month formally otherwise meets regularly whenever the clients visit the institution.

10.1.3 Decentralization in working and grievance redressal mechanism (10)

(List the names of the faculty members who have been delegated powers for taking administrative decisions. Mention details in respect of decentralization in working. Specify the mechanism and composition of grievance Redressal cell including)

The management has delegated its authority to the Principal to administer the institute. The principal in-turn has delegated the powers to Professors under Acharya Institute of Technology as follows.

Table 10.1h: Decentralization in working

Sl. No.	Faculty name	Department and Designation	Roles and Responsibility
1.	Dr. Devarajaiah R M	Dean Academics- Professor and HOD, Mechatronics	Academic planning and implementation
2.	Dr. Rajeswari	Dean R&D, Professor and HOD Electronics and Communication Engineering,	Foster R & D culture in faculty and students. Proposals submissions and consultancy activity.

Sl. No.	Faculty name	Department and Designation	Roles and Responsibility
3.	Dr. Prakash R	Convener-Anti Ragging Committee. Professor and HOD, Electrical and Electronics	Prevention of ragging menace in the campus.
4.	Dr. Gopinath S M	IQAC Coordinator Professor and HOD, Biotechnology	Quality monitoring in academic activities. NSS coordinator- Creating social responsibility among students and faculty.
5.	Dr. Gaddagimath	Dean, Learning Resource Centre	Develop Digital resources and create awareness about the facilities in the library for students and faculty members
6.	Dr. Balasubramanya	Dean Faculty welfare & development, Professor, Department of Civil Engineering	To facilitate and create sound working environment for faculty. To support Faculty development activities to all the departments.
7.	Dr. Indrani Pramod Khelkar	Dean Student Affairs, Professor, Department of Mathematics	Facilitate overall development of the student community.

Sl. No.	Faculty name	Department and Designation	Roles and Responsibility
9.	Mr. Gangadhar	Physical Director,	Maintain and procure sports items required. Organize sports and cultural activity along with members of the committee.
10.	Mr. Iqbal Ahemed	Deputy Director Training	Planning Soft skill and Domain Training programmes. Facilitate Industry-Institute interaction.
11.	Mr Marigowda	Deputy director Collaborations Alumni coordinator	Establish contacts with foreign universities and initiate student Exchange programmes. Uphold alumni network throughout the world.
12.	Dr. Ismail Shareef	Placement Officer	Establish industry contact and ensure placements.
13.	Dr. Mahesh SS	Deputy Chief Superintendent, Examinations, Professor and Head, Physics	Ensure smooth conduction of internal tests, VTU examinations and valuation centre works.
14.	Heads of the Departments		To administer the department under the Principal's guidance.

Grievance Redressal Committee

The grievance redressal committee is formed and functions as per the regulations given by the UGC (https://www.ugc.ac.in/pdfnews/1406982_Public-Notice-on-Grievance-redressal.pdf). It is headed by the principal. Senior faculty members and hostel wardens are its members. They meet once in a semester and address the grievances and take measures to overcome such issues in future. Composition of grievance cell is as shown in table 10.1p

Table 10.1i: Grievance redressal committee

Sl. No.	Name	Designation	Role
1	Dr Prakash M R	Principal, AIT	Chairman
2	Dr. R. Prakash	Prof & Head, EEE	Member
3	Dr. Devarajaiah	Prof & Head, MT Dean- Academic	Member
4	Dr. Rajeswari	Prof & Head, ECE,	Member
5	Dr. Indrani Pramod Khelkar	Prof & Dean Student Affairs	Member
6	Prof R. Shadakshari	Asst Prof. Mech& Chief Warden, AIT	Member
7	Dr. Ramesh Hegde	HOD of MCA, AIT	Convener
8	Sri Ramakrishne Gowda	General Administrations, Acharya institutes	Member
9	Dr ARK Swamy	Prof.Mech& Hostel Warden	Member
10	Mr. Vijay Hasya	Hostel Manager, Acharya Institutes	Member

Roles, responsibilities and functions

The committee has to publicize the document consisting of what all can be considered as grievance to all stake holders. Receive the grievance upon existence, validate by consulting parties involved in it and resolve the case within two weeks. Also record minutes of such instances and file it for future references. The grievance mechanisms are also made online as per UGC guidelines from this academic year so as to make it transparent and hassle free exercise.

Service rules, procedures, recruitment and promotional policies: HR policies for AIT is in place. The following are the contents of the same:

CONTENTS

- Human Resources – Acharya Distinction
- Institutional Statements

1) JMJ education society and institutions
    - Constitution of the J M J Education Society
    - List of Acharya Institutes run by J.M.J. Education Society
2) Management, governance and administration
3) Policy framework of human resource centre
    - Policy framework of the Human Resources Centre
    - Categories of Human Resources
4) Recruitment policy
    - Recruitment to teaching faculty positions
    - Composition of selection committee to recruit faculty members
    - The teaching faculty positions and designations at Acharya institutes
    - Salary Scales for Faculty under the umbrella of AICTE
    - Salary Scales of Faculty under the Umbrella of State Government

- Recruitment to executive and managerial positions
- Mode of selection to managerial and administrative positions
- Recruitment to support staff – technical
- Recruitment to support staff – administrative [includes accounts]
- Saving clause

5) Appointment / invitations for guest faculty / visiting professors / adjunct faculty
6) Role and responsibilities and service conditions for faculty employees of JMJ education society
   - Service conditions
   - Probation
   - Process of confirmation of service – purpose
   - Promotion policy
   - Retirement – Resignation - Termination
   - Retirement
   - Resignation
   - Termination of services of an employee
7) Code of conduct and ethics
   - Misconduct
   - Disciplinary proceedings (As detailed below)
   - Disciplinary punishments and appeals
8) Working schedules
9) Leave rules
   - Casual leave
   - Restricted holiday (RH)
   - Permissions

- Vacation leave
- Marriage leave
- Earned leave [EL]
- Maternity leave
- Paternity leave
- Research Leaves
- General rules

10) Career advancement

11) Faculty development

- Higher studies
- Policy for doctoral studies
- Seminars / Workshops / Conferences
- Promotion of research
- Staff development and training: support staff (Administrative)
- Staff development and training: support staff (Technical)

12) Welfare schemes for faculty & supporting staff

- Grievances Redressal Cell
- Women's cell
- Objectives
- Activities
- Advisory committee

13) Performance based appraisal system for employees

14) Zero tolerance policy

15) Equal opportunity cell and provisions thereof

16) Wardens / other work to be performed

17) Non-disclosure agreement

10.1.4 Delegation of financial powers (10)

(Institution should explicitly mention financial powers delegated to the Principal, Heads of Departments and relevant in-charges. Demonstrate the utilization of financial powers for each year of the assessment years.)

Financial powers are delegated to the Principal and the Head of the department. Annual budget is prepared by the Head of the department in consultation with departmental faculty members. This is further scrutinized by principal and recommends the budget for approval to the Management. The financial account is periodically reviewed by the Principal and Accounts Department. The Principal of the Institution has been granted the power to utilize an imprest amount of Rs. Fifteen Thousand only (Rs 15,000) on suitable institutional expenses, at any given point of time. The Head of the Department has been granted the power to utilize an imprest amount of Rs. Five Thousand only (Rs 5,000) on suitable departmental expenses, at any given point of time.

At any point, Rupees Fifteen Thousand and Rupees Five Thousand (provided to Principal and HoD) will be maintained and is reimbursed as a top-up based on usage. Subsequently Principal is at Liberty to procure the required equipment during the Financial Year as against the proposed budget, by presenting the same in the Purchase Committee. Further, Special powers have been delegated to the Principal, if the amount exceeds the proposed budget to the extent of 10 to 20% as against the proposed budget.

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

The college website and the Enterprise Resource Planning (ERP) software ensures that all information's pertaining to students, staff in the ERP to ensure that all stake holders are adequately informed about the policies and procedures along with the developments taking place that could affect them.

All the information pertaining to the admissions, faculty and supporting staff details, student attendance, internal marks, infrastructural facilities, details of programs, information related to ongoing student training programs, faculty development programs, symposiums etc., are made available in the college internet based ERP. All Minutes of Meetings like Academic Council and other information are mailed to all HODs for further information to all the faculty members. The relevant details are available in the departmental files which are readily accessible to all faculties in the departmental file racks.

10.2 Budget allocation, utilization and public accounting at institute level (30)

The yearly budget is prepared according to the needs & requirements of the departments taking into consideration of annual intake of students, laboratory &infrastructure developments, Students, faculty& staff requirements and promotions and latest technologies etc.

Various departments submit the annual budget to principal. On receipt of such proposals, principal, in consultation with departmental HODs, prepares a consolidated proposal. After deliberations formal budget made altered in departments and forwarded to Principal for preparing final budget at college level and submits it to the Governing Body for approval and sanction.

The Management is approving almost 100% which was proposed by the institute. The budget allocation and utilization for the last three years is adequate.

All the expenditure needs prior approval from the competent authority. Funds would be spent only from the approved budget. If funds are required for expenses not mentioned in the proposal, management's approval is a must. Management ensures the adequacy of the funds from various sources like, fee accrual, donation and bank loans.

Table 10.2a: Recurring budget expenditure

Acharya Institute of Technology							
	Income in Lakhs					Expenditure in lakhs	
	Fee	**Govt.**	**Grants**	**Other Sources (Interest on Fixed Deposits & Others)**	**Total Income (Fees +Interest)**	**Recurring including Salaries**	**Total Expenses**
2018-19 - 01/04/18 to 04/02/2019	6054.91		0.28	7.49	6065	4514.43	5241.4
2017-18	6985.08	--	0.2	18.95	7004.04	5112.92	9796.82
2016-17	6506.93	--	9.31	2.78	6509.71	4205.4	6341.45
2015-16	5909.44	--	1.17		5909.44	4524.89	6286.07

Table 10.2b: Non Recurring budget expenditure

	Income from Fee	**Govt.**	**Grants**	**Other Sources (Interest on Fixed Deposits & Others)**	**Total Income (Fees +Interest)**	**Non-recurring**
01/04/18 to 04/02/2019	6054.91		2.867	7.490	6065.27	726.97
2017-18	6985.08	0	0.020	18.95	7004.03	4683.89
2016-17	6506.93	0	9.311	2.786	6509.71	2136.05
2015-16	5909.44	0	0.354	0	5909.44	1761.17

Allocation of budget for different categories ,

Table 10.2c Allocation of budget in lakhs

Items	Budgeted in CFY	Actual expenses in 01/04/18 to 04/02/19*	Budgeted in 2017-18	Actual expenses in 2017-18	Budgeted in 2016-17	Actual expenses in 2016-17	Budgeted in 2015-16	Actual expenses in 2015-16
CAPEX								
Infrastructure Built-Up	150	418.27	3800	3763.35	900	856.54	170	1619.86
Library	3.5	1.32	3.5	3.55	1.5	1.37	28	28.63
Laboratory equipment	25	11.39	65	67.68	90	88.36	1.45	1.44
Others:								
Electrical Fitting &Equipments	350	184.18	300	298.05	465	464.42	55	54.34
Furniture & Fixtures	55	50.8	50	49.60	16	15.89	3.5	3.48
Computer & Software	70	58.85	470	469.69	480	481.21	45	43.20
Vehicles				18.50	220	220.65	10	9.62
Office Equipment	5	2.136	50	50.49	7.5	7.62	0.6	0.60
Total CAPEX	658.5	726.97	4738.5	4683.90	2180	2136.05	313.55	1761.17
OPEX								
Laboratory Consumables	5	1.32	4	3.76	30	30.24	25	23.14
Teaching and non-teaching staff salary	2800	2064.87	2520	2519.24	2350	2351.18	2480	2460.97
Maintenance and spares	350	285.72	335	334.47	280	278.42	505	507.40
R&D	5	2.867	0.2	0.20	10	9.31	0.4	0.35
Training and Travel	70	48.95	65	65.03	48	47.19	62	61.29

Items	Budgeted in CFY	Actual expenses in 01/04/18 to 04/02/19*	Budgeted in 2017-18	Actual expenses in 2017-18	Budgeted in 2016-17	Actual expenses in 2016-17	Budgeted in 2015-16	Actual expenses in 2015-16
Miscellaneous expenses*								
Advertisement	120	85.11	150	153.63	70	71.09	64	63.26
Bank Charges	1	0.3038	6	5.86	0.9	0.87	1	0.97
Books & Periodicals	0.3	0.25	0.18	0.18	0.2	0.19	0.2	0.25
Cleaning & Maintenance	30	14.59	36	36.01	20	19.04	17	17.26
Donation	0.5	0	0.2	0.20	0.15	0.11	1.75	1.75
Electricity & Water	100	49.74	120	119.92	110	110.62	90	90.74
Membership & Subscription	12	12.25	10	10.81	5	5.19	9	8.71
Miscellaneous Expenses	5	3.236	5	4.38	5	5.30	5	4.98
Loss on Sale of Car				5.19				
Postage & Telephone	60	48.25	58	58.21	32	32.71	28	28.90
Printing & Stationery	60	42.61	90	90.09	100	98.28	86	87.12
Professional Charges	115	84.74	100	102.97	125	125.16	100	98.61
Rate & Taxes	30	28.13	28	28.23	34	34.00	28	28.13
Registration & Renewals	220	177.93	210	208.45	120	117.56	105	104.52

Items	Budgeted in CFY	Actual expenses in 01/04/18 to 04/02/19*	Budgeted in 2017-18	Actual expenses in 2017-18	Budgeted in 2016-17	Actual expenses in 2016-17	Budgeted in 2015-16	Actual expenses in 2015-16
Sponsorship & Seminar Expenses	20	11.51	20	21.63	8	7.90	12	12.53
Staff Welfare	55	23.03	52	51.61	55	53.68	65	66.31
Student Development Expenses	450	261.87	430	428.28	540	535.73	570	572.44
Interest on Term Loan	1200	1087.89	900	864.56	280	271.66	290	285.28
TOTAL OPEX	5708.8	4514.4	5139.58	5112.93	4223.25	4205.4	4544.35	4524.9
TOTAL EXP - CAPEX+OPEX	6367.3	5024.14	9878.08	9796.83	6403.25	6341.45	4857.9	6286.07

10.2.1 Adequacy of budget allocation (10)

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

Since the department is in growing phase, college management has made it a point that funds should not be a hindrance factor for the healthy rate of growth. Adequate budget is allocated and expenditure is monitored. In no circumstances, teaching learning process is made to suffer because of fund shortage.

Table 10.2d: Adequacy of budget allocation

Sl.No.	Assessment Year	Budget Allocated in Lakhs	Actual Expenditure in Lakhs	Adequate / Non Adequate
1	2018-2019	5708.8	4514.4	Adequate
2	2017-2018	6367.3	5024.14	Adequate
3	2016-2017	9878.08	9796.83	Adequate
4	2015-2016	6403.25	6341.45	Adequate

10.2.2 Utilization of allocated funds (15)

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

During last three years budget allocation and utilization is in order and no deficiency was observed

Table 10.2e: Utilization of funds

Sl.No.	Assessment Year	Budget Allocated in Lakhs (Rs.)	Actual Expenditure in Lakhs (Rs.)	Percentage of Utilization
1	2018-2019	5708.8	4514.4	79.08
2	2017-2018	6367.3	5024.14	78.91
3	2016-2017	9878.08	9796.83	99.18
4	2015-2016	6403.25	6341.45	99.03

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

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

Institutional audit statements are available on the institute's website

10.3. Program Specific Budget Allocation, Utilization (30): Total Budget at program level: For CFY, CFYm1, CFYm2 &CFYm3

Table 10.3a: Program Specific Budget Allocation, Utilization

Mechanical Engineering Department								
Items	**Budgeted in 2018-2019**	**Actual Expenses in 2018-2019 till date**	**Budgeted in 2017-2018**	**Actual Expenses**	**Budgeted in 2016-2017**	**Actual Expenses**	**Budgeted in 2015-2016**	**Actual Expenses**
Laboratory Equipment	1.00	0.85	11.00	10.75	2.50	2.33	0.00	0.00
Computers/Printers	0.00	0.00	20.00	19.30	0.00	0.00	0.00	0.00
Softwares	5.00	4.80	0.00	0.00	0.00	0.00	0.00	0.00
Projectors	0.00	0.00	1.50	1.49	0.00	0.00	0.00	0.00
Furniture& Fixtures	0.00	0.00	0.60	0.64	0.00	0.00	0.00	0.00
Lab Consumables	1.00	0.84	0.70	0.72	0.60	0.58	3.50	3.28
Library	0.50	0.35	0.15	0.15	0.25	0.22	0.40	0.37
Salaries	216.00	213.15	265.00	260.84	250.00	240.24	260.00	257.15
R & D and Paper Publications & participation in workshop	0.25	0.21	0.30	0.28	0.10	0.09	0.10	0.11
Training	1.20	1.17	2.00	2.04	2.10	2.07	4.35	4.33
Project Expo	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
General Expenses	136.33	98.00	134.94	135.16	122.86	121.81	135.55	135.81
Total	361.13	319.26	436.29	431.47	378.51	367.44	404.00	401.15

10.3.1 Adequacy of budget allocation(10)

(Program needs to state how the budget was utilized during the last three assessment years)

During last three years budget allocation and utilization is in order and no deficiency was observed

Table 10.3b: Program Specific Adequacy of Budget Allocation

Mechanical Engineering Department				
Sl.No.	**Assessment Year**	**Budget Allocated in Lakhs**	**Actual Expenditure in Lakhs**	**Adequate / Non Adequate**
1	2018-2019	361.13	319.26	Adequate
2	2017-2018	436.29	431.47	Adequate
3	2016-2017	378.51	367.44	Adequate
4	2015-2016	404.00	401.15	Adequate

10.3.2 Utilization of allocated funds(20)

Table 10.3c: Program Specific Utilization of allocated funds

Mechanical Engineering Department				
Sl.No.	**Assessment Year**	**Budget Allocated in Lakhs**	**Actual Expenditure in Lakhs**	**Percentage of Utilization**
1	2018-2019	361.13	319.26	88.41
2	2017-2018	436.29	431.47	98.90
3	2016-2017	378.51	367.44	97.07
4	2015-2016	404.00	401.15	99.29

10.4 Library and Internet (20)

(Indicate whether zero deficiency report was received by the Institution for all the assessment years. Effective availability/purchase records and utilization of facilities/equipment etc. to be documented and demonstrated)

The Learning Resource Center, the Central Library of Acharya Institute of Technology with its state-of-the-art facilities and excellent resources plays a more proactive role in providing excellent user services, optimal use of resources and support quality and enhancement in teaching, learning, research and extension. The Library at the heart of the Campus is an intellectual laboratory that provides a leap into the information age and continues to keep pace with the developments in the ICTs and adopt new modes information delivery. The Learning Resource Center, a fully digitized Knowledge Center for accessibility with print and e-resources provides an ideal environment for intellectual inquiry and provides user focused services to obtain and evaluate scholarly information and knowledge available in main formats and strives to create new knowledge to increase understanding and develop wisdom.

The Library has significant collection of books, journals, e-books, e-journals, secondary sources, databases, digital data archival and manuscript collections, digital primary sources to support the curricular and research needs of all the Departments and also to support the teaching and research mission of the Institute. KOHA – the Library Management software on Cloud computing is used for automation and in-house information management.

Qualified and experienced staff provides easily accessible and cost-effective information services and access to a broad, varied and deep range of information resources and services within all subject areas and at all levels. Access to high quality print and digital books and Journals, e-resources, case studies, Connect2 learning resources, range of study spaces, specialists' advice and assistance in teaching, learning and research with inspirational environments for study and research are provided. Aim of the Library has been to a proactive

role in meeting information needs of the users.

Access to information resources under VTU, INDEST, INFLIBNET, DELNET, HELINET consortia are provided in addition to many subscribed national and international databases. Also international network linkages have been established to access learning resources of MIT, Stanford University, University of Illinois, Cambridge University, Oxford University, Tufts University, OCLC, Ohio, USA, National Medical Library, USA, National Agriculture Library, ODI, USA, IDS and other universities and organizations. E-resources of the Library are accessible 24x7 anywhere on campus network (Wi-Fi) and also off campus (remote access through EzProxy).

Extensive user instruction programs and sensitization/awareness programs on information literacy, information management skills are organized regularly. Assistance to access variety of resources directly and through the learning management system are extended. The staff works with students to answer their questions and also to improve their information search skills. Individualized research assistance is provided through a variety of formats including one-on-one consultation, Research librarians, Research Hub drop-in help, email, chat, and text messaging.

The Library extends support to the research and publications process of Faculty and Researchers. Library offers smart, professional and sustainable solutions to the Institute's existing and future research environments, to position itself at cutting edge of technological development and contribute to the increased visibility, dissemination, conservation and evaluation of scholarly production.

The Library offers the users a route for self-directed learning and discovery through digital and technological means. The Maker spaces/Fab Labs encourage the users to regain control of technology and design to create new ideas. Digital lending; renting and reference; Bibliography; the Reading Cure; resource sharing, MOOCs, Academic Commons/Learning

Commons, FedGate and other Resource Discovery Tools provide new services to enhance student learning and facilitates better collaboration among students, faculty and Professional staff. Question point service “Ask a Librarian” is a unique online service where queries and reference questions are responded within 24 hours to support excellence in Teaching and Learning.

Important Facilities and Services

- Ask-A-Librarian - Question Point Online Reference Service.
- Videoconferencing.
- Wi-Fi accessible across the Library.
- Library e-resources Remote Access (off-campus access) through EzProxy.
- Research Skills and support in Research assignments/projects, consultations, online course guidance, digital class projects etc.,
- User Training, Sensitization and Information Literacy programs.
- Info skills – Identifying, finding, evaluating, referencing and metadata applications.
- Research Data Management, Publishing support, Style Manuals.
- Workshops/Programs on Citations, Citation Management Tools.
- Plagiarism Check tools (Turn-it-In) and services.
- Institutional Repository (Repository of research output, publications, thesis and dissertations and other useful academic archival material).
- SCOPUS - Abstract and Citation database subscribed.
- Research Data Repository (Preserving data generated by the Faculty Members, Research Scholars for in-house use).
- Scientific Productivity and research impact.
- Print, Copy, Scan Services.

10.4.1 Quality of learning Resources (hard/soft) (10)

Library space, ambience, timings and usage, availability of a qualified Librarian and other staff, Library automation, online access, networking are shown in the table.

Table 10.4a: Information on library resources

Carpet area of Library (in sq.m)	5574 Sq.m
Reading Space (in sq.m)	1800 Sq.m
Number of Seats in reading space(in sq.m)	600 Sq.m
Number of Users (Issue book) per day	400 per day
Number of Users (reading space) per day	650 per day
Timings: During working day Weekend/Public Holiday Vacation	8.00 am - 10.00 pm 9.00 am - 5.00 pm 8.00 am – 10.00 pm
Number of Library Staff	27
No. of Library Staff with Degree in Library Science	16
Computerization for search, indexing and issue/return records	KOHA Integrated Library Management Software
Bar-coding used	Bar-coding and RFID
Library services on internet / intranet	Both
INDEST or other similar membership specify	VTU Consortium, DELNET, HELINET, N-LIST
Archives	Institutional Repositories (IRs) and Hall of Fame to Preserve History, Honor Excellence and Connect Generation

Titles and Volumes per title

Number of Titles**: 17265** Number of Volumes: **77487**

Year	No. of New Titles added	No. of New Editions added	No. of New Volumes added
2018-19	648	626	1093
2017-18	169	93	563
2016-17	80	49	237
2015-16	924	484	6782

Scholarly Journals Subscription

Year	No. of Technical Magazines/Periodicals	No. of Total Technical Journals Subscribed		Scholarly Journal Titles (in original reprints)
		In Hard Copy	In Soft Copy	
2018-19	20	210	8366	4975
2017-18	18	184	8611	5050
2016-17	Nil	Nil	8611	5050
2015-16	18	Nil	540	350

Digital Library

Availability of Digital Library Contents: • Number of Courses • Number of E-Books • Number of E-Journals • Number of Project Reports	 13 12895 8366 1099
Availability of an exclusive Server:	Amazon Cloud Server
Availability over Intranet/Internet:	Both
Availability of Exclusive Space/Room:	Virtual Learning Resource Lab with 72 Apple Computers
Number of Users per day:	200

Awards received by library

LibTech Award 2019' Best Technology Enabled Library presented at Cochin University of Science and Technology, Cochin on 25th January 2019.

"Innovative Use of Technology in Higher Education Award (South)" during India's leading educational technology event 'EdTechReview Summit and Expo' held on 14th and 15th February 2019. Presented by TCSiON.

Fig 10.2: Inauguration of Library by AICTE Chairman and Awards received by the Library

10.4.2 Internet (10)

Name of the Internet provider	BSNL, Regitel online
Available band width	1Gbps
Wi-Fi availability	150Mbps
Internet access in labs, classrooms, library and offices of all Departments	Yes
Security arrangements	Yes

ACHARYA INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University, Belagavi, Approved by AICTE, New Delhi and Accredited by NBA and NAAC)

DECLARATION

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concern for this 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.

11/03/2019

Signature of Principal

Dr. Prakash MR

PRINCIPAL
ACHARYA INSTITUTE OF TECHNOLOGY
SOLADEVANAHALLI, BENGALURU - 560107

Date: 11/03/2019

Place: Bengaluru

Acharya Dr. Sarvepalli Radhakrishnan Road, Soladevanahalli, Acharya P.O., Bengaluru 560 107, Karnataka, India • www.acharya.ac.in/ait
• Ph: +91-80-225 555 55 Extn. : 2102 • Fax: +91-80-237 002 42 • E-mail: principalait@acharya.ac.in

ANNEXURE I

Program Outcomes:

1. **Engineering knowledge:**

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

2. **Problem analysis:**

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

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

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

4. **Conduct investigations of complex problems:**

   Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Modern tool usage:**

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

6. **The engineer and society:**

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

7. **Environment and sustainability:**

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

8. **Ethics:**

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

9. **Individual and teamwork:**

   Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:**

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

11. **Project management and finance:**

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

12. **Life-long learning:**

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

Program Specific Outcomes (PSOs):

1. Determine the performance of a given mechanical component or a system using computational tools.
2. Design mechanical systems including drives, energy conversion systems (IC engines, turbomachines, and power plant components), RAC and fluid power systems along with their embedded controllers as per specifications.
3. Select, plan, and implement the process for manufacturing mechanical elements and for assembly of mechanical subsystems and systems.
4. Optimize the use of resources and processes, using managerial techniques, ICT tools and life cycle management for a safe environmentally friendly system for sustainable society.

ANNEXURE II

FACULTY INFORMATION

CAY (2018-19)

Sl. No.	Name of the faculty member	Qualifications			Association with the institution	Designation	Date on which designated as Professor/Associate Professor	Date of joining the Institution	Department	Specialization	Academic Research			Currently associated (Y/N) Date of leaving (in case currently associated is ("No")	Nature of association
		Degree (highest degree)	University	Year of attaining higher qualification							Research Publications	PhD guide Guidance	Faculty receiving PhD During the assessment years		
1	Dr. Prakash S Dabeer	M.E	Shivaji University	1994	Full Time	Prof & Head	2012	10/8/2018	ME	ME Production Engg	04	00	NA	Y	R
		Ph.D	Dr. MGR University Chennai	2012						Ph.D					
2	Dr. S.C.Pilli	M.E.	Roorkee University	1984	Full Time	Professor	2004	2/11/2015	ME	Machine Design	01	03	01	Y	R
		Ph.D	IISc	2003						Ph.D					
3	Dr.AR K Swamy	M.E	B.U	1995	Full Time	Professor	2007	1/08/2018	ME	Machine Design	00	05	00	Y	R
		Ph.D	Dr MGR Institute Chennai	2013						Composite Material					
4	Dr. G S Bhatt	Ph.D.	Anna University	2011	Full Time	Professor	2011	13/08/2018	ME	TPE	00	02	NA	Y	R

		M.S	Texas University	1993						TPE					
5	Dr.Debarun Dutt	B.E	Utkal University	2004	Full Time	Associate Professor	NA	30/12/2017	ME	ME	07	NA	NA	Y	R
		Ph.D.	UPES	2016						Piping Engineering Design					
6	Dr.VenkateGowda C	M.Tech	VTU	2005	Full Time	Associate Professor	2014	22/10/2018	ME	Machine Design	02	NA	NA	Y	R
		Ph.D	VTU	2018						Hybrid Composite					
7	Mr. Shadakshari R	M.Tech	VTU	2007	Full Time	AP	NA	11/08/1997	ME	Manufacturing Science Engg	02	NA	NA	Y	R
		(Ph.D)	VTU							Nano Composite					
8	Dr. Manjunatha B	M.E	B.U	2003	Full Time	AP	NA	21/11/2003	ME	Machine Design	01	NA	NA	Y	R
		Ph.D	VTU	2018						Metal Matrix Composite					
9	Dr. Attel Manjunath	M.Tech	VTU	2000	Full Time	AP	NA	27/01/2010	ME	Maintenance Engg	01	NA	NA	Y	R
		Ph.D	V.TU	2018						Vibrations and Acoustics					
10	Mr. Sachidananda KB	M.Tech	VTU	2011	Full Time	AP	NA	11/07/2011	ME	Production Technology	01	NA	NA	Y	R
		(Ph.D)	VTU							Coatings					
11	Mr. Vinod kumar C S	M.Tech.	VTU	2010	Full Time	AP	NA	12/07/2012	ME	MSE	02	NA	NA	Y	R
		(Ph.D)	VTU							Composite					
12	Dr. Basavaraju .S	M.Tech	B.U	2010	Full Time	AP	NIL	28/7/2012	ME	Advance Materials	02	NA	NA	Y	R

		Ph.D	B.U	2018						Composite					
13	Mr. Balachandra Bingi	M.Tech (Ph.D)	B.U VTU	2012	Full Time	AP	NA	19/7/2013	ME	Advance Materials Composites	00	NA	NA	Y	R
14	Mr. Nagaraja K C	M.Tech (Ph.D)	BU VTU	2010	Full Time	AP	NA	25/7/2013	ME	MSE Composite Materials	02	NA	NA	Y	R
15	Mr. Nagamadhu.M	M.Tech (Ph.D)	VTU NITK	2011	Full Time	AP	NA	8/8/2013	ME	MD Material Science	03	NA	NA	Y	R
16	Mr.YogendraKumar.S	M.Tech (Ph.D)	VTU SSIT	2010	Full Time	AP	NA	24/7/2014	ME	TPE Thermal	00	NA	NA	Y	R
17	Mr.Vijay R B	M-Tech (Ph.D)	VTU VTU	2010	Full Time	AP	NA	27/7/2014	ME	Design Engg Composite and Design	00	NA	NA	Y	R
18	Mrs.Shashikala.A	M.Tech (Ph.D)	VTU VTU	2012	Full Time	AP	NA	1/8/2014	ME	PDM Smart Materials	00	NA	NA	Y	R

19	Mr.Raju.M.G	M.Tech	VTU	2013	Full Time	AP	NA	4/8/2014	ME	CIM	00	NA	NA	Y	R
		(Ph.D)	VTU							Composite Materials					
20	Mr.BasavarajHittinahalli	B.E	VTU	2012	Full Time	AP	NA	3/7/2016	ME	Automobile Engg	00	NA	NA	Y	R
		M.Tech	VTU	2015						PDM					
21	Dr.Sanman Shivakumar	M.Tech	VTU	2018	Full Time	AP	NA	18/7/2016	ME	MSE	01	NA	NA	Y	R
		Ph.D	VTU	2018						Composite Material					
22	Mr.Harshih.C	B.E	VTU	2014	Full Time	AP	NA	18/7/2016	ME	IP Engg	01	NA	NA	Y	R
		M.Tech	VTU	2012						CIM					
23	Mr. Lavakumar.K.S	M.Tech	VTU	2011	Full Time	AP	NA	21/7/2016	ME	TPE	00	NA	NA	Y	R
		(Ph.D)	VTU							Turbine Design					
24	Mr.Pakkirappa H	M.Tech	K U University	1994	Full Time	AP	NA	17/8/2016	ME	Product Management	01	NA	NA	Y	R
		(Ph.D)	VTU	2018						ME					
25	Mrs. Shilpa R S	B.E	VTU	2005	Full Time	AP	NA	06/2/2017	ME	IEM	00	NA	NA	Y	R
		M.Tech	VTU	2016						PDM					
26	Mr. Sherugar Shivdarshan	B.E	VTU	2014	Full Time	AP	NA	02/5/2017	ME	MD	01	NA	NA	Y	R
		M.Tech	Manipal	2017						MET					

27	Mr.ManjunathIyer	M.Tech	Deemed	2013	Full Time	AP	NA	15/6/2017	ME	PDM Product Design and Manufacturing	00	NA	NA	Y	R
		(Ph.D)	VTU												
28	Mr.AkshayaSimha C	B.E	VTU	2013	Full Time	AP	NA	3/7/2017	ME	M.E IAR	00	NA	NA	Y	R
		M.Tech	VTU	2015											
29	Mr.Prasad Salunke	B.E	VTU	2010	Full Time	AP	NA	31/7/2017	ME	ME Mechatronics	01	NA	NA	Y	R
		M.Tech	VTU	2016											
30	Dr. Raghavendra Deshpande	M-Tech	VTU	2005	Full Time	AP	NA	14/8/2017	ME	MSE Machining	01	NA	NA	Y	R
		Ph.D	VTU	2018											
31	Mr.Pranesh K G	M.Tech	VTU	2014	Full Time	AP	NA	14/8/2017	ME	Machine Design Material Science	00	NA	NA	Y	R
		(Ph.D)	VTU												
32	Ms.Shrimuki G Sastry	B.E	VTU	2011	Full Time	AP	NA	26/3/2018	ME	ME MD	01	NA	NA	Y	R
		M-Tech	PES	2015											
33	Mr.Santhosh Kumar Malyala	M.Tech	NIT Warangal	2009	Full Time	AP	NA	14/7/2018	ME	PDM Additive Manufacturing	07	NA	NA	Y	R
		(Ph.D)	NIT Warangal												
34	Manjunath C														

CAYm1 (2017-18)

Sl. No.	Name of the faculty member	Qualifications			Association with the institution	Designation	Date on which designated as Professor/Associate Professor	Date of joining the Institution	Department	Specialization	Academic Research			Currently associated (Y/N) Date of leaving (in case currently associated is ("No")	Nature of association
		Degree (highest degree)	University	Year of attaining higher qualification							Research Publications	PhD guide Guidance	Faculty receiving PhD During the assessment years		
1	Dr. Mahesha K.	M.E	B.U	2004	Full Time	Prof& Head	2011	24/1/2011	M.E	MSE	02	06	NA	Y	R
		Ph.D	VTU	2010						Vibration					
2	Dr. S.C.Pilli	M.E.	Roorkee University	1984	Full Time	Professor	2004	2/11/2015	ME	Machine Design	01	03	01	Y	R
		Ph.D	IISc	2003						Ph.D					
3	Dr. Devarajaiah R. M	M.E	BU	1997	Full Time	Professor	2017	21/9/2007	ME	Machine Design	1	NA	NA	Y	R
		Ph.D	VTU	2015						Composites					
4	Dr. Lokesh G. N.	M.Tech	KU	2001	Full Time	Associate Professor	NA	01/9/2005	ME	Production	00	NA	NA	Y	R
		Ph.D	VTU							Alloy and casting					
5	Mr. Shadakshari R.	M.Tech	VTU	2007	Full Time	AP	NA	11/8/1997	ME	MSE	02	NIL	NIL	Y	R
		(Ph.D)	VTU							Nano Composite					

6	Mr. Manjunatha B.	M.E	B.U	2003	Full Time	AP	NA	21/11/2003	ME	Machine Design	01	NA	NA	Y	R
		(Ph.D)	VTU							Metal Matrix Composite					
7	Mr. Attel Manjunath	M.Tech	VTU	2000	Full Time	AP	NA	27/1/2010	ME	Maintenance Engg	01	NA	NA	Y	R
		(Ph.D)	VTU							Vibrations and Acoustics					
8	Mr. Sachidananda K.B.	M.Tech	VTU	2011	Full Time	AP	NA	11/7/2011	ME	Production Technology	01	NA	NA	Y	R
		(Ph.D)	VTU							Coatings					
9	Mr. Vinod Kumar C.S.	M.Tech.	VTU	2010	Full Time	AP	NA	12/7/2012	ME	MSE	01	NA	NA	Y	R
		(Ph.D)	VTU							Composite					
10	Mr. Basavaraju .S	M.Tech	BU	2010	Full Time	AP	NIL	28/7/2012	ME	AMT	02	NA	NA	Y	R
		(Ph.D)	VTU							Coatings					
11	Mr. Balachandra Bingi	M.Tech	BU	2012	Full Time	AP	NA	19/7/2013	ME	Advance Materials	00	NA	NA	Y	R
		(Ph.D)	VTU							Coatings					
12	Mr. Nagaraja K C	M.Tech	BU	2010	Full Time	AP	NA	25/7/2013	ME	MSE	02	NA	NA	Y	R

		(Ph.D)	VTU							Material Science					
13	Mr. Nagamadhu.M	M.Tech	VTU	2011	Full Time	AP	NA	8/8/2013	ME	MD	02	NA	NA	Y	R
		(Ph.D)	NITK							Material Science					
14	Mr.Yogendra Kumar.S	M.Tech	VTU	2010	Full Time	AP	NA	24/7/2014	ME	TPE	00	NA	NA	Y	R
		(Ph.D)	Deemed							Thermal					
15	Mr.Chethan.G.R	M.Tech	VTU	2011	Full Time	AP	NA	25/7/2014	ME	Thermal	00	NA	NA	Y	R
		(Ph.D)	VTU							Thermal Science					
16	Mr.Vijay R B	M.Tech	VTU	2010	Full Time	AP	NA	27/7/2014	ME	Design Engg	00	NA	NA	Y	R
17	Mrs.Shashikala.A	M.Tech	VTU	2012	Full Time	AP	NA	1/8/2014	ME	PDM	00	NA	NA	Y	R
		(Ph.D)	VTU							Smart Materials					
18	Mr.Raju.M.G	M.Tech	VTU	2013	Full Time	AP	NA	4/8/2014	ME	CIM	00	NA	NA	Y	R
		(Ph.D)	VTU							Composite Materials					
19	Mr. Bharath A	M.Tech	VTU	2007	Full Time	AP	NA	01/6/2016	ME	AR	00	NA	NA	Y	R
		(Ph.D)	VTU							Optimization and FEA					
20	Mr.BasavarajHittinahalli	B.E	VTU	2012	Full Time	AP	NA	3/7/2016	ME	Automobile Engg	00	NA	NA	Y	R
		M.Tech	VTU	2015						PDM					
21	Mr. Sanman Shivkumar	M.Tech	VTU			AP	NA	18/7/2016	ME	MSE	03	NA	NA	Y	R

		(Ph.D)	VTU		Full Time					Composite Materials					
22	Mr.Harshih.C	B.E	VTU	2014	Full Time	AP	NA	18/7/2016	ME	IP Engg	01	NA	NA	Y	R
		M.Tech	VTU	2012						CIM					
23	Mr. Lavakumar K.S	M.Tech	VTU	2011	Full Time	AP	NA	21/7/2016	ME	TPE	00	NA	NA	Y	R
		(Ph.D)	VTU							Turbine Design					
24	Mr. Sreenath N	B.E	VTU	2011	Full Time	AP	NA	01/8/2016	ME	M.E	00	NA	NA	Y	R
		M.Tech	VTU	2014						Thermal power Engineering					
25	Mrs.Priyanka S Umarji	B.E	VTU	2008	Full Time	AP	NA	08/8/2016	M.E	IP	00	NA	NA	Y	R
		M.Tech	VTU	2016						PEST					
26	Mr.Pakkirappa H	M.Tech	K U University	1994	Full time	AP	NA	17/8/2016	ME	Product Management	00	NA	NA	Y	Regular
		(Ph.D)	VTU							ME					
27	Mrs. Richa Mishra	B.Tech	UPTU	2009	Full Time	AP	NA	12/9/2016	M.E	Mechanical	00	NA	NA	Y	R
		M.Tech	UPTU	2015						Thermal Engineering					
28	Mrs. Shilpa R S	B.E	VTU	2005	Full Time	AP	NA	06/2/2017	ME	IEM	00	NA	NA	Y	R
		M.Tech	VTU	2016						PDM					
29	Mr. Sherugar Shivdarshan	B.E	VTU	2014	Full Time	AP	NA	02/5/2017	ME	ME	01	NIL	NIL	Y	R
		M.Tech	Manipal	2017						MET					

30	Mr. Manjunath Iyer	M.Tech	Deemed	2013	Full Time	AP	NA	15/6/2017	ME	PDM	00	NA	NA	Y	R
		(Ph.D)	VTU							Design					
31	Mr.Akshaya Simha	B.E	VTU	2013	Full Time	AP	NA	03/7/2017	ME	M.E	00	NA	NA	Y	R
		M.Tech	VTU	2015						IAR					
32	Mr.Prasad Salunke	B.E	VTU	2010	Full Time	AP	NA	31/7/2017	ME	ME	01	NA	NA	Y	R
		M.Tech	VTU	2016						Mechatronics					
33	Mr.Raghavendra Deshpande	M.Tech	VTU	2005	Full Time	AP	NA	14/8/2017	ME	MSE	01	NA	NA	Y	R
		(Ph.D)	VTU	2018						Machining					
34	Mr.Pranesh K G	M-Tech	VTU	2014	Full Time	AP	NA	14/8/2017	ME	MD	00	NA	NA	Y	R
		(Ph.D)	VTU							Material Science					

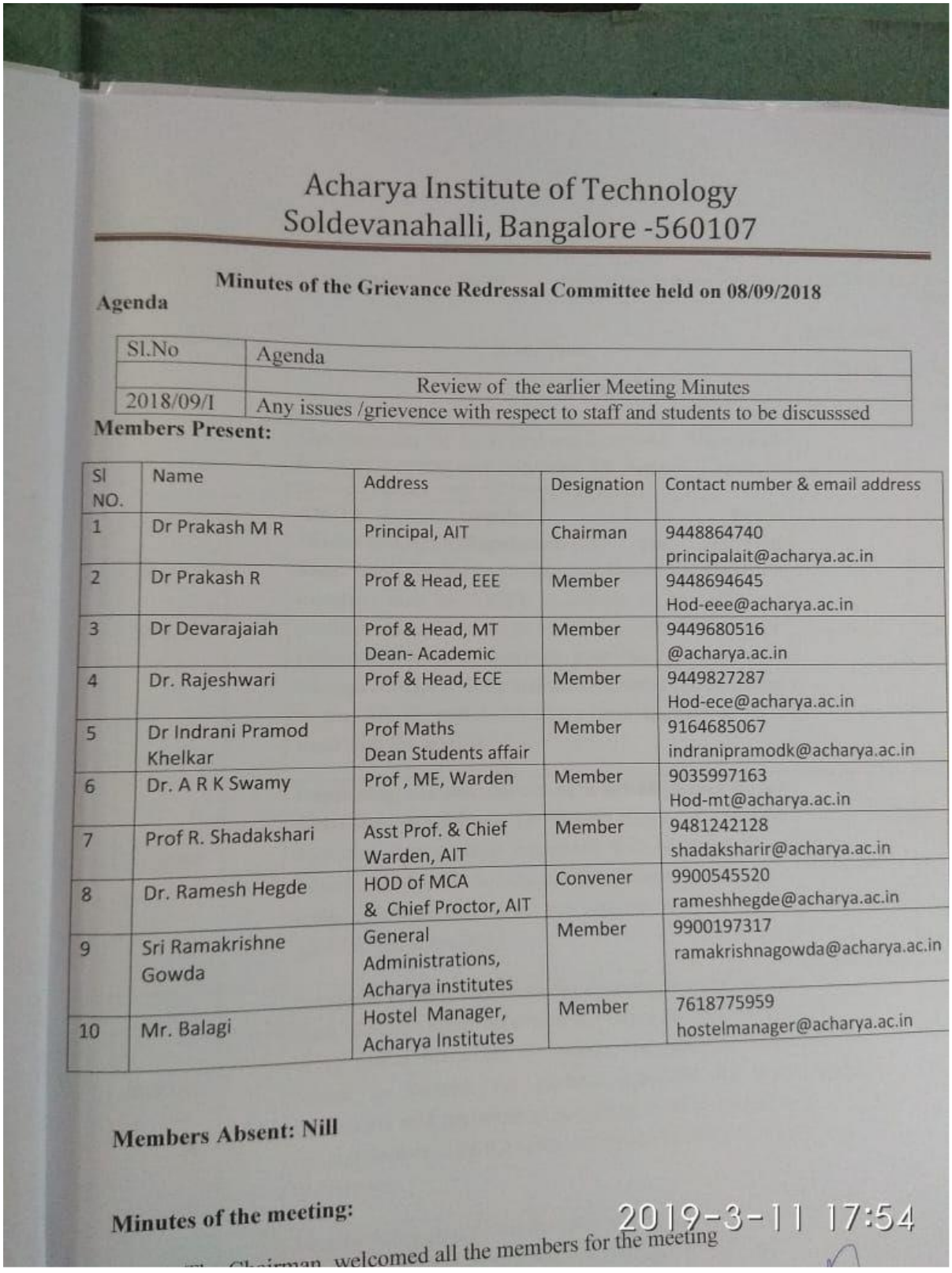
CAYm2 (2016-17)

Sl. No.	Name of the faculty member	Qualifications			Association with the institution	Designation	Date on which designated as Professor/Associate Professor	Date of joining the Institution	Department	Specialization	Academic Research			Currently associated (Y/N) Date of leaving (in case currently associated is "No")	Nature of association
		Degree (highest degree)	University	Year of attaining higher qualification							Research Publication	PhD guide Guidance	Faculty receiving PhD During the assessment years		
1	Dr. Mahesha K.	M.E	B.U	2004	Full Time	Prof&Head	2011	24/01/2011	M. E	MSE	00	06	NA	Y	R
		Ph.D	VTU	2010						Vibration					
2	Dr. S.C.Pilli	M.E	Roorkee University	1984	Full Time	Professor	2004	2/11/2015	ME	Machine Design	01	03	01	Y	R
		Ph.D	IISc	2003						Ph.D					
3	Dr. K Nagaraj	M.Tech	VTU	2005	Full Time	Professor	2014	2016	ME	IP	01	NA	NA	Y	R
		Ph.D	B.U	2014						Ph.D					
4	Dr. Devarajaiah R. M	M.E	BU	1997	Full Time	Associate Professor	NA	21/09/2007	ME	Machine Design	00	NA	NA	Y	R
		Ph.D	VTU	2015						Composites					
5	Mr. Shadakshari R.	M.Tech	VTU	2007	Full Time	AP	NA	11/08/1997	ME	MSE	00	NA	NA	Y	R
		(Ph.D)	VTU							Nano Composite					
6	Mr. Manjunatha B.	M.E	B.U	2003	Full Time	AP	NA	21/11/2003	ME	Machine Design	01	NA	NA	Y	R
		(Ph.D)	VTU	2018						Metal Matrix Composite					
7	Lokesh G. N.	M.Tech	KU	2001	Full Time	AP	NA	01/09/2005	ME	Production	00	NA	NA	Y	R

		Ph.D	VTU							Alloy and casting					
8	Mr. Attel Manjunath	M.Tech	VTU	2000	Full Time	AP	NA	27/01/2010	ME	Maintenance Engg	00	NA	NA	Y	R
		(Ph.D)	VTU							Vibrations and acoustics					
9	Mr. Sachidananda K.B.	M.Tech	VTU	2011	Full Time	AP	NA	11/07/2011	ME	Production Technology	01	NA	NA	Y	R
		(Ph.D)	VTU							Coatings					
10	Mr. Vinod Kumar C.S.	M.Tech.	VTU	2010	Full Time	AP	NA	12/07/2012	ME	MSE	02	NA	NA	Y	R
		(Ph.D)	VTU							Composites					
11	Mr. Basavaraju .S	M.Tech	BU	2010	Full Time	AP	NIL	28/07/2012	ME	AMT	02	NA	NA	Y	R
		(Ph.D)	BU	2018						Composites					
12	Dr. S Karunakara	M.Tech	VTU	2001	Full Time	AP	NA	18/07/2013	ME	MSE	00	NA	NA	Y	R
		(Ph.D)	VTU	2015						Matrix Composite					
13	Mr. Balachandra Bingi	M.Tech	BU	2012	Full Time	AP	NA	19/07/2013	ME	Advance Materials	00	NA	NA	Y	R
		(Ph.D)	VTU							Composites					
14	Mr. Nagaraja K C	M.Tech	BU	2010	Full Time	AP	NA	25/07/2013	ME	MSE	02	NA	NA	Y	R
		(Ph.D)	VTU							Material Science					
15	Mr. Nagamadhu M	M.Tech	VTU	2011	Full Time	AP	NA	08/08/2013	ME	Machine Design	03	NA	NA	Y	R
		(Ph.D)	NITK Surathkal							Material Science					
16	Mr.Sunil B	M.Tech	VTU	2010		AP	NA	23/7/2014	ME	Machine Design	00	NA	NA	Y	R

					Full Time					Design Analysis					
		(Ph.D)	VTU												
17	Mr.Yogendra Kumar.S	M-Tech	VTU	2010	Full Time	AP	NA	24/7/2014	ME	TPE	00	NA	NA	Y	R
		(Ph.D)	Deemed							Thermal					
18	Mr.Chethan.G.R	M.Tech	VTU	2011	Full Time	AP	NA	25/07/2014	ME	Thermal	00	NA	NA	Y	R
		(Ph.D)	VTU							Thermal Science					
19	Mr.Vijay R B	M.Tech	VTU	2010	Full Time	AP	NA	27/07/2014	ME	Design engg	00	NA	NA	Y	R
20	Mrs.Shashikala.A	M.Tech	VTU	2012	Full Time	AP	NA	01/08/2014	ME	PDM	00	NA	NA	Y	R
		(Ph.D)	VTU							Smart Materials					
21	Mrs. Swathi B	M.E	VTU		Full Time	AP	NA	01/08/2014	ME		00	NA	NA	Y	
22	Mr.Raju.M.G	M.Tech	VTU	2013	Full Time	AP	NA	04/08/2014	ME	CIM	00	NA	NA	Y	R
23	Mr. Prashanth K P	B.E	VTU	2009	Full Time	AP	NA	04/08/2014	ME	MECH	00	NA	NA	Y	R
		M.E	B.U	2011						AMT					
24	Mr. Venkata Shiva Reddy	B.E	VTU	2010	Full Time	AP	NA	20/11/2014	ME	MECH	00	NA	NA	Y	R
		M.Tech	VTU	2013						CIM					
25	Mr. Bharath A	M.Tech	VTU	2007	Full Time	AP	NA	01/06/2016	ME	IAR	00	NA	NA	Y	R
		(Ph.D)	VTU							Optimization and FEA					

26	Basavaraj Hittinahalli	B.E	VTU	2012	Full Time	AP	NA	03/07/2016	ME	Automobile Engg	00	NA	NA	Y	R
		M.Tech	VTU	2015						PDM					
27	Mr.Sanman Shivakumar	M.Tech	VTU		Full Time	AP	NA	18/07/2016	ME	MSE	00	NA	NA	Y	R
		(Ph.D)	VTU							Composite Materials					
28	Mr.Harshih.C	B.E	VTU	2014	Full Time	AP	NA	18/07/2016	ME	IP Engg	00	NA	NA	Y	R
		M.Tech	VTU	2012						CIM					
29	Mr. Lavakumar.K S	M.Tech	VTU	2011	Full Time	AP	NA	21/07/2016	ME	TPE	00	NA	NA	Y	R
30	Mr. Avinash	B.E	VTU	2008	Full Time	AP	NA	27/07/2016	ME	IP	00	NA	NA	Y	R
		M.Tech	JNNCE	2014						Design Engg					
31	Mrs.Priyanka S Umarji	B.E	VTU	2008	Full Time	AP	NA	08/08/2016	M. E	IP	00	NA	NA	Y	R
		M.Tech	VTU	2016						PEST					
32	Mr. Sreenath N	B.E	VTU	2011	Full Time	AP	NA	29/8/2016	ME	M.E	00	NA	NA	Y	R
		M.Tech	VTU	2014						Thermal Power Engg					
33	Mr. Pakkirappa H	M.Tech	KU University	1994	Full Time	AP	NA	17/8/2016	M. E	Product Management	00	NA	NA	Y	R
		(Ph.D)	VTU							M.E					
34	Mrs. Richa Mishra	B.Tech	UPTU	2009	Full Time	AP	NA	12/9/2016	M. E	Mechanical	00	NA	NA	Y	R
		M.Tech	UPTU	2015						Thermal Engineering					



Acharya Institute of Technology
Soldevanahalli, Bangalore -560107

Minutes of the Grievance Redressal Committee held on 08/09/2018

Agenda

Sl.No	Agenda
	Review of the earlier Meeting Minutes
2018/09/1	Any issues /grievence with respect to staff and students to be discusssed

Members Present:

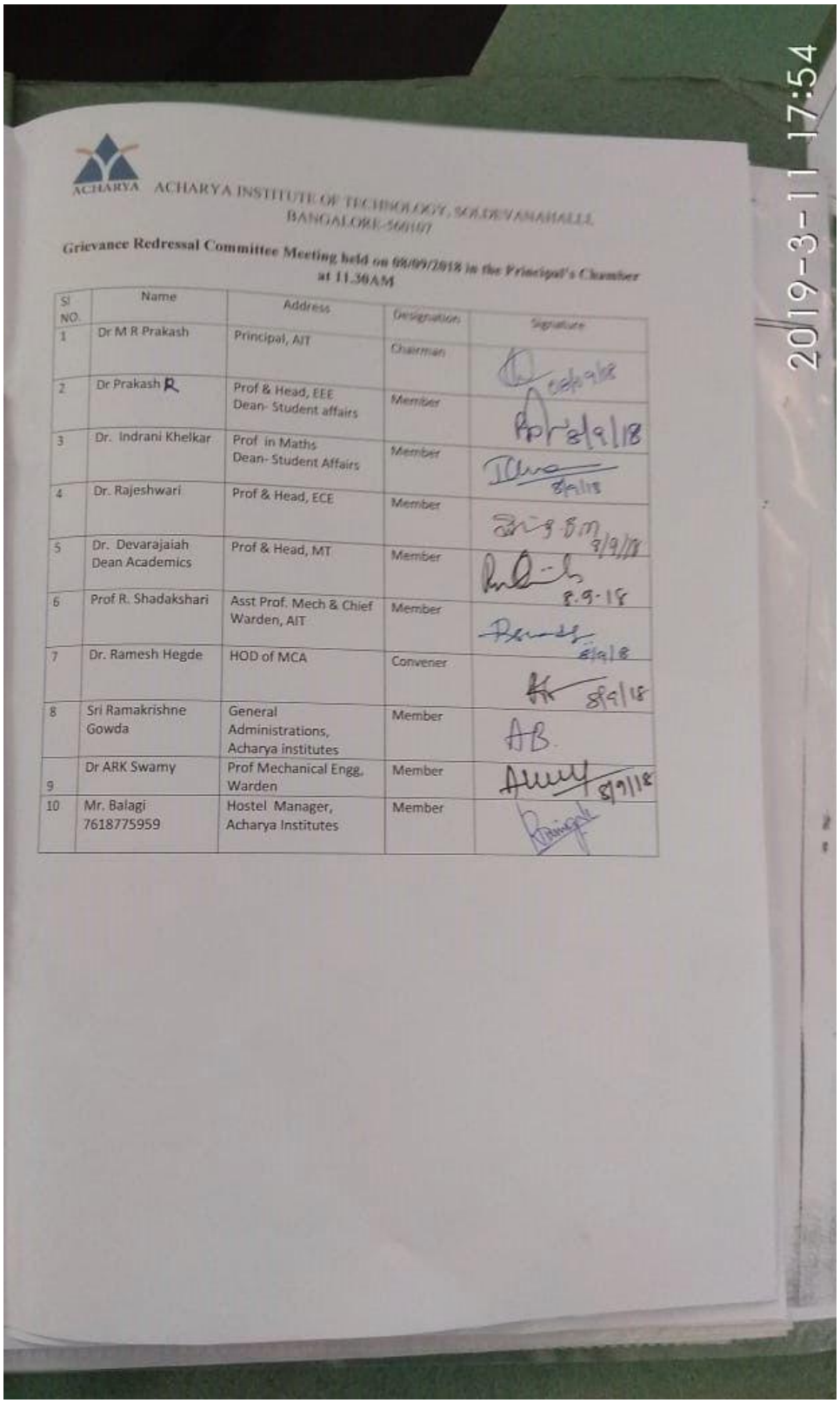
Sl NO.	Name	Address	Designation	Contact number & email address
1	Dr Prakash M R	Principal, AIT	Chairman	9448864740 principalait@acharya.ac.in
2	Dr Prakash R	Prof & Head, EEE	Member	9448694645 Hod-eee@acharya.ac.in
3	Dr Devarajaiah	Prof & Head, MT Dean- Academic	Member	9449680516 @acharya.ac.in
4	Dr. Rajeshwari	Prof & Head, ECE	Member	9449827287 Hod-ece@acharya.ac.in
5	Dr Indrani Pramod Khelkar	Prof Maths Dean Students affair	Member	9164685067 indranipramodk@acharya.ac.in
6	Dr. A R K Swamy	Prof , ME, Warden	Member	9035997163 Hod-mt@acharya.ac.in
7	Prof R. Shadakshari	Asst Prof. & Chief Warden, AIT	Member	9481242128 shadaksharir@acharya.ac.in
8	Dr. Ramesh Hegde	HOD of MCA & Chief Proctor, AIT	Convener	9900545520 rameshhegde@acharya.ac.in
9	Sri Ramakrishne Gowda	General Administrations, Acharya institutes	Member	9900197317 ramakrishnagowda@acharya.ac.in
10	Mr. Balagi	Hostel Manager, Acharya Institutes	Member	7618775959 hostelmanager@acharya.ac.in

Members Absent: Nill

Minutes of the meeting:

2019-3-11 17:54

Chairman welcomed all the members for the meeting



ACHARYA INSTITUTE OF TECHNOLOGY, SOLDEVANAHALLI, BANGALORE-560107

Grievance Redressal Committee Meeting held on 08/09/2018 in the Principal's Chamber at 11.30AM

Sl NO.	Name	Address	Designation	Signature
1	Dr M R Prakash	Principal, AIT	Chairman	
2	Dr Prakash R	Prof & Head, EEE Dean- Student affairs	Member	8/9/18
3	Dr. Indrani Khelkar	Prof in Maths Dean- Student Affairs	Member	8/9/18
4	Dr. Rajeshwari	Prof & Head, ECE	Member	8/9/18
5	Dr. Devarajaiah Dean Academics	Prof & Head, MT	Member	8.9.18
6	Prof R. Shadakshari	Asst Prof. Mech & Chief Warden, AIT	Member	8/9/18
7	Dr. Ramesh Hegde	HOD of MCA	Convener	8/9/18
8	Sri Ramakrishne Gowda	General Administrations, Acharya institutes	Member	AB.
9	Dr ARK Swamy	Prof Mechanical Engg. Warden	Member	8/9/18
10	Mr. Balagi 7618775959	Hostel Manager, Acharya Institutes	Member	

Acharya Institutes email

nagapushpa K.P. <nagapushpa@acharya.ac.in>

Regarding Women Cell meeting

1 message

nagapushpa K.P. <nagapushpa@acharya.ac.in> Sat, Mar 26, 2016 at 10:22 AM
To: uma warrier <warrier.uma@gmail.com>, hanumanthegowda@acharya.ac.in, varalakshmi@acharya.ac.in, gopinath@acharya.ac.in, renuka devi <renukadevi@acharya.ac.in>, darshini.becs.12@acharya.ac.in, pushpalatha.amca.14@acharya.ac.in
Cc: principalait acharya <principalait@acharya.ac.in>

Dear Members,

Warm Wishes to all .

Executive members are informed to attend the executive committee meeting scheduled at 2pm on Monday, 28th March 2016 at the principal Office

List of revised executive members is attached for your reference.

Agenda:

1 Review of previous meeting

2 Any Complaints received and action Taken

3 To plan the events for this academic semester

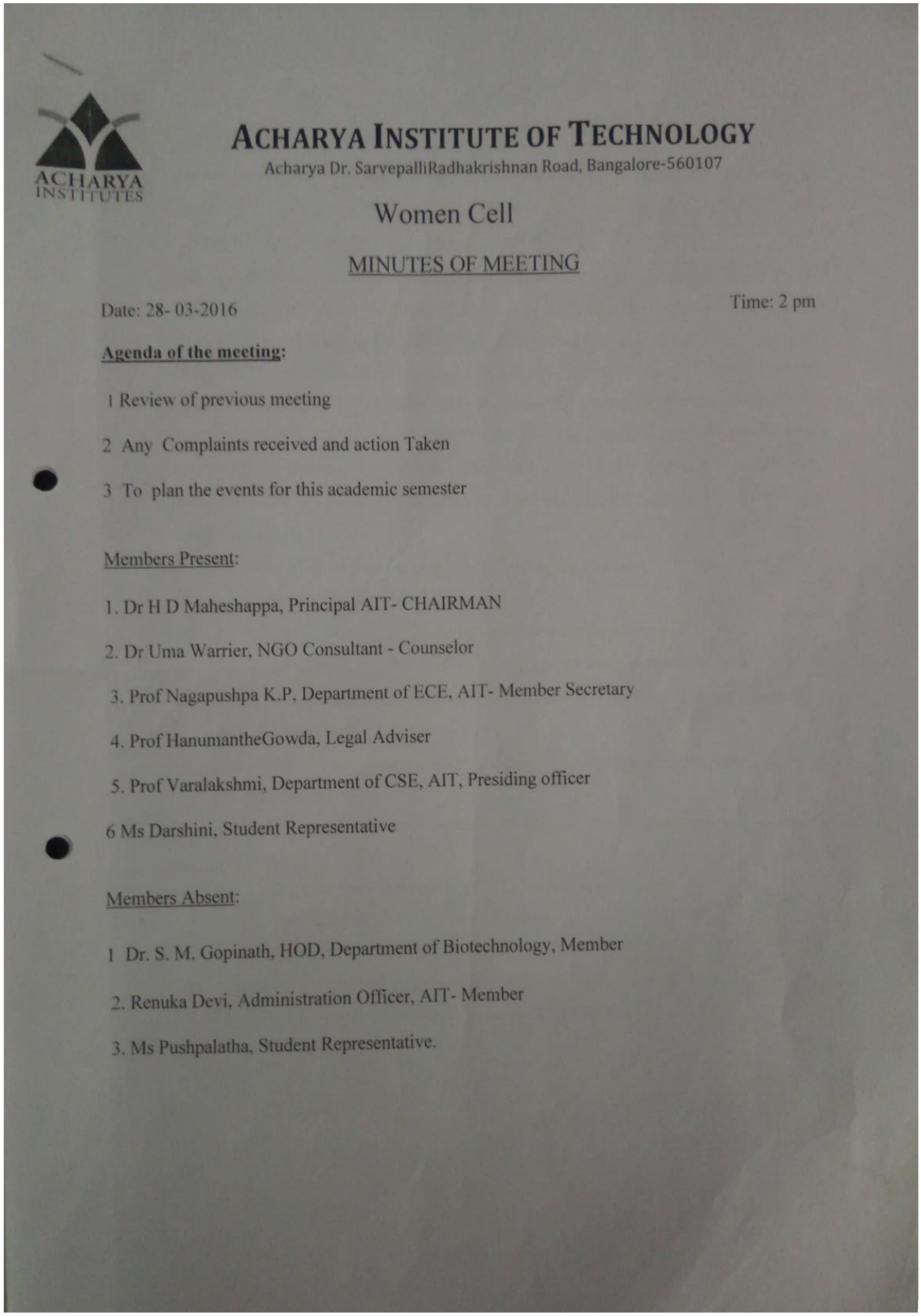
All are requested to the meeting .

Best Wishes and Regards,

--
ನಾಗಪುಷ್ಪ ಕೆ ಪಿ
Assistant Professor
Dept of ECE
Acharya institute of Technology, Bangalore
Mobile Number:9880850112

Hard work has no substitute, Work hard and achieve success"

Anti-Sexual Harrasment committee.xlsx
61K



ACHARYA INSTITUTE OF TECHNOLOGY

Acharya Dr. SarvepalliRadhakrishnan Road, Bangalore-560107

Women Cell

MINUTES OF MEETING

Date: 28- 03-2016 Time: 2 pm

Agenda of the meeting:

1 Review of previous meeting

2 Any Complaints received and action Taken

3 To plan the events for this academic semester

Members Present:

1. Dr H D Maheshappa, Principal AIT- CHAIRMAN
2. Dr Uma Warrier, NGO Consultant - Counselor
3. Prof Nagapushpa K.P, Department of ECE, AIT- Member Secretary
4. Prof HanumantheGowda, Legal Adviser
5. Prof Varalakshmi, Department of CSE, AIT, Presiding officer

6 Ms Darshini, Student Representative

Members Absent:

1 Dr. S. M. Gopinath, HOD, Department of Biotechnology, Member

2. Renuka Devi, Administration Officer, AIT- Member

3. Ms Pushpalatha, Student Representative.

Proceedings of the meeting:

The Chairman welcomed all the Executive members for the Women Cell meeting and reviewed on previous discussions. Chairman briefed about the resolutions of women cell held on 27/2/15 to all the Executive members which includes the following:

It was decided to conduct three activities per semester covering scope and objectives of the women cell and only poster presentation activity was conducted. The Poster Competition was held on 14-3-15 and the theme was EMPOWERED WOMEN FROM INDIA from the field of Politics, Government or Private Corporations, Sports, Arts, Media, Medicine, Science, Literature, Ordinary Women Doing Extraordinary things to make small positive differences, Social Workers and any other field. There was a good response from the students as well as faculty members. He also brought to the notice of the members that some of the works are pending and expected to be conducted as per the schedule. Following are the points discussed/ brought out in this meeting

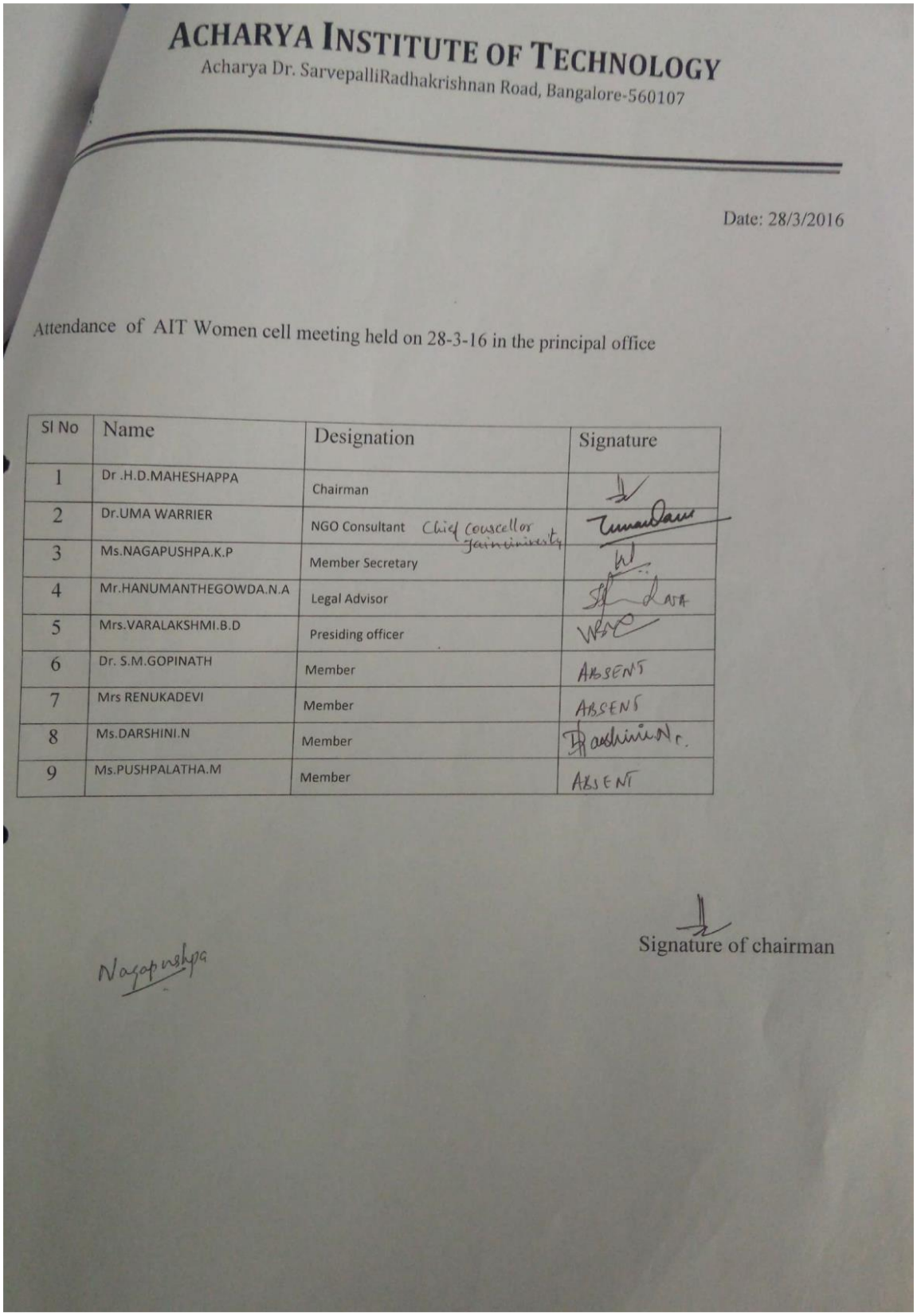
Dr Uma Warrier, Chief counselor gave the following suggestions:

- Strengthen the work force of women cell
- To conduct documentary shows on issues concerning women
- To Tie up with NGOs, and carry out activities for women strengthening.
- To tie up with the nearby hospitals and to organize workshops that are concerned with the women related issues.
- Identify the women cell by having separate logo ,name and e- brochure for better visibility and publicity
- To Constitute two wings of women cell each of them having separate committee members
    - Regulatory and statutory body – To Look after Grievances
    - Women Association- To Conducts activities
- To conduct Guest lectures for students
- A Template for reporting the complaints to be made available for the members
- To organize a walkathon for the social cause of the women

Nagapushpa

Signature of Member Secretary

Signature of Chairman



ACHARYA INSTITUTE OF TECHNOLOGY

Acharya Dr. SarvepalliRadhakrishnan Road, Bangalore-560107

Date: 28/3/2016

Attendance of AIT Women cell meeting held on 28-3-16 in the principal office

Sl No	Name	Designation	Signature
1	Dr .H.D.MAHESHAPPA	Chairman	
2	Dr.UMA WARRIER	NGO Consultant Chief Councellor Jain University	
3	Ms.NAGAPUSHPA.K.P	Member Secretary	
4	Mr.HANUMANTHEGOWDA.N.A	Legal Advisor	
5	Mrs.VARALAKSHMI.B.D	Presiding officer	
6	Dr. S.M.GOPINATH	Member	ABSENT
7	Mrs RENUKADEVI	Member	ABSENT
8	Ms.DARSHINI.N	Member	
9	Ms.PUSHPALATHA.M	Member	ABSENT

Signature of chairman

Nagapushpa