WELCOME

TO

CHAIRMAN & MEMBERS OF
NAAC Peer Team

18-19 March, 2024

Dr. P. Srikanth
Professor & Head
DEPARTMENT OF MECHANICAL ENGINEERING
KITS, WARANGAL

Outline

- Vision & Mission
- Programs Offered & Accreditation Status
- 1. Curricular Aspects
- 2. Teaching-Learning and Evaluation
- 3. Research, Innovations and Extension
- 4. Infrastructure and Learning Resources
- 5. Student Support & Progression
- 6. Governance, Leadership and Management
- 7. Departmental values and Best Practices

Vision & Mission

VISION OF THE DEPARTMENT

To be a centre of excellence in Mechanical Engineering, to provide the best teaching-learning and research environment, to produce high quality professionals and entrepreneurs to cater the needs of society.

MISSION OF DEPARTMENT

M1: To impart quality education that builds strong ethical attitude, technical knowledge and professional skills by providing congenial teaching-learning environment.

M2: To nurture the reasoning, problem solving and research capabilities of learners by providing the state-of–the-art facilities, to meet the changing needs of society.

M3: To inculcate life-long learning and leadership traits for successful professional careers, by counseling and mentoring.

Department of Mechanical Engineering

Programmes offered:

S. No	Programme	Year	Specialization	Intake
1	B. Tech	1980	Mechanical Engineering	120
2	M.Tech	2004	Design Engineering	24
3	Ph. D	2007	Mechanical Engineering	33 (27+6*) *Awarded

Accreditation status

S. No	Programme	Year of Accreditation (NBA)	Date
1	B. Tech	2001	2001 (*3 Years w.e.f. 9.11.2001*)
2	B. Tech	2006	2006 (*3 Years w.e.f. 27.07.2006*)
3	B. Tech	2011	2011 (*3 Years w.e.f. 16.09.2011*)
4	B. Tech	2016	2016 (*3 Years w.e.f. 01.07.2016*)
5	B. Tech	2019 (Tier-I)	2019 (*3 Years w.e.f. 20.11.2019*)
6	B. Tech	2022 (Tier-I)	2022 (*3 Years w.e.f. 15.06.2022*)
7	M. Tech (DE)	2023 (Tier-I)	2023 (*3 Years w.e.f. 30.11.2023*)

B. Tech (Mechanical Engineering) PROGRAM OUTCOMES (POs) PROGRAM SPECIFIC OUTCOMES (PSOs)

PROGRAM OUTCOMES		At the time of graduation, the MECHANICAL ENGINEERING graduates will be able to …
PO1	Engineering knowledge	apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems
PO2	Problem analysis	identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
PO3	Design/development of solutions	design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental Considerations
PO4	Conduct investigations of complex problems	use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions
PO5	Modern tool usage	create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO6	The engineer and society	apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice

Contd..

PO7	**Environment and sustainability**	understand the impact of the professional engineering solutions in societal and environmental contexts, demonstrate the knowledge of, and need for sustainable development
PO8	**Ethics**	apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice
PO9	**Individual and team work**	function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
PO10	**Communication**	communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
PO11	**Project management and finance**	demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
PO12	**Life-long learning**	recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change
PROGRAM SPECIFIC OUTCOMES (PSOs):		
PSO1		apply learned principles and knowledge in various applications of materials, design, thermal, production and industrial engineering.
PSO2		model, analyze, design, develop and implement advanced mechanical systems or processes.

M. Tech (Design Engineering) PROGRAM OUTCOMES (POs) PROGRAM SPECIFIC OUTCOMES (PSOs)

PROGRAM OUTCOMES (POs)	
PO1	An ability to independently carry out research /investigation and development work to solve practical problems.
PO2	An ability to write and present a substantial technical report/document.
PO3	Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Recognize the engineering problems and develop solutions in the area of design engineering

PSO2: Carry out the survey, examine the obtained data and apply various models, tools as well as techniques to solve complex problems in design engineering.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

B. Tech (Mechanical Engineering)

PEO		**Within first few years after graduation**, the **MECHANICAL ENGINEERING** graduates will be able to …
PEO1	*Technical Expertise (Capability)*	*apply a broad understanding of mechanical engineering, as well as concepts from mathematics, science, communication and computing, to solve specific problems in industry and associated engineering fields.*
PEO2	*Successful Career (Distinctiveness)*	*demonstrate distinctiveness, professional ethics, integrity and innovation in their chosen profession and work well as individuals and in teams to achieve sustainable development in diverse fields.*
PEO3	*Lifelong learning (Leadership)*	*adapt to a constantly changing field by pursuing higher education, professional development, and self-study in order to contribute to society's well-being.*

M. Tech (Design Engineering)

The postgraduates of DESIGN ENGINEERING will be able to…		
PEO1	*(Research and Innovation)*	*engage in research, innovation and in teaching in Higher Education institutions*
PEO2	*(Technical expertise and Successful career)*	*excel in profession in industry, and entrepreneurship with updated technologies in the domain of design engineering*
PEO3	*(Soft skills and Lifelong learning)*	*exhibit professional ethics, effective communication and teamwork in solving engineering problems by adapting contemporary research towards sustainable development of society*

Department of Mechanical Engineering


HoD

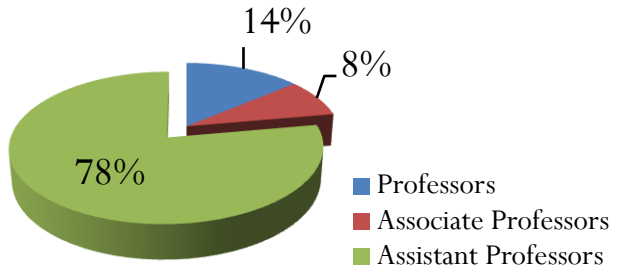
Head of the Department (HoD) : Dr. P. Srikanth, *Professor & Head*

Academic Coordinator (AC) : Dr. U. Shrinivas Balraj, *Professor*

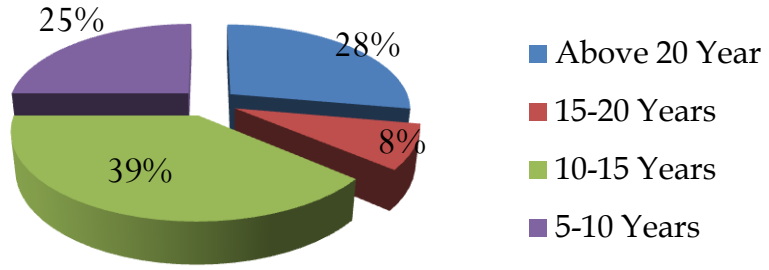

AC

STRENGTH OF THE FACULTY & STAFF 2023-24

Professors	05
Associate Professors	03
Assistant Professors	28
No. of technical & supporting staff:	09
Total Faculty & Staff	**45**



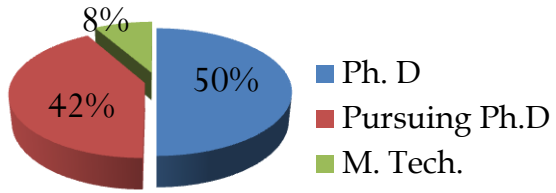
Faculty Experience



Average Experience of the Faculty: 15 Years

QUALIFICATIONS OF THE FACULTY

Ph. D	18
Pursuing Ph.D	15
M. Tech.	03
Faculty Guiding Ph. D	06



FACULTY DEGREES

	UG	PG	Ph. D
Overseas Universities	-	01	-
IITs	-	02	02
NITs	01	09	07
State Universities	35	24	09
Total	**36**	**36**	**18**

Faculty with Industrial/Research background-09

Department of Mechanical Engineering

List of Laboratories & Equipment Cost

DEPARTMENT OF MECHANICAL ENGINEERING Laboratory Equipment Cost		
S. No.	Name of The Laboratory	Total Cost (Rs.)
1	Workshop & Manufacturing Process	16,01,368/-
2	Material Science & Metallurgy	7,48,391/-
3	MCAD	57,66,684/-
4	Metrology	3,87,576/-
5	Fuels and IC Engines	28,55,338/-
6	Machine Shop	21,67,075/-
7	Heat Transfer	5,40,000/-
8	Dynamics of Machinery	4,70,718/-
9	Energy Engineering	7,21,247/-
10	Computer Integrated Manufacturing	27,52,459/-
11	Mechanical Research	17,73,553/-
12	Additive Manufacturing	1,76,000/-
13	Composite Materials	14,99,770 /-
	Total Cost Rs.	2,14,60,179/-

List of Software's

S. No.	Name of the Software	No. of Users	Cost (Rs)
1	ANSYS 2019R3- Academic Teaching Mechanical & CFD	75	12,09,500/-
2	ANSYS CFD Research Software Version-19	01 (Unlimited Nodes)	5,01,500/-
3	ANSYS 14.0	25	3,50,000/-
4	CREO ELEMENTS 2.0	30	3,79,954/-
5	MATLAB Math Works Campus wide suite	Unlimited	68,114/- (Dept. Shared Amount)
6	Microsoft 365 A3 for Faculty	-	55,000/-
7	Campus-wide cloud hosted smart IT labs Teaching Platform online site (Codetantra)	38	11,000/-
8	Turnitin Similarity & Originality	Unlimited	62,880/- (Dept. Shared Amount)
		Total Cost Rs.	26,37,948/-

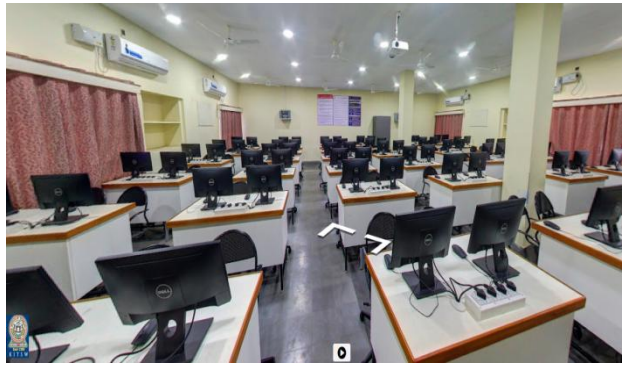
Department of Mechanical Engineering

Research & Education Centers

1. Design, Analysis and Simulation

About the Center:

The Design, Analysis, and Simulation Lab in Mechanical Engineering serves as a critical research facility for advancing design methodologies, conducting in-depth analysis, and simulating complex mechanical systems. It facilitates exploration of innovative design concepts, leveraging advanced software tools for modeling and simulation to optimize performance parameters such as structural integrity, thermal behavior, and fluid dynamics. Through interdisciplinary collaboration, the lab addresses real-world engineering challenges spanning fields like renewable energy, automotive engineering, and aerospace technologies. Its research endeavors not only enhance understanding of mechanical phenomena but also drive innovation, fostering the development of cutting-edge solutions to meet evolving societal and industrial needs. Moreover, the lab provides valuable educational resources and training opportunities, nurturing the next generation of mechanical engineers equipped with advanced design and analysis skills.



S. No.	Major Software	No. of Users	Cost in Lakhs
1	ANSYS 2019R3	75	12.095
2	MATLAB	74	0.68114 (Dept. Shared amount)

Total Cost of Equipment: 57,66,684 /-

2. COMPOSITE MATERIALS

About the Center:

The Composite Materials Lab, a pivotal addition to our Research Center, embodies our commitment to cutting-edge research and innovation. With the escalating demand for lightweight, durable materials, composites stand at the forefront of modern engineering. This introduction encapsulates our dedication to advancing knowledge, fostering interdisciplinary collaboration, and addressing contemporary challenges across industries. By providing state-of-the-art facilities and promoting industry partnerships, the lab aims to drive innovation, nurture talent, and facilitate the seamless translation of research into practical applications. Our endeavors in composite materials science and engineering herald a new era of technological advancement and transformative solutions for a dynamic world.

Total Cost of Equipment: 14,99,770/-

Universal testing machine
(3TON load capacity, computerized operation)

Pin on disc machine

Izod/ Charpy impact tester

Department of Mechanical Engineering

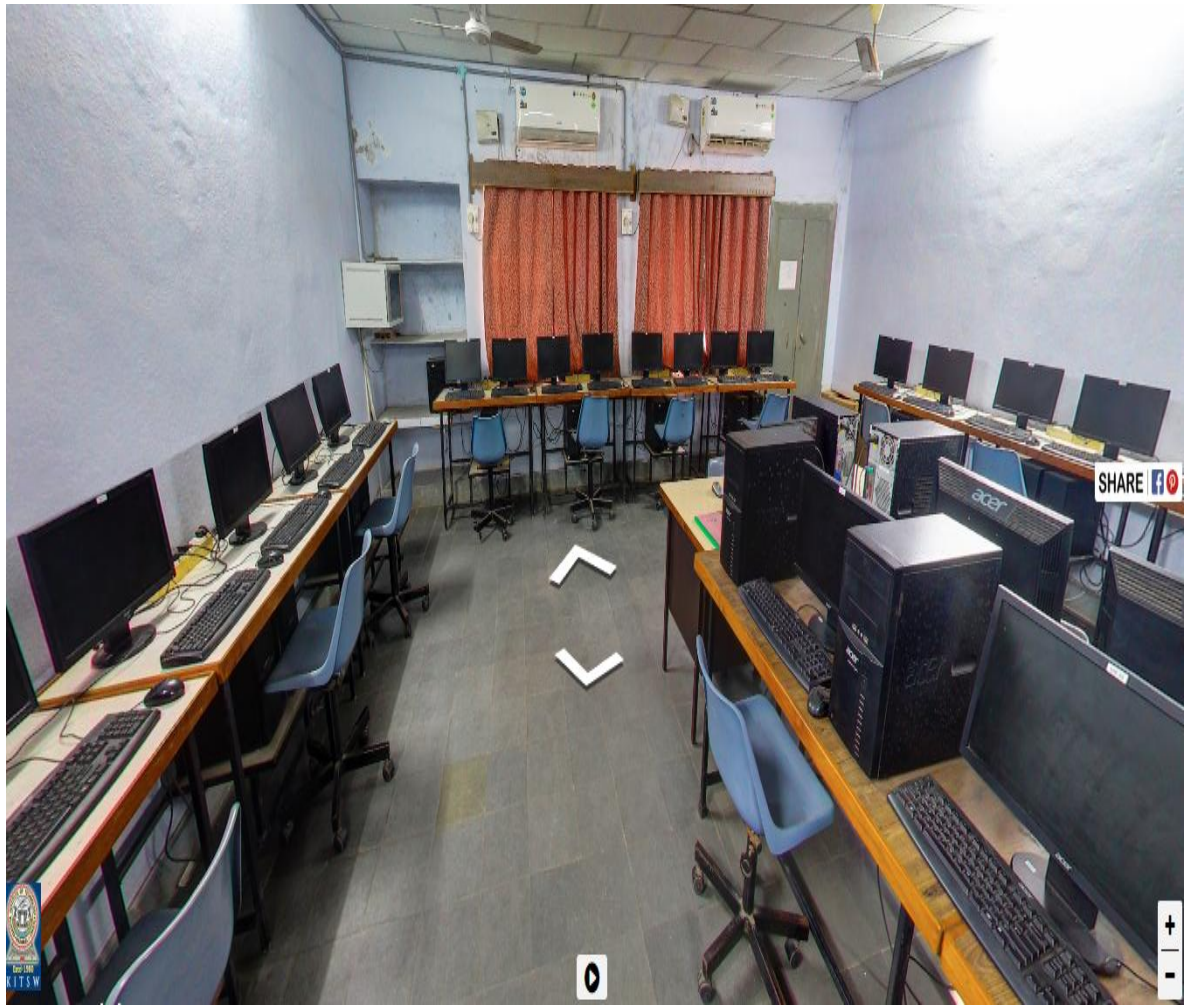
PG Research Laboratory

About the Center:

Mechanical Research (MR) laboratory is provided for carrying out research work with about 40 systems. All the systems are installed with software's like CREO 2.0, ANSYS and AutoCAD. UG, PG and research scholars, utilize this Mechanical Research laboratory for carrying out their research and for preparing reports for the Seminar, mini project and major project works or dissertation work. Mechanical Research laboratory is open to all the department faculty and students beyond class hours.

S. No.	Major Software	No. of Users	Cost Rs. in Lakhs
1.	ANSYS 14.0	25	3.5
2.	CREO	30	3.8

Total Cost of the equipment: **Rs. 17,73,553/-**



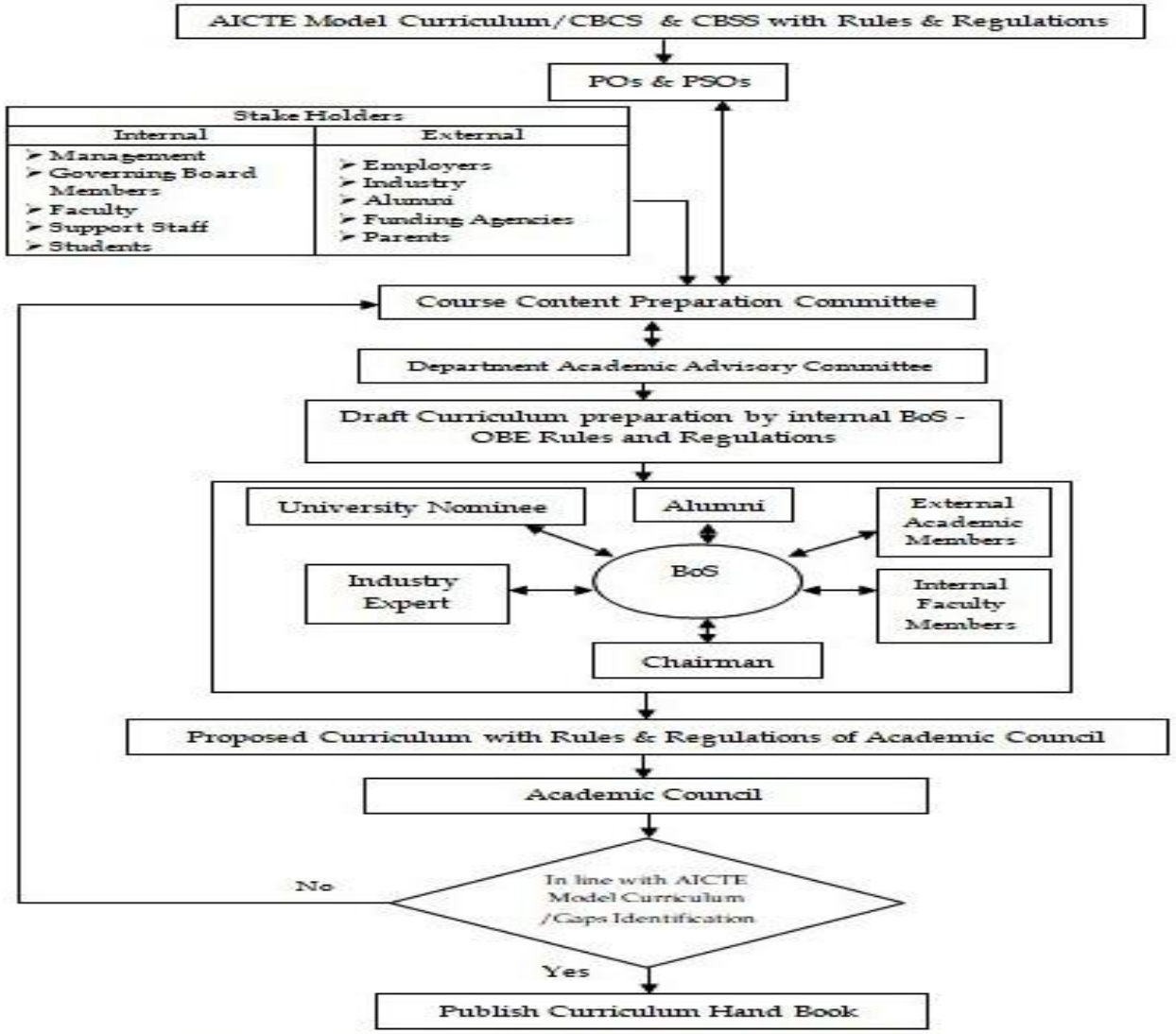
Criterion 1 - Curricular Aspects

Curricula is developed and revised on regular basis, based on inputs from the following:

1. Feedback from stakeholders - to meet local requirements
2. Inputs from industry experts (In & abroad) - to meet industry & global developmental needs
3. Suggestions from academicians of reputed institutions - to meet regional & global need

Components in Curriculum:

- Science Component
- Humanities & Social Science
- Professional Core
- Breadth Component
- Electives - Professional & Open electives
- Internship
- Mandatory & Audit courses
- Project work & Seminar

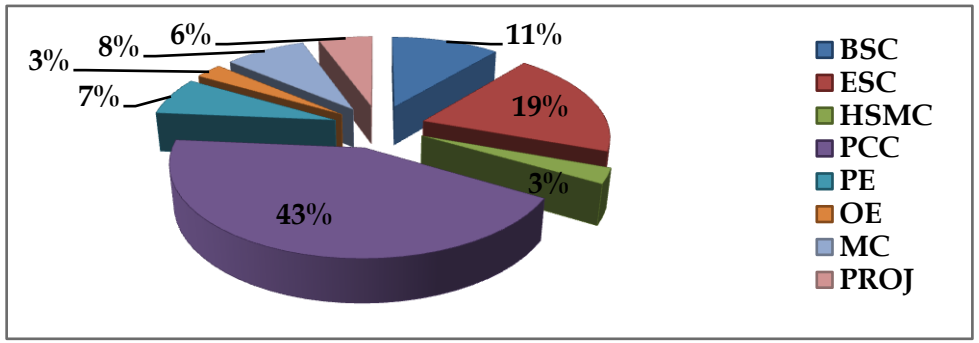


Process for Designing the Program Curriculum

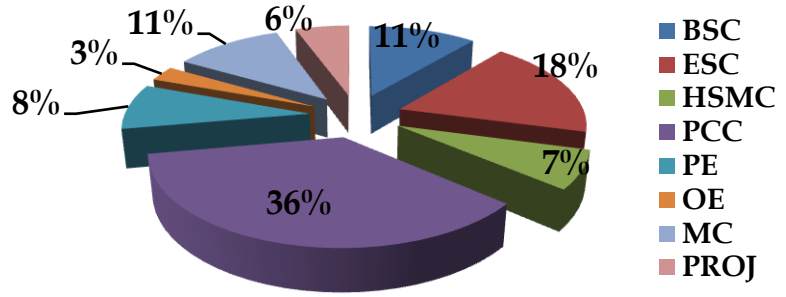
Department of Mechanical Engineering

Semester	B. Tech (Mechanical Engineering)-URR18 No. of Courses / No. of Credits (course category wise)									
	BSC	ESC	HSMC	PCC	PE	OE	MC	PROJ	B.Tech Programme Total	*B.Tech (Honours / Minor) Programme*
I	3/9	5/10	1/3	-	-	-	2/0	-	11/22	*Additional 20 credits through 8 courses out of the list of courses prescribed under Honours/Minor curricula*
II	3/9	4/12	-	-	-	-	2/0	-	9/21	
III	1/4	2/4	1/1	5/13	-	-	1/0	-	10/22	
IV	1/4	-	1/1	7/18	-	-	1/0	-	10/23	
V	-	2/4	1/1	5/11	1/3	-	-	1/1	10/20	
VI	-	-	-	6/12	1/3	1/3	1/0	1/1	10/19	
VII	-	-	1/3	3/5	2/6	-	1/0	1/3	8/17	
VIII	-	-	-	-	2/6	1/3	-	1/7	4/16	
Total:	8/26	13/30	5/9	26/59	6/18	2/6	8/0	4/12	72/160	*(72+8) / (160+20)*
% Weightage of course category	16.25% (26/160)	18.75% (30/160)	5.6% (9/160)	36.88% (59/160)	11.25% (18/160)	3.75% (6/160)	0% (0/160)	7.5% (12/160)	100% (160/160)*	-

URR-14 *(w.e.f. 2014-15)*



URR-18 *(w.e.f. 2018-19)*

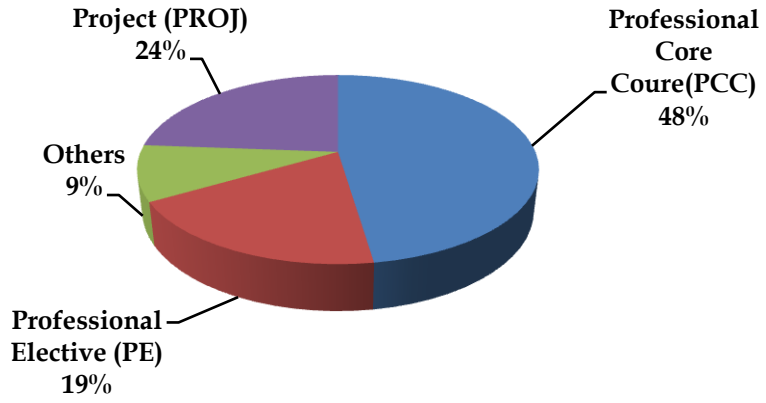


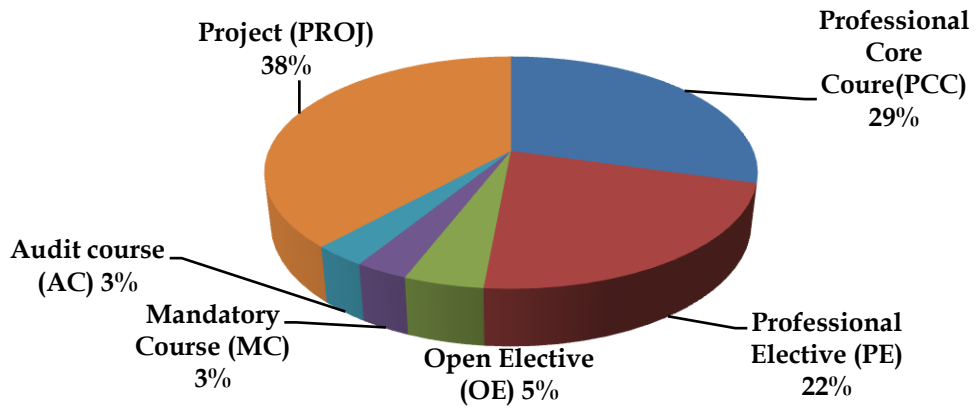
Department of Mechanical Engineering

Semester	M. Tech (Design Engineering)-PRR-20 Scheme No. of Courses / No. of Credits (course category wise)						
	MC	PC	PE	OE	PROJ	AC	TOTAL
I	1/2	4/10	2/6	-	-	1/1	8/19
II	-	4/10	2/6	-	1/2	1/1	8/19
III	-	-	1/3	1/3	2/9	-	4/15
IV	-	-	-	-	1/15	-	1/15
Total	1/2	8/20	5/15	1/3	4/26	2/2	21/68
% Weightage of Course Category	2.94 % (2/68)	29.41 % (20/68)	22.05 % (15/68)	4.41 % (3/68)	38.23 % (26/68)	2.94 % (2/68)	100 % (68/68)#

**MC: Mandatory course *PC : Professional Core *PE: Professional Elective *OE: Open elective *AC: Audit course*

PRR-14 (w.e.f. 2014-15)	PRR-20 (w.e.f. 2020-21)
Total Courses: 33 New Courses Added: 10	Total Courses: 43 New Courses Added: 22





Curricula Summary: (for period 2018-19 to 2022-23)

Program Name	No. of courses offered	New courses introduced	Value added courses
B. Tech (Mechanical Engineering)	72	02	14
M. Tech (Design Engineering)	43	22	05

Criterion 2 - Teaching-learning and Evaluation

Teaching-Learning Processes

The academic activities of the college are regulated by the Institute Academic Advisory Committee (AAC) consisting of all the Heads of the Departments & Deans with Principal as its Chairperson.

Activities of Teaching & Learning process

- Timely preparation of lecture schedules and uploading in CourseWeb before the commencement of class work.
- Preparation of Table of Specifications (ToS)
- Course Committee Meetings (CCM)
- Tutorials and Assignments
- Evaluation of Assignments
- Minor Examinations
- Identifying the weak learners in the class and arranging Remedial Classes to them.
- Monitoring Attendance
- Information to the parents regarding attendance and academic performance through Counselors
- Online Feed back
- Class Review Committee Meetings
- Mid Semester Examinations
- Result Analysis-Cognitive Domain Attainment Level (CDAL), Course Outcome Attainment Level (COAL)
- End semester Examinations

Contd….

- Planned laboratory work
- Continuous Evaluation in laboratory classes
- Question paper setting is according to ToS and revised Blooms taxonomy.
- Integrating innovation incubation Research and Entrepreneurship (i^2RE) into course teaching
- Special assignments on Course Research Papers (CRP) and Course Patents (CP)
- Class room Discussion Topics (CDTs) and Self Learning Topics (SLTs)
- Course Introduction Video (CIV)
- Outcome Based Lecture Schedule (OBLS)
- Tutorial Classes
- Course research projects / Poster presentation
- MOOCs online courses
- Course web page is introduced for posting Course related information.
- Mandatory Internships and Evaluation

Programmes conducted to cater to differential learning needs of the students:

For Slow learners:

- Remedial Classes, Tutorials, Class Discussion Materials

For active learners:

- Course Patent papers and Course Research Papers : 89
- Project to paper publications : 88
- MOOCs certifications : 272
- Honors degree : 01
- Minor degree : 02
- Participation in hackathons : 10

Effective Mentor-Mentee (Counselor-Counselee) System

Every Faculty is assigned with 4 to 5 counselee students from their first year admission till completion of their program.

Procedure -

- Counsel the students every week during Meet Your Counselor (MYC) slot
- The faculty member who acts as counsellor maintains a Counseling record book for each counselee in which personal details of the students including their address, contact numbers, overall academic performance and progress is regularly updated.
- Monitor the attendance and marks in College Management Software (CMS), counsel, guide, and motivate the students in all academic matters in continuos consultation with paretnts.

CO-PO Attainment Calculation

Attainment of Course Outcome

Assessment Process Used

- Minor Examination
- Special Assignments
- Mid Semester Examination
- End Semester Examination
- Seminars
- Project Presentations
- Laboratory courses

Tools for assessment of programme outcomes

- Direct Assessment
- Indirect Assessment

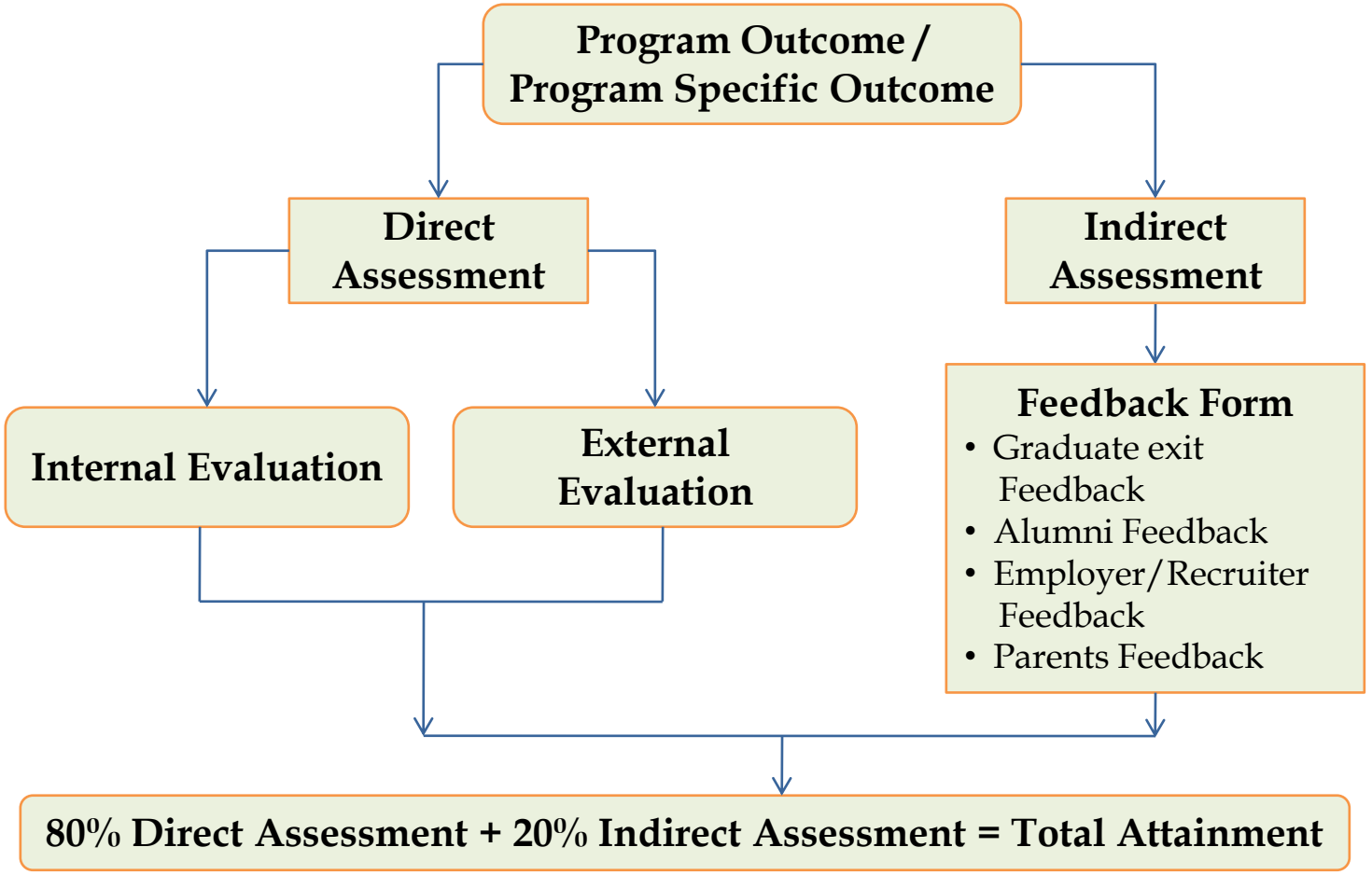
Direct Assessment Tools

- Sessional evaluation
- External evaluation
- Laboratory Course
- Continuous Internal Evaluation (CIE) for Project Work:

Indirect Assessment Tools

- Graduate Exit Feedback
- Alumni feedback
- Employer feedback
- Parents feedback

Process of Attaining of POs & PSOs



Calculation Methodology for Attainment Levels

DIRECT ATTAINMENT-STUDENTS PERFORMANCE

CALCULATION METHODOLOGY FOR ATTAINMENT LEVELS

1. List out the internal and external marks of all the students
2. Calculate the average of the total students marks.
3. Identify the threshold value (Th=50% of the Maximum Marks)
4. List out the number of students who secured greater than the threshold value (Th=50% of the Maximum Marks) (A)
5. Total No. of Students (B)

Percentage of students secured greater than threshold is calculated by C:

$$C = [(A/B) \times 100] \%$$

DIRECT ATTAINMENT-STUDENTS PERFORMANCE

Based on above value (C) the attainments are obtained as below:

- Attainment Level 0: less than 60% students scoring less than threshold marks or set attainment level in the final examination.
- Attainment Level 1: 60% students scoring more than threshold marks or set attainment level in the final examination.
- Attainment Level 2: 70% students scoring more than threshold marks or set attainment level in the final examination.
- Attainment Level 3: 80% students scoring more than threshold marks or set attainment level in the final examination

Indirect methods

S. No.	Indirect Assessment	Method Description
1.	Alumni: Survey Questionnaire	Collect the data (information) about program Satisfaction and college from the Alumni students.
2.	Exit Feedback: Survey Questionnaire	Collect the data (information) about program Satisfaction and college from the final year students.
3.	Parent: Survey Questionnaire	Collect the data (information) about program satisfaction and college from parents.
4.	Employer's Feedback Form	Collect the data (information) about the graduates skills, capabilities and opportunities.

Attainment of Course Outcomes- B. Tech (ME)

Direct and Indirect Assessment for the 2019-23 Batch

Attainment Levels		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course Attainment levels (Target level)	2019-223	1.86	1.62	1.50	1.37	1.40	1.29	1.36	1.59	1.44	1.23	1.42	1.23	1.53	1.17
Direct attainment level (80 % of calculated attainment levels)		1.49	1.30	1.20	1.10	1.12	1.03	1.09	1.28	1.15	0.99	1.14	0.99	1.22	0.93
Indirect attainment level (20 % of feedback attainment levels)		0.49	0.43	0.43	0.42	0.45	0.45	0.42	0.45	0.44	0.42	0.44	0.41	0.44	0.43
Total attainment level		**1.98**	**1.73**	**1.64**	**1.51**	**1.57**	**1.48**	**1.51**	**1.72**	**1.59**	**1.41**	**1.58**	**1.39**	**1.67**	**1.36**

Direct and Indirect Assessment for the 2018-22 Batch

Attainment Levels		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course Attainment levels (Target level)	2018-22	1.98	1.68	1.58	1.41	1.48	1.27	1.32	1.58	1.51	1.24	1.65	1.24	1.55	1.19
Direct attainment level (80 % of calculated attainment levels)		1.20	1.03	1.00	0.90	0.93	0.81	0.88	1.18	1.03	0.85	1.04	0.82	0.96	0.77
Indirect attainment level (20 % of feedback attainment levels)		0.45	0.39	0.39	0.40	0.41	0.39	0.39	0.38	0.42	0.39	0.39	0.42	0.46	0.39
Total attainment level		**1.65**	**1.42**	**1.39**	**1.30**	**1.34**	**1.20**	**1.27**	**1.56**	**1.45**	**1.24**	**1.43**	**1.24**	**1.42**	**1.16**

Contd....

Direct and Indirect Assessment for the 2017-21 Batch

Attainment Levels		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course Attainment levels (Target level)	2017-21	2.31	2.03	1.92	1.76	1.67	1.43	1.49	1.30	1.80	1.35	1.65	1.43	1.83	1.55
Direct attainment level (80 % of calculated attainment levels)		1.46	1.28	1.18	1.14	1.14	0.95	1.02	0.95	1.32	0.88	1.15	0.94	1.17	1.01
Indirect attainment level (20 % of feedback attainment levels)		0.48	0.52	0.44	0.42	0.40	0.40	0.42	0.48	0.54	0.40	0.54	0.40	0.52	0.40
Total attainment level		1.95	1.80	1.62	1.57	1.55	1.35	1.44	1.43	1.86	1.28	1.69	1.34	1.69	1.41

Direct and Indirect Assessment for the 2016-20 Batch

Attainment Levels		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course Attainment levels (Target level)	2016-20	2.10	1.84	1.66	1.53	1.58	1.38	1.42	1.43	1.65	1.41	1.82	1.28	1.55	1.22
Direct attainment level (80 % of calculated attainment levels)		1.21	1.03	0.94	0.88	0.91	0.74	0.78	0.75	0.98	0.82	0.95	0.79	0.91	0.74
Indirect attainment level (20 % of feedback attainment levels)		0.24	0.21	0.19	0.18	0.18	0.15	0.16	0.15	0.20	0.16	0.19	0.16	0.18	0.15
Total attainment level		1.45	1.24	1.13	1.06	1.09	0.89	0.94	0.90	1.17	0.98	1.14	0.94	1.10	0.89

Contd....

Direct and Indirect Assessment for the 2015-19 Batch

Attainment Levels		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course Attainment levels (Target level)	2015-19	2.10	1.86	1.66	1.54	1.61	1.46	1.40	1.48	1.68	1.40	1.84	1.31	1.46	1.18
Direct attainment level (80 % of calculated attainment levels)		1.19	1.04	0.97	0.95	0.92	0.89	0.88	0.92	1.13	0.91	1.16	0.82	0.82	0.68
Indirect attainment level (20 % of feedback attainment levels)		0.50	0.49	0.46	0.45	0.48	0.47	0.48	0.49	0.52	0.49	0.49	0.48	0.53	0.49
Total attainment level		1.70	1.53	1.43	1.40	1.32	1.36	1.36	1.41	1.65	1.39	1.65	1.30	1.35	1.17

Attainment of Course Outcomes- M. Tech (DE)

Attainment POs and PSOs (Batches of 2021-23, 2020-22, 2019-21, 2018-20 & 2017-19)

Direct and Indirect Assessment for the 2021-23 Batch

	POs / Year	Attainment Levels				
		PO1	PO2	PO3	PSO1	PSO2
Course Attainment levels (Target level)	2021-23	1.88	1.41	1.86	1.83	1.24
DIRECT ASSESSMENT (80% of average PO)		1.26	0.99	1.22	1.18	0.84
INDIRECT ASSESSMENT (20 % of average PO)		0.50	0.40	0.40	0.48	0.36
TOTAL ASSESSMENT (100 % of average PO)		1.76	1.39	1.61	1.66	1.20

Direct and Indirect Assessment for the 2020-22 Batch

	POs / Year	Attainment Levels				
		PO1	PO2	PO3	PSO1	PSO2
Course Attainment levels (Target level)	2020-22	1.88	1.41	1.86	1.83	1.24
DIRECT ASSESSMENT (80% of average PO)		1.27	0.98	1.2	1.17	0.85
INDIRECT ASSESSMENT (20 % of average PO)		0.31	0.24	0.3	0.3	0.21
TOTAL ASSESSMENT (100 % of average PO)		**1.58**	**1.22**	**1.5**	**1.47**	**1.06**

Direct and Indirect Assessment for the 2019-21 Batch

	POs / Year	Attainment Levels				
		PO1	PO2	PO3	PSO1	PSO2
Course Attainment levels (Target level)	2019-21	1.95	1.67	1.67	2.05	1.62
DIRECT ASSESSMENT (80% of average PO)		1.41	1.25	1.24	1.50	1.22
INDIRECT ASSESSMENT (20 % of average PO)		0.49	0.40	0.40	0.49	0.36
TOTAL ASSESSMENT (100 % of average PO)		1.90	1.65	1.64	2.00	1.58

Contd....

Direct and Indirect Assessment for the 2018-20 Batch

	POs / Year	Attainment Levels				
		PO1	PO2	PO3	PSO1	PSO2
Course Attainment levels (Target level)	2018-20	2.00	1.67	1.71	2.10	1.62
DIRECT ASSESSMENT (80% of average PO)		1.18	1.04	1.02	1.24	1.01
INDIRECT ASSESSMENT (20 % of average PO)		0.55	0.54	0.53	0.55	0.49
TOTAL ASSESSMENT (100 % of average PO)		1.73	1.58	1.55	1.79	1.51

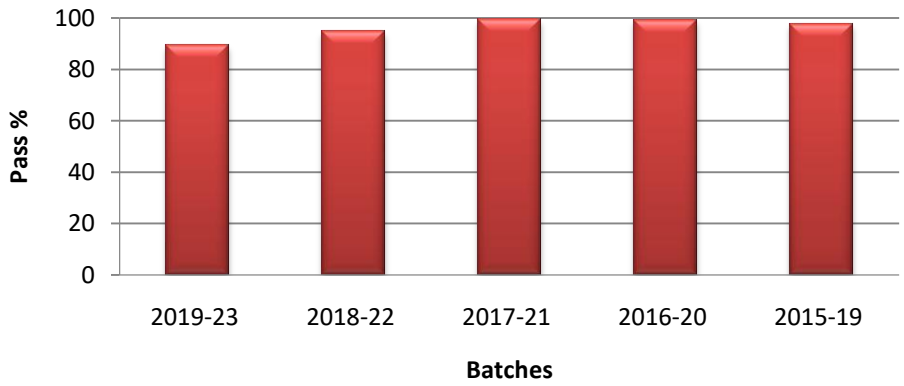
Direct and Indirect Assessment for the 2017-19 Batch

	POs / Year	Attainment Levels				
		PO1	PO2	PO3	PSO1	PSO2
Course Attainment levels (Target level)	2017-19	2.00	1.67	1.71	2.10	1.62
DIRECT ASSESSMENT (80% of average PO)		1.27	1.14	1.06	1.34	1.11
INDIRECT ASSESSMENT (20 % of average PO)		0.50	0.48	0.49	0.49	0.46
TOTAL ASSESSMENT (100 % of average PO)		1.77	1.62	1.55	1.84	1.57

Pass percentage of students in UG & PG last 5 years

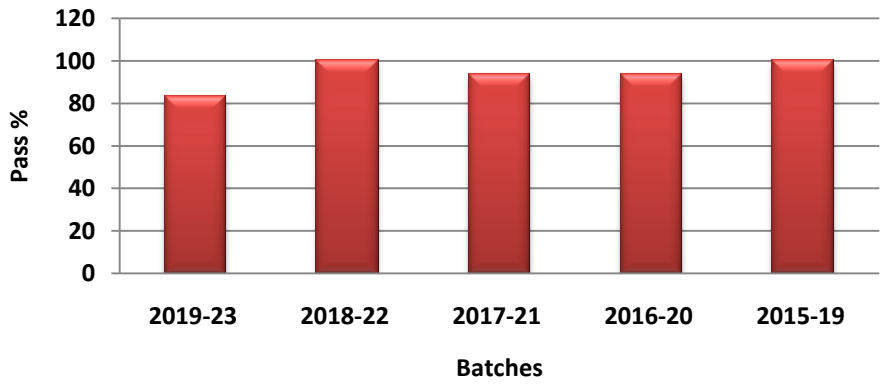
B. Tech (Mechanical Engineering)

S. No.	Academic Year	Batch	No. of Students appeared	No. of Students passed	Pass Percentage (%)
1.	2022-23	2019-23	169	151	89.35
2.	2021-22	2018-22	202	191	94.55
3.	2020-21	2017-21	196	195	99.49
4.	2019-20	2016-20	139	138	99.28
5.	2018-19	2015-19	132	129	97.73



M. Tech (Design Engineering)

S. No.	Academic Year	Batch	No. of Students appeared	No. of Students passed	Pass Percentage (%)
1.	2022-23	2019-23	06	05	83.33
2.	2021-22	2018-22	11	11	100
3.	2020-21	2017-21	16	15	93.75
4.	2019-20	2016-20	16	15	93.75
5.	2018-19	2015-19	19	19	100



Criterion 3 - Research, Innovations and Extension

Research facilities available in the Department

Sl. No.	Name of the Laboratory	Equipment/ Softwares
1	MCAD	• 74 Dell Corei5 Desktop Systems • 02 Dell T30 Server • ANSYS 2019R3 (Mechanical and CFD)-75 Users • MATLAB 2022- Unlimited Nodes
2	Mechanical Research Laboratory	• 40 ACER Desktop Computers • ANSYS 14.2 Software – 25 Users • CREO Software – 30 Users
3	Machine shop	• Electric Discharge Machine (EDM) • EDM Drilling Machine (Micro EDM) • Surface roughness tester
4	Energy Engineering Lab	• Solar Flat Plate Collector ➢ Liquid Heater ➢ Air-heater • Parabolic Collector • Vortex tube refrigeration system
5	IAAHP	• Workstation – HP Z8 • Software – ANSYS19.2 Research Version, Fluent Module • 3D Printing Machine (Mark Forge Mark 2 and Flash Forge)

Department of Mechanical Engineering

Sl. No.	Name of the Laboratory	Equipment/ Softwares
6	Material Science & Metallurgy	Trinocular Inverted Metallurgical Microscope with Image Analysis System
7	Composite Materials Lab	• Pin on Disc • UTM • Izod / Charpy Impact Testing Machine • Vacuum bagging setup • Motorized notch cutter
8	Fuels & IC Engines Lab	• Computerized Single cylinder four stroke Petrol Honda engine with eddy current dynamometer • Computer aided single cylinder four stroke diesel engine test rig • Single cylinder four stroke diesel engine • Twin cylinder four stroke diesel engine • Multi cylinder four stroke petrol engine test rig • Exhaust gas analyzer • Smoke meter • Redwood viscometer
9	Manufacturing Processes Lab	Tungsten Inert Gas (TIG) Welding machine

Department of Mechanical Engineering

Recognized Research supervisors in the Department under Kakatiya University & other

S. No.	Name of the research supervisor	Areas of research	No. of Ph. D Research Scholars Currently Working
1	Dr. K. Sridhar	Thermal Engineering	08
2	Dr. K. Raja Narender Reddy	Design Engineering	06
3	Dr. P. Srikanth	Production Engineering	04
4	Dr. G. Ganesh Kumar	Thermal Engineering	04
5	Dr. P. Prabhakara Rao	Production Engineering	04
6	Dr. A. Devaraju	Production Engineering	01

Details of the research scholars under the supervision of above listed faculty

Department of Mechanical Engineering

Ph. D's Awarded by the Research Centre of Mechanical Engineering during last five years

S. No.	Name of the research supervisor	Areas of research	No. of Ph. D Research Scholars Awarded
1	Dr. K. Eswaraiah	Production Engineering	04

S. No	Name of the Research Supervisor	Name of the Research Scholar	Title of the Research Work	Date of Award
1	Dr. K. Eswaraiah	S. Chandramouli	Multi objective Optimization of Electric Discharge Machining Process parameters	20.04.2022
		B. Anil Kumar	Experimental Investigation and Optimization of Machining Parameters of Electric Discharge Machine for Metal Matrix Composites	30.12.2021
		J. Laxman	Mathematical modeling and analysis of Electric Discharge Machining Process Parameters	14.06.2021
		B. Ravindar	Studies on the Joining of 5083 Aluminium Alloy by Pulse TIG Welding & Friction Stir Welding Process	06.01.2020

Seed money received:

Name of the teacher provided with seed money	Date of grant DD-MM-YYYY	Amount granted (INR in Lakhs)
Dr. P. Srikanth, Professor of ME, UGC MRP-SERO	23-07-2018	1.4177
Dr. G. Ganesh Kumar, Associate Professor of ME, UGC MRP-SERO	23-07-2018	2.4618
Dr. G. Ganesh Kumar, Associate Professor of ME, IAAHP Lab	18-03-2019	2.7671
Dr. G. Ganesh Kumar, Associate Professor of ME, IAAHP Lab	05-08-2021	0.2900
Dr. G. Sai Kumar, Assistant Professor of ME, IAAHP Lab	21-01-2022	4.1900

Research Project Grants

S. No	Academic Year	Name of the Scheme	Funded by Organization	Details of Coordinator/ PI	Sanctioned Amount (Rs.)	Present status (Completed/ Ongoing)
1	2023-24	Technology Innovation and Development	IIT, Guwahati	Dr. MD. Sameer	14,00,000/-	Ongoing
2	2023-24	Technology Innovation and Development	IIT, Guwahati	Dr. MD. Sameer	8,00,000/-	Ongoing
3	2022-23	TARE	SERB-DST	Dr. G. Srinu	18,30,000/-	Ongoing
4	2021-22	AICTE IDEA Lab	AICTE	Dr. P. Srikanth	1,23,60,000/-	Ongoing
5	2019-20	Minor Research project	SERO-UGC	Dr. G. Ganesh Kumar	2,47,500/-	Completed
6	2019-20	Minor Research project	SERO-UGC	Dr. P. Srikanth	3,92,500/-	Completed
7	2018-19	IAAHP	KITSW	Dr. K. Eswaraiah Dr. G. Ganesh Kumar	2,00,00,000/-	Ongoing

Faculty who acquired PhD during the last Five years

S. No	Academic Year in Ph. D Awarded	Name of the Faculty	University
1	2021-22	Dr. S. Chandramouli	KU, Warangal
2	2021-22	Dr. P.S.S.Murthy	JNTU, Kakinada
3	2020-21	Dr. J. Laxman	KU, Warangal
4	2020-21	Dr. B.Srinivasa Reddy	NIT, Warangal
6	2020-21	Dr. T. Manoj Kumar	NIT, Warangal
7	2019-20	Dr. G. Srinu	NIT, Warangal
8	2019-20	Dr. Md. Sameer	NIT, Manipur

Department of Mechanical Engineering

Faculty members pursuing Ph. D degree

Sr. No.	Name of the faculty	Title of the Research	University/ Institution
1	Sri Ch. Karunakar	Development and Characterization of Hybrid Cellulose Composites	Kakatiya University
2	Sri S. Ramesh	Experimental Analysis of Packed Bed Thermal Energy Storage System using Nanofluid.	NIT, Warangal
3	Sri A. Hari Kumar	Development and Analysis of Aluminium Composite Foams: Analytical, Numerical and Experimental Characterization	Osmania University
4	Sri S. Anil Kumar	Exergetic Optimization of Solar Air Heaters	NIT, Warangal
5	Sri K. Kishor Kumar	Studies on carbon capture technologies for developing green construction materials	NIT, Calicut
6	Sri M. Anil Kumar	Additive Manufacturing	NIT, Warangal
7	Smt. P. Anitha	Experimental Investigation of Tribological Mechanical Properties of Nano Composite Materials	JNTU, Hyderabad
8	Sri. V. Srikanth	Development and Characterization of Bio Composites-A Comparative Study	Kakatiya University
9	Sri S. Sripathy	Preparation and Characterization of Mechanical Properties of Glass Fiber Reinforced Composite with Polymer as Matrix Materials	Osmania University
10	Sri V. Prasanna	Optimization of wire EDM of Nimonic alloy by using RSM	Osmania University
11	Ms. P. Divya	Impact of laser remelting and scanning strategies of corrosion, fatigue mechanical properties of 17-4 PH SS on powder bed fusion additive manufacturing	NIT, Warangal
12	Sri P. Sreedhar	Influence of Process Parameters in Friction Surfacing of Aluminum Alloy Over Mild Steel	Kakatiya University
13	Sri V. Rakesh	Displacement analysis of a link in spatial mechanism by using position vectors	JNTU, Hyderabad
14	Sri P. Anil Kumar	Functional Graded Materials	NIT, Warangal
15	Sri V. Pradeep	Preparation, characterization and Machinability of metal matrix composites	SR University, Warangal

Department of Mechanical Engineering

Research Publications, Patents & Awards

Item	2022-23	2021-22	2020-21	2019-20	2018-19	Total
SCI, ESCI Journal	11	20	12	05	12	60
Scopus Journals	08	37	05	19	-	69
UGC recognized Journals	-	-	10	06	17	33
Conference proceedings	43	31	12	21	34	141
Books & Chapters Authored	07	07	03	-	-	17
Patents Published	-	02	03	01	03	09
Awards	12	02	-	01	04	19
Total	**81**	**99**	**45**	**53**	**70**	**348**

Avg. Citation Index : 134.7

Avg. h-index : 2.39

ANTI-PLAGIARISM POLICY

Metrics for similarity check

a) **UG / PG:**

(Seminar Reports / Mini Projects Reports / Major Project Reports , M.Tech Seminar / and M.Tech Dissertation)

S.No.	Type of Manuscript	Similarity %		Shall exclude No. of Consecutive Words
		Overall	From Single Source	
1.	UG Seminar	40%	10%	10
2.	UG Mini Project	30%	8%	10
3.	UG Major Project	24%	4%	6
4.	PG Seminar	30%	8%	10
5.	PG Dissertation	24%	3%	6
6.	PhD Thesis	10%	3%	6

List of MoUs

Department has signed MoUs for sharing knowledge, transferring live projects, Internships and Training programs with companies such as

1. NIT, Warangal, From January, 2021 to January, 2026
2. HMT, Hyderabad, From November, 2019 to November, 2024
3. Vasantha Tool Crafts Pvt. Ltd., Hyderabad, From May, 2023 to May, 2026
4. Maathrusri Engineers, Hyderabad, From May, 2023 to May, 2026
5. Founders Lab, Hyderabad, from September, 2023 to September, 2024
6. KTPP, Paloncha, from July, 2023 to July, 2026
7. Capricot Technologies Pvt. Ltd., from September, 2021

Criterion 4 - Infrastructure and Learning Resources

- **Infrastructure**
  - 12 Laboratories
  - Central Workshop
  - Departmental library
  - Staff rooms equipped with Internet Facility
  - 06 Class rooms exclusive for the Department
  - 1 Departmental Seminar Hall (BIII-210)

DETAILS OF CLASS ROOMS WITH COVERED AREA

S. No.	Room No.	Floor	covered area in sq. Ft.
1	BIII-215	First	716.87
2	BIII-216	First	716.87
3	BIV-004	Cellar	715.8
4	BIV-005	Cellar	712.57
5	BIV-006	Cellar	737.32
6	SH3-5	Ground	715.8

Total No. of Computer Systems in the Department Labs: 116

Department Library

S. No.	Department Library Room No.	Area of the room in sq. ft.	No. of Books available	Faculty In charge
1.	B III – 212	150	396	Sri. A. Hari Kumar, *Assistant Professor of ME*

Department Library Summary	
Specialization/Stream	**No. of Titles as on current A. Y. 2023-24**
Production	70
Thermal	103
Design	98
General Engineering	125
Total	**396**

Criterion 5 - Student Support and Progression

- **Society for Automotive Engineers (SAE) India Collegiate Club**
- **ISTE Students Chapter**
- **Mechanical Engineering Students Association (MESA)**
- **Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE)**

Activities Under MESA:

- Guest Lectures
- Educational Tours
- Personality Development Activities
  - ✓ Communication Skills
  - ✓ Group Discussions
  - ✓ Paper Presentations
- Technical events
- National Level Workshop
- Weekly one hour slot for MESA Activity

Department of Mechanical Engineering

Society for Automotive Engineers (SAE) India Collegiate Club- Activities

FFS-FMAE-2018

FFS. (Federation of formula Students)_ FMAE (fraternity of Mechanical and Automotive Engineers). **Kari Motors Speed Way-Coimbatore- Tamilnadu 28TH SEP-03RD OCT, 2018**

Society for Automotive Engineers (SAE) India Collegiate Club- Activities

Sri A. Dayananda Reddy, Managing Director, Vasantha Tool Crafts Pvt. Ltd., Hyderabad, Interacted SAE Collegiate club Students

Department of Mechanical Engineering

Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE)

Inaugural of ISHRAE - KITSW Students Chapter on 01.11.2022

ISHRAE event on "Green Buildings, Energy Savings and latest trends in AC" at Landmark Hotel, Hanamkonda on 27.12.2023

Department of Mechanical Engineering

Mechanical Engineering Students Association (MESA)- Events

Sumshodhini-2023 Inaugural

E-Kart and Robo Race Events

Criterion 6 - Governance, Leadership and Management

Faculty Administrative responsibilities Department / Institute level

Name of the faculty	Responsibilities	
	Department level	Institute Level
Dr. K. Rajanarender Reddy	Member-Board of Studies	Head, Centre for i²RE
Dr. P. Srikanth	Chairperson-Board of Studies in ME	Head of the Department.
Dr. U. Shrinivas Balraj	Member-Board of Studies	Professor Incharge, OBE
Dr. P. Prabakara Rao	---	Associate Dean (UG), Academic Affairs
Dr. A. Devaraju	Incharge, Workshop	Faculty Incharge, MSME, Centre for i²RE
Dr. G. Srinivasa Rao	In-charge, ICE Lab	Faculty Advisor- Humanity Club
Sri Ch. Karunakar	In-charge, CAM & Simulation Lab	Warden Boys Hostel and faculty advisor SAE India Collegiate Club
Sri S. Ramesh	In-charge, Heat Transfer Lab	Faculty Advisor- Litarary Club
Sri K. Kishor Kumar	Incharge, Composite Material Lab	Faculty Incharge, EDC, Centre for i²RE

BUDGET ALLOCATION FOR THE LAST FOUR YEARS

Total Budget in CFY:2022-23			Actual expenditure in CFY (31st March-2023)		
Non recurring	Recurring	Total	Non Recurring	Recurring	Total
15,30,365.00	10,79,000.00	26,09,365.00	16,89,778.00	2,98,948.00	19,88,726.00

Total Budget in CFY:2021-22			Actual expenditure in CFY (31st March-2022)		
Non recurring	Recurring	Total	Non Recurring	Recurring	Total
16,50,000.00	12,79,000.00	29,29,000.00	18,15,906.00	3,00,546.80	21,16,452.80

Total Budget in CFY:2020-21			Actual expenditure in CFY (31st March-2021)		
Non recurring	Recurring	Total	Non Recurring	Recurring	Total
18,13,000.00	8,50,000.00	25,63,000.00	18,82,514.00	2,68,457.00	21,50,971.00

Total Budget in CFY:2019-20			Actual expenditure in CFY (31st March-2020)		
Non recurring	Recurring	Total	Non Recurring	Recurring	Total
1,07,14,000.00	10,90,000.00	1,18,04,000.00	1,17,62,568.00	7,13,282	1,24,75,850.00

Total Budget in CFY:2018-19			Actual expenditure in CFY (till 31st March-2019)		
Non recurring	Recurring	Total	Non Recurring	Recurring	Total
30,00,000	5,00,000	35,00,000/-	31,28,736	7,62,860.6	38,91,596.5/-

List of BoS meetings conducted

S. No.	Date of BoS Meeting Conducted	Purpose
1	04.05.2019	Approval of URR18 Scheme & Syllabus of B. Tech(ME) III & IV Semester
2	30.05.2020 (Internal BoS)	Scheme & Syllabus approval of B. Tech(ME) V &VI Semester
3	12.06.2020	Scheme approval of B. Tech(ME) VII & VIII Semester
4	12.11.2020	Approval PRR20 Scheme & Syllabus of M. Tech(DE)
5	22.05.2021	Syllabus approval of B. Tech(ME) VII &VIII Semester
6	21.05.2022 (Internal BoS)	URR-18R22 Syllabus Revision

Members, BoS

Criterion 7 - Values and Best Practices

SWOC Analysis of the Department

Strengths:

Mechanical Engineering Department at KITSW, with over 43 years of existence, boasts several strengths that contribute to its success and reputation as a leading academic department in KITSW

1. Well qualified and experienced faculty with doctoral degrees, with good faculty retention ratio.
2. Specializations available in various fields of mechanical engineering, enabling students to develop expertise in specific areas.
3. Regular research publications in reputable peer-reviewed journals, such as SCI/SCOPUS/WoS.
4. The department is equipped with 13 state-of-the-art laboratories, including a central workshop and a separate CAD lab with necessary software and experimentation facilities.
5. The department is recognized as a Research Centre by Kakatiya University, Warangal.
6. Strong, accomplished, and well-settled alumni in various domains in India and abroad.
7. Skilled and experienced supporting staff.
8. Supportive administration.
9. The department is involved in a collaborative project with the University of Pittsburgh Medical Centre (UPMC) to design, manufacture, and market a Total Artificial Heart (TAH) as part of the IAAH Project, which is a Centre of Excellence.

Weakness:

1. Less R&D projects
2. Lack of Industrial consultancy work

Opportunities:

1. Leveraging emerging technologies like AI, IoT, and automation in the curriculum.
2. Strengthening of advanced research facilities
3. To secure funding for research projects
4. Strengthening ties with industries for research collaborations and job opportunities.
5. Academic agreements/International partnerships with universities abroad for enhancing students' admission
6. Human resource development for teaching and research

Challenges:

1. Attracting best quality students
2. Attracting High CTC paying core companies
3. Negative public perception of core engineering fields or declining interest among students.
4. Competing with premier institutes in research and technical education

Short Term Goals of the Department

1. To improve R&D activities by applying to various funding agencies.
2. Strengthening of Additive Manufacturing Laboratory
3. Modernization of Dynamics of Machinery Laboratory

Long Term Goals of the Department

1. To emerge as a centre of excellence in the field of Mechanical Engineering
2. To provide consultancy services to the Industry on latest technologies.
3. To empower students to pursue higher levels of graduation, leadership positions & entrepreneurial endeavors.

Distinctiveness of the Department:

1. The department is existing since the inception of the institute
2. The department has highest number of doctorates (18)
3. The department is recognized as the Research Center by Kakatiya University, Warangal.
4. Average experience of faculty is above 14 years.
5. The department is accreditated 6 times by NBA (UG)
6. PG program of the department is also accreditated (Tier-I) by NBA, recently.
7. The department holds weekly webinars on latest trends in Mechanical Engineering and to develop self-disciplined and entrepreneurial mindset.
8. The department is recognized as local chapter by ISHRAE.
9. Students participate actively in SAE Collegiate club and Center for i2RE activities every year.

Departmental Best Practices

- **Outcome-based education approach:** The department follows an outcome-based education approach, developing outcome-based learning strategies (OBLS) with clear objectives and outcomes and allows for continuous improvement.
- **i²RE Implementation in teaching learning process:** The department promotes innovation and entrepreneurship through course research papers, course patents, course projects, mini & major projects etc. in teaching learning process and entrepreneurship activities.
- **Regular student-led webinars:** The department holds weekly webinars on latest trends in Mechanical Engineering and to develop self-disciplined and entrepreneurial mindset
- **Training and placement opportunities:** The department provides regular training in communication skills and aptitude to increase students' employability. Company specific trainings are also conducted by the department.
- **Encouraging internships and external competitions:** The department encourages students to pursue internships during vacations to acquire necessary problem-solving skills. Additionally, students are encouraged to participate in external competitions both academic and extracurricular.
- **Regular parent meetings and communication:** The department conducts regular parent meetings to provide feedback on the progress and development of their children. The department sends progress reports to parents via registered post and also shares soft copies of exam results via WhatsApp. Counselors also reach out to parents to enquire about a student's absence from exams.
- **Student counseling:** The department assigns one counselor to each student to provide personalized attention and support. Through regular counseling sessions during MYC period, students can discuss their academic performance, personal issues, and career goals with their counselor.
- **Active Society for Automotive Engineers (SAE) India KITS Collegiate Club:** The SAE India KITS Collegiate Club was established in 2008 to expose students to various technical aspects of the automobile industry. Under the guidance of the club, students design all-terrain vehicles and participate in SAE BAJA competitions. The SAE India KITS Collegiate Club has won eight prizes at the national level over the past decade.

Department of Mechanical Engineering

Photo Gallery

Hon'ble former IT Minister Sri. K.T. Rama Rao and Smt. Satyavathi Rathod, former Minister for Tribal Welfare, with Mr. Ghousuddin, Miss Sravani, Miss Srinidhi and Abhinay Naik of B. Tech Mech., Engineering

Department of Mechanical Engineering

Photo Gallery

Interactive Session with faculty & Students on Progress of IAAHP at KITSW on April 20, 2023- Dr. P. S. Reddy, Professor of Medicine, University of Pittsburgh, USA & Chairman SHARE/ MediCiti Institute of Medical Sciences, India.

Thank you

Hyperlinks with Slide No.

Faculty with Ph. D.

S. No	Name	Designation	Year	Institute	Area of Research
1.	Dr. K. Sridhar	Professor	2004	JNTU, Hyderabad	Exergy Analysis
2.	Dr. K. Raja Narendar Reddy	Professor	2012	KU, Warangal	Composite Materials
3.	Dr. P. Srikanth	Professor & Head	2012	JNTU, Hyderabad	CAD, CAM and CIM
4.	Dr. U. Shrinivas Balraj	Professor	2014	JNTU, Kakinada	Electrical Discharge Machining
5.	Dr. R. V. Chalam	Professor	1981	IIT, Kanpur	Design Engineering
6.	Dr. G. Ganesh Kumar	Professor	2013	NIT, Warangal	Heat Transfer
7.	Dr. P. Prabhakara Rao	Associate Professor	2013	JNTU, Hyderabad	Metal Casting
8.	Dr. A. Devaraju	Associate Professor	2009	NIT, Warangal	Friction stir processing & Welding
9.	Dr. P.S.S.Murthy	Assistant Professor	2021	JNTU, Kakinada	Mechanical Vibrations
10.	Dr. J. Laxman	Assistant Professor	2021	KU, Warangal	Electrical Discharge Machining
11.	Dr. S. Chandramouli	Assistant Professor	2022	KU, Warangal	Electrical Discharge Machining
12.	Dr. G. Srinivasa Rao	Assistant Professor	2014	JNTU, Hyderabad	Heat Transfer
13.	Dr. MD. Sameer	Assistant Professor	2019	NIT, Manipur	Friction Stir Welding
14.	Dr. G. Sai Kumar	Assistant Professor	2011	NIT, Warangal	Material Science & Metallurgy
15.	Dr. G. Srinu	Assistant Professor	2019	NIT, Warangal	Manufacturing
16.	Dr. E. Ramesh	Assistant Professor	2019	IIT, Kanpur	Fluid and Thermal Sciences
17.	Dr. T. Manoj Kumar	Assistant Professor	2020	NIT, Warangal	CFD
18.	Dr. B. Srinivasa Reddy	Assistant Professor	2020	NIT, Warangal	Fuel Cells

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DEPARTMENT OF MECHANICAL ENGINEERING

Faculty pursuing Ph. D degree A. Y. 2023-24

Sr. No.	Name of the faculty	Title of the Research	University/ Institution	Status
1.	Sri Ch. Karunakar *Assistant Professor*	Development and Characterization of Hybrid Cellulose Composites	Kakatiya University	In progress
2.	Sri S. Ramesh *Assistant Professor*	Experimental Analysis of Packed Bed Thermal Energy Storage System using Nanofluid.	NIT Warangal	In progress
3.	Sri A. Hari Kumar *Assistant Professor*	Development and Analysis of Aluminium Composite Foams: Analytical, Numerical and Experimental Characterization	Osmania University	In progress
4.	Sri S. Anil Kumar *Assistant Professor*	Exergetic Optimization of Solar Air Heaters	NIT Warangal	In progress
5.	Sri K. Kishor Kumar *Assistant Professor*	Studies on carbon capture technologies for developing green construction materials	NIT, Calicut	In progress
6.	Sri M. Anil Kumar	Additive Manufacturing	NIT Warangal	In progress
7.	Smt. P. Anitha *Assistant Professor*	Experimental Investigation of Tribological Mechanical Properties of Nano Composite Materials	JNTU, Hyderabad	In progress
8.	Sri S. Sripathy *Assistant Professor*	Preparation and Characterization of Mechanical Properties of Glass Fiber Reinforced Composite with Polymer as Matrix Materials	Osmania University	In progress
9.	Sri. V. Srikanth *Assistant Professor*	Development and Characterization of Bio Composites-A Comparative Study	Kakatiya University	In progress
10.	Sri V. Prasanna *Assistant Professor*	Optimization of wire EDM of Nimonic alloy by using RSM	Osmania University	In progress
11.	Sri V. Rakesh *Assistant Professor*	Displacement analysis of a link in spatial mechanism by using position vectors	JNTU, Hyderabad	In progress
12.	Sri P. Anil Kumar *Assistant Professor*	Computational and Experimental analysis of emission behaviour of biodiesel blends in CI engine	Sathyababa University, Chennai	In progress
13.	Sri P. Sreedhar *Assistant Professor*	Influence of Process Parameters in Friction Surfacing of Aluminum Alloy Over Mild Steel	Kakatiya University	In progress
14.	Ms. P. Divya *Assistant Professor*	Impact of laser remelting and scanning strategies of corrosion, fatigue mechanical properties of 17-4 PH SS on powder bed fusion additive manufacturing	NIT, Warangal	In progress
15.	Sri V. Pradeep *Assistant Professor*	Preparation, characterization and Machinability of metal matrix composites	SR University, Warangal	In progress

Faculty Research Supervisors:

Sl. No.	Supervisor Name	Scholar Name	University	Date of Registration	Area of Research
1	Dr. K. Sridhar	G. Vinod Kumar	Kakatiya University	January, 2012	Solar Energy
		G. Buchi Babu		January, 2012	Exergy Analysis
		G. Lingaiah		August, 2015	Solar Energy
		Dasari Nalini		August, 2015	Thermal Engg.
		K. Rajanikanth		February, 2018	CFD
		P. Rukmini		February, 2018	Solar Energy
		E. Priyanka		January, 2024	Thermal Engg.
		T.Vikaram		January, 2024	Thermal Engg.
2	Dr. K. Raja Narendar Reddy	V. Srikanth	Kakatiya University	August 2015	Composite Materials
		T. Ramu		August 2015	Composite Materials
		Md. Ilyas Hamid		February 2018	Composite Materials
		B. Sahithya		February 2018	Composite Materials
		M. Ashwini		January, 2024	Design Engg.
		T. Akshatha		January, 2024	Design Engg.
3	Dr. P. Srikanth	P. Sateesh Kumar	Kakatiya University	February 2018	Electrical Discharge Machining
		M. Madhavi		February 2018	Electrical Discharge Machining
		V. Rakesh Kumar		January, 2024	Production Engg.
		K. Grace Prashanthi		January, 2024	Production Engg.
4	Dr. G. Ganesh Kumar	B. Naveen	Kakatiya University	February 2018	Thermal Engineering
		D. Srinu		February 2018	Thermal Engineering
		T. Guru Murthy		January, 2024	Thermal Engineering
		V. Abhinaya		January, 2024	Thermal Engineering
5	Dr. P. Prabhakara Rao	K. Sudheer Kumar	Kakatiya University	February 2018	Production Engineering
		M. Nataraju		February 2018	Production Engineering
		M. A. Gaffar		January, 2024	Production Engineering
		Ch. Sushanth		January, 2024	Production Engineering
6	Dr. A. Devaraju	Ms. P. Divya	NIT, Warangal	July, 2022	Production Engineering

Faculty with Industrial/ Research background

S. No.	Name	Name of the Organization	Experience (Years)
1.	Dr. P.Srikanth	Troika Engineers Pvt. Ltd., Hyderabad	4
2.	Dr. U. Shrinivas Balraj	Lakshmi Hydraulics, Sholapur	1.5
3.	Sri P. S. S Murthy	SI castings Hyderabad	1
4.	Dr. G. Srinivasa Rao	Deccan cements Nalgonda RK Engineers, Hyderabad	3
5.	Dr. G. Ganesh Kumar	General motors' (I) Baroda	1
6.	Sri S. Ramesh	HAL Hyderabad	1
7.	Sri A. Hari Kumar	EDAG GmbH, Wolfsburg, Germany	1
		Munya Technologies, Essen, Germany	2
		Power Views Technologies, Hyderabad	2
8.	Sri B. Ravi Kumar	L & T, Plant & Machinery, Vizag	4
		Madhukon Group, Khammam	3
		Grainatemart Ltd., Medak	1
9.	Sri P. Sreedhar	L&T Eccd, Jajpur, Odisha	2
		L&T Eccd, Noamundi, Jharkhand	4
		L&T Eccd, Kanchipuram, Tamilnadu	2

URR-18 R22			
UG-B. Tech(ME)	Advanced Data Structures	U18CS611	2024
UG-B. Tech(ME)	Advanced Data Structures Lab	U18CS612	2024

ISO 9001:2015 AICTE-CII: GOLD Category Institute NAAC-'A' Grade Institute (CGPA: 3.21) NIRF-2020 Rank Band: 201-250

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DEPARTMENT OF MECHANICAL ENGINEERING

The following courses are newly introduced in the M.Tech (Design Engineering). PRR20

S. No.	Semester	Category	Course Code	Course Name
1.	I	MC	P20MC107	Research Methodology and IPR
2.		PE	P20DE103C	Additive Manufacturing
3.		PE	P20DE103D	MOOCs
4.		PE	P20DE104A	Analysis and Synthesis of Mechanisms
5.		PE	P20DE104B	Mathematical methods in Engineering
6.		AC	P20AC108A	English for Research Paper Writing
7.		AC	P20AC108B	Sanskrit for Technical Knowledge
8.		AC	P20AC108C	Constitution of India
9.		AC	P20AC108D	Pedagogy Studies
10.	II	PC	P20DE206	Composite Materials Lab
11.		AC	P20AC208A	Stress Management by Yoga
12.		AC	P20AC208B	Value Education
13.		AC	P20AC208C	Personality Development through Life Enlightenment Skills
14.		AC	P20AC208D	Disaster Management
15.	III	PE	P20DE301A	Condition Monitoring
16.		PE	P20DE301C	Artificial Intelligence and Machine Learning
17.		OE	P20OE302A	Business Analytics
18.		OE	P20OE302B	Industrial Safety
19.		OE	P20OE302C	Operations Research
20.		OE	P20OE302D	Cost Management of Engineering Projects
21.		OE	P20OE302F	Waste to Energy
22.		OE	P20OE302G	Renewable Energy Sources

Dr. P. Srikanth
Professor & Head, MED

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DEPARTMENT OF MECHANICAL ENGINEERING

VALUE ADDED COURSES OF B. Tech (ME)

S. No	Course name	Course Code	No. of Students en-rolled				
Courses on development of human values and professional ethics							
1	Universal Human Values-I	U18MH111	Mandatory for Students of ME during induction program				
2	EAA (Extra Academic Activity)-Sports/Yoga/Nss	U18EA110	Mandatory for I-Sem Students of ME				
3	Environmental Studies	U18CH209	Mandatory for I-Sem Students of ME				
4	Environmental Studies	U18CH416	Mandatory for lateral entry Students of ME				
5	Essence Of Indian Traditional Knowledge	U18MH315	Mandatory for III-Sem Students of ME				
6	Universal Human Values – II	U18MH601	Mandatory for VI-Sem Students of ME				
Mandatory Courses							
7	NSS - Community orientation & Physical education	U14EA110/210	Mandatory for I/II-Sem Students of ME				
8	Environmental studies	U14CH109/209	Mandatory for I/II-Sem Students of ME				
Open Elective Courses							
			Academic Year				
			2022-23	2021-22	2020-21	2019-20	2018-19
9	Professional Ethics and Human Values	U14OE601C	-	-			
10	Disaster Management	U14OE601A	42	45			
11	Project management	U14OE 601B	70	104			
12	Rural Technology and community development	U14OE601D	-	21			
13	FOREX and foreign Trade		37	22			
14	Management Economics & Accountancy		-	-			

HoD, ME

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DEPARTMENT OF MECHANICAL ENGINEERING

VALUE ADDED COURSES OF M. Tech (DE)

S. No	Course name	Course Code	No. of Students en-rolled				
Courses on development of human values and professional ethics							
PG Courses							
1	Waste to Energy	P20OE302F					
2	Renewable Energy Sources	P20OE302G					
3	Research Methodology and IPR	P20MC107					
4	Sanskrit for Technical Knowledge	P20AC108B					
5	Constitution of India	P20AC108C					

HoD, ME

2.2.2. POs attainment levels with observations POs Attainment (40)

2.2.2.1. POs Target and Attained values for the courses opted for 2021-2023 batch

The POs, PSOs Target and Attained values for the courses opted for the 2021-2023 batch are presented in the following Table 2.2.2.1

Program Target levels (2021-23)								Student Attainment level based on marks secured (60% ESE +40%MSE)	Students attainment POS (Attainment achieved)				
S. No.	**Course code**	Course name	**PO1**	**PO2**	**PO3**	**PSO1**	**PSO2**		**PO1**	**PO2**	**PO3**	**PSO1**	**PSO2**
1	P20DE101	Mechanical Vibrations	2	1	2	2	1	2.28	1.52	0.76	1.52	1.52	0.76
2	P20DE102	Computer Aided Design	2	1	2	2	1	2.29	1.53	0.76	1.53	1.53	0.76
3	P20DE103B	Stress Analysis	2	1	2	2	1	2.17	1.45	0.72	1.45	1.45	0.72
4	P20DE104C	Computational Fluid Dynamics	2	1	2	2	1	2.29	1.53	0.76	1.53	1.53	0.76
5	P20DE105	Mechanical Vibrations Lab	2	2	1	2	1	3	2.00	2.00	1.00	2.00	1.00
6	P20DE106	CAD Lab	2	2	2	1	2	3	2.00	2.00	2.00	1.00	2.00
7	P20DE107	Research Methodology and IPR	2	2	1	2	1	2.66	1.77	1.77	0.89	1.77	0.89
8	P20DE108A	English for Research Paper Writing	1	2	2			2.11	0.70	1.41	1.41	0.00	0.00
9	P20DE201	Finite Element Methods	2	1	2	2	1	2.39	1.59	0.80	1.59	1.59	0.80
10	P20DE202	Mechanics of Composite Materials	2	1	2	2	1	2.59	1.73	0.86	1.73	1.73	0.86
11	P20DE 203A	Product Design	2	1	2	2	1	2.26	1.51	0.75	1.51	1.51	0.75
12	P20DE 204B	Design of Machine Components	2	1	2	2	1	1.43	0.95	0.48	0.95	0.95	0.48
13	P20DE 205	FEM Lab	2	1	2	2	2	3	2.00	1.00	2.00	2.00	2.00
14	P20DE 206	Composite Materials Lab	2	2	2	2	2	3	2.00	2.00	2.00	2.00	2.00
15	P20DE 207	Mini Project with Seminar	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
16	P20AC 208A	Stress Management by Yoga	1	1				2.87	0.96	0.96			
17	P20DE301A	Condition Monitoring	2	1	2	2	1	1.9	1.27	0.63	1.27	1.27	0.63
18	P20DE302B	Industrial Safety	1	1	1	2	1	2.86	0.95	0.95	0.95	1.91	0.95

19	P20DE302G	Renewable Energy Sources	2	1	1	2	1	1.87	1.25	0.62	0.62	1.25	0.62
20	P20DE304	Dissertation Phase – I	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
21	P20DE304	Internship Evaluation	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
22	P20DE401	Dissertation Phase - II	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
Average			1.88	1.41	1.86	1.83	1.24		**1.58**	**1.24**	**1.52**	**1.48**	**1.05**
DIRECT ASSESSMENT (80 % of average PO)									1.26	0.99	1.22	1.18	0.84
INDIRECT ASSESSMENT (20 % of average PO)									0.50	0.40	0.40	0.48	0.36
TOTAL ASSESSMENT (100 % of average PO)									**1.76**	**1.39**	**1.61**	**1.66**	**1.20**

Table 2.2.2.1: Attainment levels in various courses of the 2021-23 M. Tech (Design Engineering) Batch

2.2.2.2. POs Target and Attained values for the courses opted for 2020-2022 batch

The POs, PSOs Target and Attained values for the courses opted for the 2020-2022 batch are presented in the following Table 2.2.2.2

KAKATIYA INSTITUTE OF TECHNOLOGY AND SCIENCE: WARANGAL-15
DEPARTMENT OF MECHANICAL ENGINEERING
Attainment levels in various courses of the 2020-22 M. Tech (Design Engineering) Batch

			Target levels (2020-22)					Attainment level based on marks secured by students. (40%ESE + 60%CIE)	Attainment levels (Attainment achieved)				
S. No.	**Course code**	**Course name**	**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**		**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**
1	P20DE101	Mechanical Vibrations	2	1	2	2	1	2.08	1.39	0.69	1.39	1.39	0.69
2	P20DE102	Computer Aided Design	2	1	2	2	1	2.68	1.79	0.89	1.79	1.79	0.89
3	P20DE103B	Stress Analysis	2	1	2	2	1	2.62	1.75	0.87	1.75	1.75	0.87
4	P20DE104C	Computational Fluid Dynamics	2	1	2	2	1	1.975	1.328	0.66	1.32	1.32	0.66
5	P20DE105	Mechanical Vibrations Lab	2	2	1	2	1	3	2.00	2.00	1.00	2.00	1.00
6	P20DE106	CAD Lab	2	2	2	1	2	3	2.00	2.00	2.00	1.00	2.00
7	P20DE107	Research Methodology and IPR	2	2	1	2	1	2.7975	1.87	1.87	0.93	1.87	0.93
8	P20DE108A	English for Research Paper Writing	1	2	2			2.81	0.94	1.87	1.87		

9	P20DE201	Finite Element Methods	2	1	2	2	1	1.405	0.94	0.47	0.94	0.94	0.47
10	P20DE202	Mechanics of Composite Materials	2	1	2	2	1	1.95	1.30	0.65	1.30	1.30	0.65
11	P20DE203A	Product Design	2	1	2	2	1	2.235	1.49	0.75	1.49	1.49	0.75
12	P20DE204B	Design of Machine Components	2	1	2	2	1	1.725	1.15	0.58	1.15	1.15	0.58
13	P20DE 205	FEM Lab	2	1	2	2	2	3	2.00	1.00	2.00	2.00	2.00
14	P20DE 206	Composite Materials Lab	2	2	2	2	2	3	2.00	2.00	2.00	2.00	2.00
15	P20DE 207	Mini Project with Seminar	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
16	P20AC208B	Value Education		1.5				0.925		0.46			
17	P20DE301A	Condition Monitoring	2	1	2	2	1	1.125	0.75	0.38	0.75	0.75	0.38
18	P20DE302G	Renewable Energy Sources	2	1	1	2	1	1.635	1.09	0.55	0.55	1.09	0.55
19	P20DE304	Dissertation Phase – I	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
20	P20DE304	Internship Evaluation	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
21	P20DE401	Dissertation Phase - II	2	2	2	1.5	1.5	3	2.00	2.00	2.00	1.50	1.50
Average			1.88	1.41	1.86	1.83	1.24		1.59	1.22	1.51	1.47	1.07
DIRECT ASSESSMENT (80 % of average PO)									1.27	0.98	1.2	1.17	0.85
INDIRECT ASSESSMENT (20 % of average PO)									0.31	0.24	0.3	0.3	0.21
TOTAL ASSESSMENT (100 % of average PO)									1.58	1.22	1.5	1.47	1.06
PO Target									1.88	1.41	1.86	1.83	1.24
PO Gap(Target - Attained)									0.3	0.19	0.36	0.36	0.18

Table 2.2.2.2: Attainment levels in various courses of the 2020-22 M. Tech (Design Engineering) Batch

2.2.2.3. POs Target and Attained values for the courses opted for 2019-2021 batch

The POs, PSOs Target and Attained values for the courses opted for the 2019-21 batch are presented in the following table 2.2.2.3

KAKATIYA INSTITUTE OF TECHNOLOGY AND SCIENCE: WARANGAL-15
DEPARTMENT OF MECHANICAL ENGINEERING
Attainment levels in various courses of the 2019-21 M. Tech (Design Engineering) Batch

			Target levels (2019-21)					Attainment level based on marks secured by students. (60%ESE + 40%CIE)	Attainment levels (Attainment achieved)				
S. No	**Course code**	**Course name**	**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**		**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**
1	P14DE101	Optimization Techniques in Engineering Design	2	2	1	2	1	2.23	1.49	1.49	0.74	1.49	0.74
2	P14DE102	Stress Analysis	2	1	2	2	1	2.7	1.80	0.90	1.80	1.80	0.90
3	P14DE103	Mechanical Vibrations	2	1	2	2	1	1.95	1.30	0.65	1.30	1.30	0.65
4	P14DE104	Computer Aided Engineering Design	2	1	2	2	1	2.3	1.53	0.77	1.53	1.53	0.77
5	P14DE105A	Principles of Product Design	2	2	2	2	1	2.85	1.90	1.90	1.90	1.90	0.95
6	P14DE106D	Advanced Fluid Mechanics	1	1	1	1	1	2.25	0.75	0.75	0.75	0.75	0.75
7	P14DE107	Mechanical Vibrations Lab	2	2	1	2	1	3	2.00	2.00	1.00	2.00	1.00
8	P14DE108	CAD Lab	2	2	2	1	2	3	2.00	2.00	2.00	1.00	2.00
9	P14DE109	Seminar	3	2	1	3	2	3.00	3.00	2.00	1.00	3.00	2.00
10	P14DE201	Finite Element Analysis	2	1	2	2	1	2	1.33	0.67	1.33	1.33	0.67
11	P14DE202	Composite Materials	2	1	2	2	1	2.75	1.83	0.92	1.83	1.83	0.92
12	P14DE203	Advanced Design of Machine Components	2	1	2	3	2	2.9	1.93	0.97	1.93	2.90	1.93
13	P14DE204	Automation & Robotics	2	1	1	1	1	2.75	1.83	0.92	0.92	0.92	0.92
14	P14DE205 A	Fault Diagnosis of Machines	2	1	2	2	2	2.85	1.90	0.95	1.90	1.90	1.90
15	P14DE206A	Advance Materials Science	1	1	1	1	1	2.5	0.83	0.83	0.83	0.83	0.83
16	P14DE207	FEM Lab	2	1	2	2	2	3	2.00	1.00	2.00	2.00	2.00
17	P14DE208	Automation & Robotics Lab	2	2	1	1	1	3	2.00	2.00	1.00	1.00	1.00
18	P14DE209	Comprehensive Viva-Voce	2	3	2	3	3	3	2.00	3.00	2.00	3.00	3.00
19	P14DE301	Industrial Training	2	3	2	3	3	3	2.00	3.00	2.00	3.00	3.00
20	P14DE302	Dissertation Phase-I	2	3	2	3	3	3	2.00	3.00	2.00	3.00	3.00
21	P14DE401	Dissertation Phase-II	2	3	2	3	3	3	2.00	3.00	2.00	3.00	3.00

Average	1.95	1.67	1.67	2.05	1.62	2.72	1.76	1.56	1.55	1.88	1.52
DIRECT ASSESSMENT (80 % of average PO)							1.41	1.25	1.24	1.50	1.22
INDIRECT ASSESSMENT (20 % of average PO)							0.49	0.40	0.40	0.49	0.36
TOTAL ASSESSMENT (100 % of average PO)							1.90	1.65	1.64	2.00	1.58
PO Target							1.95	1.67	1.67	2.05	1.62
PO Gap(Target - Attained)							0.05	0.02	0.03	0.05	0.04

Table 2.2.2.3: Attainment levels in various courses of the 2019-20 M. Tech (Design Engineering) Batch

2.2.2.4. POs Target and Attained values for the courses opted for 2018-2020 batch

The POs, PSOs Target and Attained values for the courses opted for the 2018-2020 batch are presented in the following table 2.2.2.4

KAKATIYA INSTITUTE OF TECHNOLOGY AND SCIENCE: WARANGAL-15
DEPARTMENT OF MECHANICAL ENGINEERING
Attainment levels in various courses of the 2018-20 M. Tech (Design Engineering) Batch

			Target levels (2018-20)					Attainment level based on marks secured by students. (60%ESE + 40%CIE)	Attainment levels (Attainment achieved)				
S. No.	**Course code**	**Course name**	**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**		**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**
1	P14DE101	Optimization Techniques in Engineering Design	2	2	1	2	1	1.7	1.13	1.13	0.57	1.13	0.57
2	P14DE102	Stress Analysis	2	1	2	2	1	2.25	1.50	0.75	1.50	1.50	0.75
3	P14DE103	Mechanical Vibrations	2	1	2	2	1	1	0.67	0.33	0.67	0.67	0.33
4	P14DE104	Computer Aided Engineering Design	2	1	2	2	1	1.25	0.83	0.42	0.83	0.83	0.42
5	P14DE105A	Principles of Product Design	2	2	2	2	1	2.25	1.50	1.50	1.50	1.50	0.75
6	P14DE106B	Computational Fluid Dynamics	2	1	2	2	1	1.5	1.00	0.50	1.00	1.00	0.50
7	P14DE107	Mechanical Vibrations Lab	2	2	1	2	1	3	2.00	2.00	1.00	2.00	1.00
8	P14DE108	CAD Lab	2	2	2	1	2	3	2.00	2.00	2.00	1.00	2.00
9	P14DE109	Seminar	3	2	1	3	2	1.2	1.20	0.80	0.40	1.20	0.80
10	P14DE201	Finite Element Analysis	2	1	2	2	1	1.3	0.87	0.43	0.87	0.87	0.43
11	P14DE202	Composite Materials	2	1	2	2	1	2.4	1.60	0.80	1.60	1.60	0.80

12	P14DE203	Advanced Design of Machine Components	2	1	2	3	2	2.85	1.90	0.95	1.90	2.85	1.90
13	P14DE204	Automation & Robotics	2	1	1	1	1	2.55	1.70	0.85	0.85	0.85	0.85
14	P14DE205 A	Fault Diagnosis of Machines	2	1	2	2	2	2.6	1.73	0.87	1.73	1.73	1.73
15	P14DE206A	Advance Materials Science	1	1	1	1	1	3	1.00	1.00	1.00	1.00	1.00
16	P14DE207	FEM Lab	2	1	2	2	2	2.4	1.60	0.80	1.60	1.60	1.60
17	P14DE208	Automation & Robotics Lab	2	2	1	1	1	3	2.00	2.00	1.00	1.00	1.00
18	P14DE209	Comprehensive Viva-Voce	2	3	2	3	3	1.2	0.80	1.20	0.80	1.20	1.20
19	P14DE301	Industrial Training	2	3	2	3	3	3.00	2.00	3.00	2.00	3.00	3.00
20	P14DE302	Dissertation Phase-I	2	3	2	3	3	3	2	3	2	3	3
21	P14DE401	Dissertation Phase-II	2	3	2	3	3	3.00	2	3	2	3	3
Average			2.00	1.67	1.71	2.10	1.62	2.26	1.48	1.30	1.28	1.55	1.27
DIRECT ASSESSMENT (80 % of average PO)									1.18	1.04	1.02	1.24	1.01
INDIRECT ASSESSMENT (20 % of average PO)									0.55	0.54	0.53	0.55	0.49
TOTAL ASSESSMENT (100 % of average PO)									1.73	1.58	1.55	1.79	1.51
PO Target									2.00	1.67	1.71	2.10	1.62
PO Gap(Target - Attained)									0.27	0.09	0.16	0.31	0.11

Table 2.2.2.4: Attainment levels in various courses of the 2018-20 M. Tech (Design Engineering) Batch

2.2.2.5. POs Target and Attained values for the courses opted for 2017-2019 batch

The POs, PSOs Target and Attained values for the courses opted for the 2017-19 batch are presented in the following table 2.2.2.5

KAKATIYA INSTITUTE OF TECHNOLOGY AND SCIENCE: WARANGAL-15
DEPARTMENT OF MECHANICAL ENGINEERING
Attainment levels in various courses of the 2017-19 M. Tech (Design Engineering) Batch

			Target levels (2017-19)					Attainment level based on marks secured by students. (60%ESE + 40%CIE)	Attainment levels (Attainment achieved)				
S. No.	**Course code**	**Course name**	**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**		**PO1**	**PO2**	**PO3**	**PO4 (PSO1)**	**PO5 (PSO2)**
1	P14DE101	Optimization Techniques in Engineering Design	2	2	1	2	1	2.11	1.41	1.41	0.70	1.41	0.70
2	P14DE102	Stress Analysis	2	1	2	2	1	1.3	0.87	0.43	0.87	0.87	0.43
3	P14DE103	Mechanical Vibrations	2	1	2	2	1	1.3	0.87	0.43	0.87	0.87	0.43
4	P14DE104	Computer Aided Engineering Design	2	1	2	2	1	2.25	1.50	0.75	1.50	1.50	0.75
5	P14DE105A	Principles of Product Design	2	2	2	2	1	1.52	1.01	1.01	1.01	1.01	0.51
6	P14DE106B	Computational Fluid Dynamics	2	1	2	2	1	2.25	1.50	0.75	1.50	1.50	0.75
7	P14DE107	Mechanical Vibrations Lab	2	2	1	2	1	3	2.00	2.00	1.00	2.00	1.00
8	P14DE108	CAD Lab	2	2	2	1	2	3	2.00	2.00	2.00	1.00	2.00
9	P14DE109	Seminar	3	2	1	3	2	3	3.00	2.00	1.00	3.00	2.00
10	P14DE201	Finite Element Analysis	2	1	2	2	1	1	0.67	0.33	0.67	0.67	0.33
11	P14DE202	Composite Materials	2	1	2	2	1	2.05	1.37	0.68	1.37	1.37	0.68
12	P14DE203	Advanced Design of Machine Components	2	1	2	3	2	1.95	1.30	0.65	1.30	1.95	1.30
13	P14DE204	Automation & Robotics	2	1	1	1	1	2.2	1.47	0.73	0.73	0.73	0.73
14	P14DE205 A	Fault Diagnosis of Machines	2	1	2	2	2	2.8	1.87	0.93	1.87	1.87	1.87
15	P14DE206A	Advance Materials Science	1	1	1	1	1	2.85	0.95	0.95	0.95	0.95	0.95
16	P14DE207	FEM Lab	2	1	2	2	2	2.4	1.60	0.80	1.60	1.60	1.60
17	P14DE208	Automation & Robotics Lab	2	2	1	1	1	3	2.00	2.00	1.00	1.00	1.00

18	P14DE209	Comprehensive Viva-Voce	2	3	2	3	3	3	2.00	3.00	2.00	3.00	3.00
19	P14DE301	Industrial Training	2	3	2	3	3	3	2	3	2	3	3
20	P14DE302	Dissertation Phase-I	2	3	2	3	3	3	2	3	2	3	3
21	P14DE401	Dissertation Phase-II	2	3	2	3	3	3	2	3	2	3	3
Average			2.00	1.67	1.71	2.10	1.62		1.59	1.42	1.33	1.68	1.38
DIRECT ASSESSMENT (80 % of average PO)									1.27	1.14	1.06	1.34	1.11
INDIRECT ASSESSMENT (20 % of average PO)									0.50	0.48	0.49	0.49	0.46
TOTAL ASSESSMENT (100 % of average PO)									1.77	1.62	1.55	1.84	1.57
PO Target									2.00	1.67	1.71	2.10	1.62
PO Gap(Target - Attained)									0.23	0.05	0.16	0.26	0.05

Table 2.2.2.5: Attainment levels in various courses of the 2017-19 M. Tech (Design Engineering) Batch

Details of the research scholars :

Sl. No.	Supervisor Name	Scholar Name	University	Date of Registration	Area of Research
1	Dr. K. Sridhar	G. Vinod Kumar	Kakatiya University	January, 2012	Solar Energy
		G. Buchi Babu		January, 2012	Exergy Analysis
		G. Lingaiah		August, 2015	Solar Energy
		Dasari Nalini		August, 2015	Thermal Engg.
		K. Rajanikanth		February, 2018	CFD
		P. Rukmini		February, 2018	Solar Energy
		E. Priyanka		January, 2024	Thermal Engg.
		T.Vikaram		January, 2024	Thermal Engg.
2	Dr. K. Raja Narendar Reddy	V. Srikanth	Kakatiya University	August 2015	Composite Materials
		T. Ramu		August 2015	Composite Materials
		Md. Ilyas Hamid		February 2018	Composite Materials
		B. Sahithya		February 2018	Composite Materials
		M. Ashwini		January, 2024	Design Engg.
		T. Akshatha		January, 2024	Design Engg.
3	Dr. P. Srikanth	P. Sateesh Kumar	Kakatiya University	February 2018	Electrical Discharge Machining
		M. Madhavi		February 2018	Electrical Discharge Machining
		V. Rakesh Kumar		January, 2024	Production Engg.
		K. Grace Prashanthi		January, 2024	Production Engg.
4	Dr. G. Ganesh Kumar	B. Naveen	Kakatiya University	February 2018	Thermal Engineering
		D. Srinu		February 2018	Thermal Engineering
		T. Guru Murthy		January, 2024	Thermal Engineering
		V. Abhinaya		January, 2024	Thermal Engineering
5	Dr. P. Prabhakara Rao	K. Sudheer Kumar	Kakatiya University	February 2018	Production Engineering
		M. Nataraju		February 2018	Production Engineering
		M. A. Gaffar		January, 2024	Production Engineering
		Ch. Sushanth		January, 2024	Production Engineering
6	Dr. A. Devaraju	Ms. P. Divya	NIT, Warangal	July, 2022	Production Engineering

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काकतीय प्रौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६ ०१५ तेलंगाना राज्य, भारत
కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - 506 015. తెలంగాణ రాష్ట్రం. భారతదేశము
DEPARTMENT OF MECHANICAL ENGINEERING

Board of Studies for Mechanical Engineering (BoS)

S. No.	Name of the Member	Designation	Position in BoS
1.	Dr. P. Srikanth	*Professor & Head, MED KITSW* *Mobile: 9849278378* *Email: hod.me@kitsw.ac.in*	Chairperson, BoS
2.	Dr. K. Sridhar	*Professor of ME, KITSW* *Mobile: 9493004837* *Email: ks.me@kitsw.ac.in*	*Member*
3.	Dr. K. Raja Narender Reddy	*Professor of ME, KITSW* *Mobile: 9396431009* *Email: krnr.me@kitsw.ac.in*	*Member*
4	Dr. U. Shrinivas Balraj	*Professor of ME, KITSW* *Mobile: 8555904372* *Email: usb.me@kitsw.ac.in*	*Member*
5.	Dr. G. Ganesh Kumar	*Associate Professor, MED, KITSW* *Mobile: 9849502775* *Email: ggk.me@kitsw.ac.in*	*Member*
6.	Dr. A. Kumar	*Professor & Head, MED, NIT, Warangal.* *Mobile: 9492783067* *Email: adepu_kumar7@nitw.ac.in*	*External Member (from renowned Academic Institute)*
7.	Dr. Ch. Sridhar Reddy	*Professor & Head, MED, JNTU, Manthani* *Mobile:9494362430* *Email: reddy.chsridhar@gmail.com*	*External Member (from renowned Academic Institute)*
8.	Dr. G. Raghavendra	*Assistant Professor of ME, NIT, Warangal.* *Mobile: raghavendra.gujjala@nitw.ac.in* *Email: 9985803317*	*External Member (University Nominee)*
9.	Sri A. Nageshwar Reddy	*Scientist 'D', RCI/DRDO, Hyderabad,* *Mobile: 9492435669* *Email: a.nageshwarreddy@rcilab.in*	*External Member (from Industry)*
10.	Sri C. Sridhar Reddy	*Director, Prathiraj Metal Masters Pvt. Ltd. Hyderabad* *Mobile: 9963976174* *Email: sridharreddy@prathiraj.com*	*External Member (from Industry)*
11.	Sri C. Ratnakar Reddy	*ADE, KTPP-TSGENCO, Chelpur, Bhupalapally* *Mobile: 9493123121* *Email:cratnakarreddy@gmail.com*	*External Member (from Industry)*
12.	Dr. Ch. Radhika	*Assistant Professor, MED, KUCE, Kothagudem* *Mobile: 8686876092* *Email: radhikareddy.chadee@gmail.com*	*External Member (Post Graduate Meritorious Alumnus–Academia / Industry)*
13.	Dr. P. Prabhakar Rao	*Associate Professor, MED, KITSW* *Mobile: 9440143262* *Email: ppr.me@kitsw.ac.in*	*Co-Opted Member-1*
14.	Dr. P. S. S. Murthy	*Sr. Assistant Professor, MED, KITSW* *Mobile: 9347551710* *Email: pssm.me@kitsw.ac.in*	*Co-Opted Member-2*
15.	Sri A. Hari Kumar	*Assistant Professor, MED, KITSW* *Mobile: 9618329820* *Email: ahk.me@kitsw.ac.in*	*Co-Opted Member-3*