



RAMCO INSTITUTE OF TECHNOLOGY

Approved by AICTE, New Delhi & Affiliated to Anna University

NAAC Accredited with 'A+' Grade & An ISO 9001: 2015 Certified Institution

NBA Accredited UG Programs: CSE, EEE, ECE and MECH

Department of Mechanical Engineering

Academic Year 2024 – 2025

Minutes of Meeting – 7th Department Advisory Committee

Date of Meeting	: 25.01.2025 (Saturday)
Time of Meeting	: 10:00 AM to 01:00 PM
Reference	: RIT/MECH/DAC/07-03
Venue	: Mechanical Seminar Hall
Frequency of Meeting	: Once in a year

Major functions of Department Advisory Committee meetings are

- Review of Academic plans preparation by the department, Student performance, Faculty contributions, stakeholder's feedback and department progress.
- Observe the progress of Curricular development, Curriculum gap in existing syllabus, Content beyond syllabus to meet PEOs, PSOs and POs.
- Appraisal of student support system Co-curricular / Extra-Curricular activities.
- Monitor the status of continuous improvement.

The meeting was convened with the following Agenda:

- Review of action taken and & Report of the 6th DAC Meeting
- Dissemination and revision of Department Mission, PEOs, PSOs
- Review of stake holders / Summary of feedback collected
- Monitoring the progress of Autonomous Curriculum Design , Teaching and Learning, Assessment and Evaluation
- Proposed attainment of Cos with POs, PEOs and PSOs.
- Implementation of NEP, CDIO and SDG.
- Review of student progression
- Review of faculty members progression
- Industry Institute Interaction progress
- Governance and Administration
- Status of Continuous Improvement

The members present in the meeting are given below

Members Present: 1. Dr.P.Sathiya, Professor, Department of Production Engineering, National Institute of Technology, Tiruchirappalli. 2. Dr.G.Kumaraguruparan, Professor, Department of Mechatronics Engineering, Thiagarajar College of Engineering, Madurai. (Attended thro' online) 3. Dr.K.Devakumaran, Senior Manager, Methods Welding, Advanced Technology Products, Bharat Heavy Electricals Limited, Trichy 4. Mr.Sakthivel Kaliappan, Project Lead, Startup TN, Tamilnadu Startup and Innovation Mission, Department of MSME, Govt of Tamilnadu. 5. Mr.V.Prathip, Director, Maniyak Engineering Private Limited, Coimbatore. 6. Mr.A.R.Jaisaravana, Senior Production Manager, Gowri House Metal Works LLP, Rajapalayam 7. Mr.N.Gokulakrishnan(Batch 2016-20), Assistant Manager Mechanical, The Ramco Cements Limited, Nagercoil Packing Plant, Kanyakumari 8. Mr.A.Krishna Kumar(Batch 2018-22), Managing Director, POV Solution skills and Career, Sivakasi	Internal Members From RIT 1. Dr.S.Rajakarunakaran, HoD/MECH 2. Dr.K.Karthikeyan, Prof/EEE 3. Dr.O.Senthilkumar, Prof/CHE 4. Dr. P. Thiruramanathan, ASP/PHY 5. Dr.T.Chockalingam, AP(SG)/Civil 6. Dr.V.Sivakumar, Prof/MECH 7. Dr.J.Jerold John Britto, ASP/MECH 8. Dr.S.Maharajan, ASP/MECH 9. Dr.G.Prabu Ram, AP(SG)/MECH 10. Mr.R.Arun Kumar, AP(SG)/MECH 11. Mrs.K.Kanjana, Parent of Amrish Ram Kumar R, (II Year) 12. Mr. M.Jeeva, (III Year) 13. Mr.T.Gokulram (II Year) Faculty Members – Dept. of Mech. Engg., 1. Dr.P.Sureshkumar, Prof 2. Dr.M.Lakshmanan, ASP 3. Mr.M.Ashok Kumar, AP(SG) 4. Mr.C.Gururaj, AP(SG.) 5. Mr.M.Sivagaminathan alias Balaji, AP(SG.) 6. Mr.S.Valai Ganesh, AP (SG.) 7. Mr.L.Karthikeyan, AP (SG.) 8. Mr.R.Venkatesh, AP (SG) 9. Mr.M.Ramar, AP (SG) Special Invitee 1. Dr.L.Vijayaraghavan, Adjunct Professor 2. Dr. K. Santhi Maheswari, AP/ENG 3. Ms.L.Krishna Kumari, AP/ECE 4. Dr. T. Manimaran, ASP/Maths
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Leave / On Duty

Sl. No	Name of the member	Designation	Position	CL/OD/Remarks
1.	Mr.A.Thulasiram,	DGM - Factory Head, Gowri House Metal Works LLP, Rajapalayam	Industry Member	Official Meeting
2.	Mr.A.Arun Shenbaga Raj (Batch 2016-20)	Proprietor, ASR Solutions 145(21)/1, St Marys ITI Complex, Kuthukkal Valasai, Tenkasi	Alumni Member	Client Meeting
3.	Dr.A.Lakshmi	Professor, ECE, Ramco Institute of Technology, Rajapalayam	Other Department Member	AU central Valuation

4.	Dr.M.Gomathy Nayagam	Associate Professor, CSBS, Ramco Institute of Technology, Rajapalayam	Other Department Member	AU central Valuation
5.	Dr.G.Selvaraj	Assistant Professor, Maths, Ramco Institute of Technology, Rajapalayam	Other Department Member	AU central Valuation

Dr.G.Prabu ram, AP(SG)/Mech. welcomed all the DAC members.

Dr.S.Rajakarunakaran, Prof. and Head / Mech. Presented the 7th DAC agenda as follows:

7th DAC Meeting Agenda (25.01.2025)

- ✓ Review of 6th DAC Meeting.
- ✓ Dissemination of Institute/Dept. Vision, Mission, PEO & PSO
- ✓ Monitoring the progress of Autonomous Curriculum Design and Development, Teaching and Learning, Assessment and Evaluation.
- ✓ Review of attainment of COs, POs, PSOs, PEOs and Implementation of NEP, CDIO and SDG
- ✓ Review of stake holder's feedback
- ✓ Review of students progression:
- ✓ Students Enrolment Ratio, Students Success Rate, Students Academic Performance, Placement, Higher Studies and Entrepreneurship, Professional Activities.
- ✓ Review of faculty members' progression
- ✓ Student-Faculty Ratio, Faculty Cadre Proportion, Faculty Qualification, Innovation by Faculty in Teaching and Learning, Faculty Participations, Research and Development, Faculty Performance Appraisal, Visiting/Adjunct Faculty.
- ✓ Industry Institute Interaction Progress
- ✓ Governance and Administration
- ✓ Status of Continuous Improvement.

SL.NO	Activities/Tasks proposed	Action Taken
1.	Invite the industry person to deliver the content in the syllabus (preferably Unit V) based on the need.	Organized guest lecture and hands on experience on Fused Deposition Modelling (FDM) by Medsby Healthcare and Engineering Solutions, Coimbatore on 04.10.2024 Industry Guest Lecture.pdf
2.	Offer an entrepreneurial course to all the department students by the entrepreneurs from the Department of Mechanical Engineering.	Entrepreneur course and lectures are handled every year in association with IIC, EDII & MSME.
3.	Refer the Dr.Radhakrishnan Committee report "Transformative reforms for strengthening periodic assessment and	Transformative reforms for strengthening periodic assessment and accreditation of all higher educational institutions in India was referred and followed to attain good rankings.

SL.NO	Activities/Tasks proposed	Action Taken
	accreditation of all higher educational institutions in India” for NBA, NAAC accreditation and NIRF ranking.	
4.	Give more preference for student exchange programme after obtaining the autonomous status.	Yet to receive autonomous status from Anna university. Once received we will conduct.
5.	It is definitely commendable to put vertical in-charges for providing the honor courses. The identified faculty members can draft a specific plan and tactics for learning about those verticals.	Domain and Academic coordinators are separately nominated to offer the specialized courses to the students.
6.	Internships with pay should be encouraged for students, and these internships should lead to job offers.	Students has availed Paid Internships from reputed Institution.
7.	The highly appreciable to see there are international participations in pursuing higher studies. The number should be increased.	Higher Studies Pursuing Students 2023 – 02 students (one from PSG Tech, Coimbatore and one from Fachhochschule Südwestfalen, Germany) Higher Studies 2023.pdf 2024 – 02 students (1 form Dhanlakshmi Srinivasan College from Coimbatore and Samundra Institute of Maritime Studies, Mumbai)Higher Studies 2024.pdf
8.	It is very encouraging that the department has a strategy in place to boost student involvement in the India Skills program. The proposed plant’s execution and efficacy need to be closely watched.	<u>Participated our students in the cleared “TN Skills 2023-Round 1 events.</u> • CNC Turning • CNC Milling • Industry 4.0 • Mechatronics • Additive Manufacturing <u>Our students in “TN Skills 2023-shortlisted for the final Round</u> • Additive Manufacturing • Mechatronics <u>Our students in “TN Skills 2024 Final Round</u> • Robot System Integration • Additive Manufacturing
9.	The quality of the placements should be improved. It is important to encourage and increase the number of students who choose to pursue higher education.	• 2019-2023 Batch Avg. CTC – 2.5 Lakhs • 2020-2024Batch Avg. CTC – 2.6 Lakhs • 2021-2025 Batch Avg. CTC – 2.7* Lakhs
10.	Details of the numerous project proposals that the department may have submitted to the various funding organizations may have been included in the presentations.	Faculty members are submitting their research proposals to various agencies such as TNSCST, IE(I), MSME, DST.
11.	The department’s research accomplishments deserve high praise. The department should aim for holding on-going funded projects all the time	Received funding from following agency. Funded Projects SERB, DST, IE(I), MSME, TNSCST

SL.NO	Activities/Tasks proposed	Action Taken
12.	Suggested that allow the students to do project work throughout the 8th semester and generate tangible outcome. The internship should not be affected the progress of the final year project.	As per the 2021 regulation mechanical students to do the projects during entire 8th semester alone. 2021 syllabu
13.	Overview the National Education Policy and discuss in the Governing Council Meeting and take the necessary steps toward Academic Bank of Credits.	Discussed in the GC meeting. It is in progress. Academic Bank credits through NPTEL Courses are motivated to the students.
14.	Appreciated the mechanism adopted for the slow learner identification. Review the progress of the slow learners between the internal assessment tests.	Reviewed the progress of slow learners. Slow Learners Progress
15.	Motivate and encourage a greater number of students to appear for GATE exam.	GATE Appeared Students Count. 2023 - 03 Students 2024 – 10 Students
16.	Mentioned to give awareness program on govt. opportunities and IGBC professional society.	Conducted awareness programs under IGBC professional societies Events 23-24 IGBC. Mr.R.Arunkumar, AP(SG)/Mech awarded a IGBC Accredited professional Examination Accredited Professional.

The detailed presentation of Agenda 1–11 by the respective faculty members from the Department of Mechanical Engineering is given as an Annexure. The members who presented in the meeting had an interaction with each presenter and shared their valuable comments.

TEACHING AND LEARNING, ASSESSMENT AND EVALUATION, AUTONOMOUS CURRICULUM DESIGN AND DEVELOPMENT

TEACHING AND LEARNING PROCESS



PROPOSAL:

At present, the PO attainment is calculated with respect to courses. It is proposed to calculate the attainment with respect to each course outcomes

TEACHING AND LEARNING, ASSESSMENT AND EVALUATION, AUTONOMOUS CURRICULUM DESIGN AND DEVELOPMENT

CURRICULUM GAP IDENTIFIED AY 23-24

Students, Alumni

Industry Experts

Field / Professional experts

Academic Experts

Thermal Domain:
 CME385 Refrigeration and Air Conditioning
 CME 362 Energy Conservation in Industries

Design Domain:
 CME340 CAD/CAM

Manufacturing Domain:
 ME3393 Manufacturing Processes
 CME387 Non-Traditional Machining Processes
 MG8091 Entrepreneurship Development

SAMPLE GAP IDENTIFICATION

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Department of Mechanical Engineering
Academic Year: 2023 - 2024 (1st Semester)

SUGGESTION FROM EXPERTS TO IMPROVE TEACHING/LEARNING PROCESS

Course Code & Title: CME362 Energy Conservation in Industries
 Regulation: Anna University (Regulation 2021)
 Name of the Faculty member: Mr.R.Arunkumar, AP/Sci/Mechanical
 Name of the Expert: Dr.S.Hydras, Prof & Head, Department of Mechanical Engineering
 National Engineering College, Karapatti
 Certified Energy Auditor

Unit	Remarks / Feedback about existing plan	Suggestion for improvement
Unit I Introduction	Energy scenario of World, India and TN - Environmental aspects of Energy Generation - Material and Energy Balancing - Energy Auditing: Need, Types, Methodology and Barriers. Role of Energy Managers, Basic Instruments for Energy Auditing	1. Types/Forms of Energy relevant to the course may be included. 2. Role of Energy Auditors may be included.
Unit II Electrical Supply Systems	Electricity Tariff structures - Typical Billing - Demand Side Management - HT and LT supply - Power Factor - Energy conservation in Transformers - Harmonics	Nil
Unit III Energy Conservation in Major Thermal Units	Steamboilers - Combustion principles, Energy conservation in Boilers - Steam Distribution Systems - Turbines - Thermal Fluid Heaters - Cooling Towers - D/G, steam Insulation and Refractories - Waste Heat Recovery Devices	Energy Conservation in Heat Exchangers may be added
Unit IV Energy Conservation in Major Electrical Utilities	Energy conservation in Motors - Pumps - Fans - Blowers - Compressed Air Systems - Refrigeration and Air Conditioning Systems - Illumination systems	Nil
Unit V Energy Monitoring, Targeting, Labeling and Economics	Elements of Monitoring & Targeting System - CUEM - Energy / Cost index diagrams - Energy Labeling - Energy Economics - Cost of production and Life Cycle Costing - Economic evaluation techniques - Discounting and Net-Discounging - ESCO concept - PAT scheme	Nil

Overall Feedback/Suggestion (if any): Case Studies in different industries may be included wherever possible.

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Department of Mechanical Engineering
Academic Year: 2023 - 2024 (Odd Semester)
COURSE PLAN - THEORY

Degree, Semester & Branch: V Semester B.E. Mechanical Engineering
 Regulation: Anna University R-2021
 Course Code & Title: CME362 Energy Conservation in Industries
 Name of the Faculty member: Mr.R.Arunkumar, AP(SG)/Mechanical

Contact Details:
 Phone : 9994706629
 E-mail : arunext@ramco.ac.in
 LMS Link : https://vsnvas.instructure.com/courses/7174017

B. Content Beyond Syllabus Plan:

Sl. No.	Topic(s) to be taught	Instructional Methods	TL/DCO Mapping	Relevance to POs & PSOs	Remarks
1.	Types of Energy	Passive Correlation from School Physics	TL01 / CO1	PO6	Suggested by Academic Expert
2.	Role of Energy Auditors	Demonstration using Website	TL016 / CO1	PO6, PO7	Suggested by Academic Expert
3.	BEE Energy Manager and Energy Auditor Exam	Demonstration using Website	TL016 / CO1	PO6, PO7	Self-inclusion
4.	Energy Conservation in Heat Exchangers	Passive with Q & A	TL08, 9	PO1	Suggested by Academic Expert

Thermal Domain Sample Gap Identification – CME362 Energy Conservation in Industries from Academic Expert

Course Outcome Target Calculation (R2021)

Existing

Sl. No	Parameters	Allocated Weightage (%)
1.	Performance in Prerequisite Course, If any*	30%
2.	Number of Times Subject handled	5%
3.	Faculty Experience	5%
4.	Course Performance in Last two semester*	40%
5.	Student Quality	20%

Currently Using

Batch	Target Attainment
2020-2021 (Average of GPA ₁)	1.0 for Theory Courses & 2 for Laboratory Courses/Projects
2021-2022 (Average of GPA ₂)	Average of GPA ₁ × 0.3
2022-2023 (Average of GPA ₃)	$\left(\frac{\text{Average of GPA}_1 + \text{Average of GPA}_2}{2} \right) \times 0.3$
2023-2024	$\left(\frac{\text{Average of GPA}_1 + \text{Average of GPA}_2 + \text{Average of GPA}_3}{3} \right) \times 0.3$

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CURRICULUM DEVELOPMENT - AUTONOMOUS



Discussion - DRM



Feedback from Adjunct Faculty



Discussion - Domain Coordinators



Discussion - DRM

OVERVIEW OF CREDITS

Sem	PCC	PEC	ESC	HSMC	ETC	OEC	SDC	UC	SLC	Total
I			4	11			7	1		23
II			10	11				1		22
III	14		4	4			2			24
IV	18		4				3			25
V	14	3					3	4	1	27
VI		12			3	3	1	2		21
VII	11	3			3	3	3	3		26
VIII							8			8
Total	57	18	22	26	6	6	29	11	1	176
% of Category	32.38	10.22	12.5	14.77	3.40	3.40	16.47	6.25	0.56	

PCC – Professional Core Course
 PEC – Professional Elective Course
 ETC – Emerging Technology Course
 OEC – Open Elective Course
 SLC – Self Learning Course

ESC – Engineering Science Course
 HSMC – Humanities Science and Management Course
 SDC – Skill Development Course
 UC – University Course

Source: AU Curriculum – 2023 (Revised) – Univ. Dept.

CO-PO-PSO : Assessment Tools

Course Outcome (CO)

- 5 course outcomes for each course
- Index number assigned Example: C412 for Engineering Economics
- Tools
 - Direct Assessment – Internal Assessment Test, Assignments, Tutorial, Model Exam (Lab courses), Project reviews.
 - University examination.
 - Indirect Assessment – Course exit survey

Program Outcome (PO)/ Program Specific Outcomes (PSO)

- CO-PO Mapping, CO-PSO mapping
- Tools
 - Direct Assessment – CO attainment
 - Indirect Assessment – Program Exit Survey, Alumni feedback

Course Attainment Procedure

Theory courses

	Assessment Tool	Weightage	Frequency
CO Attainment	Internal Assessment Tests (40%)	90%	Thrice in a Semester
	University Examination (60%)		Once in a Semester
	Course Exit Survey	10%	Once in a Semester

Laboratory Courses

	Assessment Tool	Weightage	Frequency
CO Attainment	Continuous Internal Assessment (80%) + Model Test (20%) [40%]	90%	Every Week
	University Practical Examination [60%]		Once in a Semester
	Course Exit Survey	10%	Once in a Semester

Attainment Rubrics

- 1 • 60% of Students ≥ 60 Marks, ≥ 50 for university
- 2 • 70% of Students ≥ 60 Marks, ≥ 50 for university
- 3 • 80% of Students ≥ 60 Marks, ≥ 50 for university

Attainment

	Assessment Tool	Weightage	Frequency
Continuous Assessment	Reviews	40%	3 Reviews
University Assessment	Viva-Voce	60%	Once in a Semester

Project Work Assessment

Direct & Indirect PO/PSO Attainment Calculation

Direct PO/PSO Assessment:

- **CO Attainment Ratio of Course** = $\frac{\text{CO Attainment of Course}}{\text{Maximum attainment Value (i.e 3)}}$
- **PO Attainment of course** = CO Attainment Ratio of Course X PO Mapping Value of Course
- **PSO Attainment of course** = CO Attainment Ratio of Course X PSO Mapping Value of Course

Indirect PO/PSO Assessment:

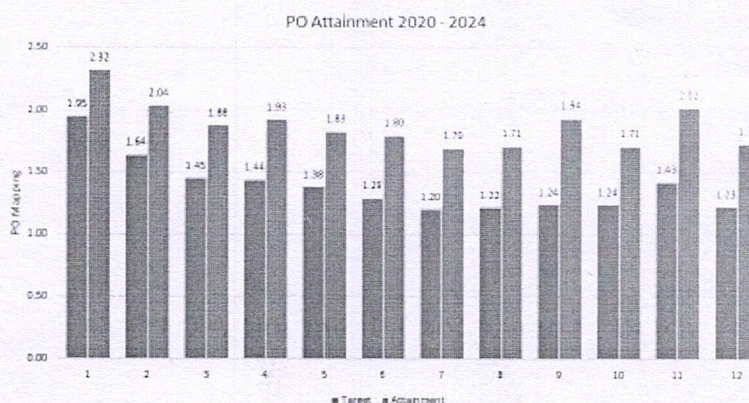
Sl. No.	Tools used for Assessment processes	Academic Batch			
		2020-21	2021-22	2022-23	2023-24
1	Program Exit Survey	✓	✓	✓	✓
3	Course Exit Survey	✓	✓	✓	✓

PO attainment for respective course = 80% of Direct Assessment + 20% of Indirect Assessment (10% each)

Note: Proposing to Map Each CO attainment with Individual PO Instead of Cumulative Average

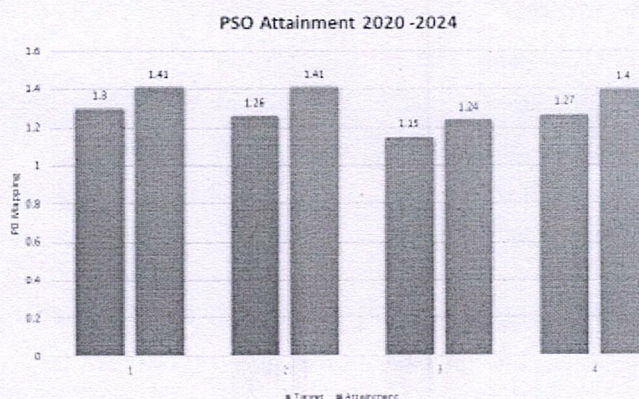
PO Attainment – 2020 – 2024 Batch

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PO Mapping	2.60	2.19	1.94	1.92	1.85	1.72	1.61	1.62	1.84	1.65	1.90	1.63
Target	1.95	1.64	1.45	1.44	1.38	1.29	1.20	1.215	1.24	1.24	1.425	1.225
Attainment	2.3168	2.0360	1.8792	1.9281	1.8273	1.79784	1.6965	1.7128	1.94039	1.7122	2.0207	1.7351



PSO Attainment - 2020 - 2024

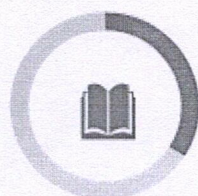
PSO	PSO1	PSO2	PSO3	PSO4
PSO Mapping	1.74	1.68	1.54	1.69
Target	1.30	1.26	1.15	1.27
PSO Attainment	1.41	1.41	1.24	1.40



Implementation of NEP, CDIO and SDG in the autonomous curriculum

1. Align curriculum with NEP guidelines by introducing flexible, multidisciplinary courses, incorporating CDIO (Conceive-Design-Implement-Operate) principles for experiential learning, and embedding SDG themes across disciplines.
2. Focus on developing critical thinking, problem-solving, and innovation skills through hands-on projects, case studies, and industry-oriented training aligned with NEP and CDIO frameworks.
3. Promote interdisciplinary programs that address SDG goals (e.g., renewable energy, smart cities) by encouraging collaborations among students, faculty, and industry.
4. Implement competency-based assessments focusing on outcomes such as design thinking, sustainability impact, and entrepreneurial ability to ensure alignment with CDIO and SDG principles.
5. Train educators on NEP, CDIO methodologies, and SDG frameworks to effectively deliver the curriculum while advancing innovation, inclusivity, and sustainability in education.

CAY 2024-25



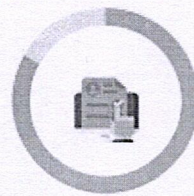
37/60 = 61%

Enrolment Ratio
CAYm1 2023-24



56/60 = 93.33%

CAYm2 2022 -23

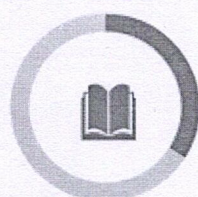


35/60 = 58.33%

Enrolment Ratio:
70.88%

Success Rate of the Students

LYG 2020-24



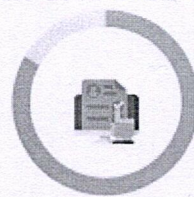
70/80 = 87.5%

LYGm1 2019-23



57/41 = 87.23%

LYGm2 2018 -22

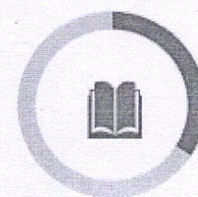


96/97 = 98.96%

Average Success
Rate: 90.99%

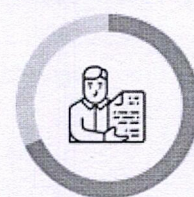
Academic Performance of the First-Year

CAYm1 2023-24



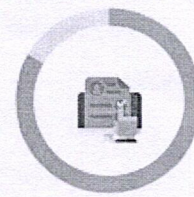
X = 6.692

CAYm2 2022-23



X=7.287

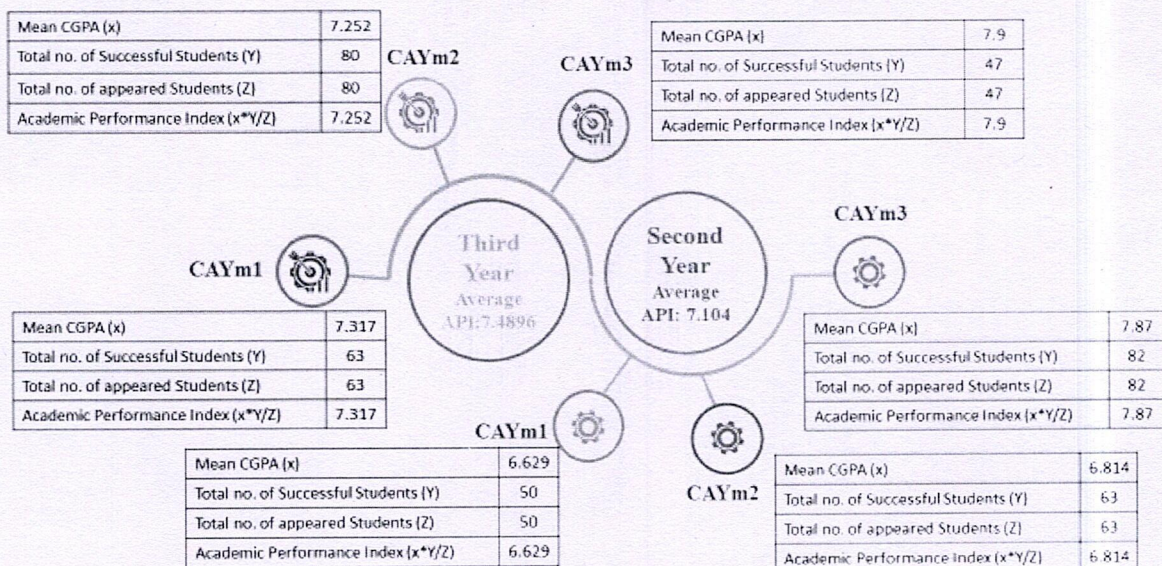
CAYm3 2021 -22



X=6.870

Average API = 6.882

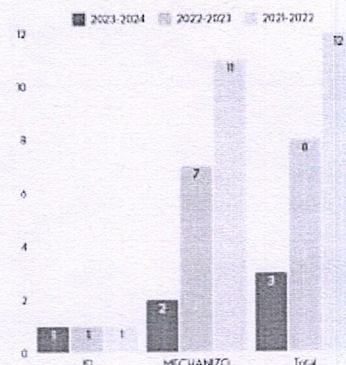
Academic Performance



Professional Activities

List of active professional societies/bodies/chapters/club

S.No.	Name of the Professional Societies/Bodies, Chapters, Clubs
1	ISTE (Indian Society of Technical Education)
2	SAEINDIA Collegiate Club
3	IE(I) Mechanical Chapter (626117/RIT/MC)
4	ISHRAE (Indian Society of Heating, Refrigerating and Air Conditioning Engineers)
5	RIT Mechanizo
6	Automation and Robotics Club



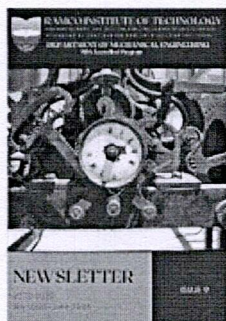
List of events/programs organized- National Level

Professional Activities

Publication of Journals, Magazines, Newsletters, etc. in the Department



Techno Mechanic
2023



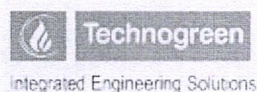
Newsletter 2022-2023



Techno Mechanic
2022

PLACEMENT STATISTICS 2020 – 2024 Batch

Total Number of Students	= 80	No. of Core Companies Visited Campus	= 44
No. of students registered for Placement	= 70	Median Salary	= 2.268 LPA
No. of Students got Placed	= 69		



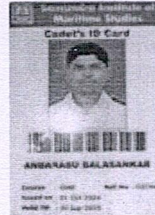
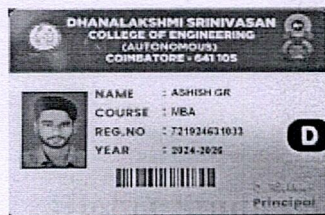
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Higher Studies & Entrepreneurship Details

Number of Students Pursuing Higher Studies = 3

Number of Students turned Entrepreneur = 1

S.NO	Name of the Student	Name of the Institution Joined	Name of the Program Admitted
1.	Ashish G R	Dhanalakshmi Srinivasan College of Engineering	MBA
2.	Anbarasu B	Samudra Institute of Maritime Studies	GME
3.	Shashwath D	K M College of Music and Technology,	EMP (Electronic Music Producer)



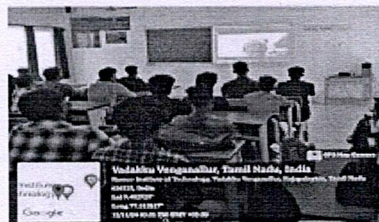
Visiting Faculty (Adjunct Faculty) Progress



Dr.L.Vijayaraghavan,
Department of Mechanical
Engineering
IIT Madras (Retired)
Date of Appointment:
06.04.2022

Activities:

1. Discussion on outcomes and initiation of next year International Conference Mechanical Engineering (17.7.2023)
2. Mr.S.P.Cheran Final year Mechanical Engineering Successfully completed **45 days** internship at **Department of Mechanical Engineering, IIT Madras** under the guidance of Associate Professor Dr.N.Arunachalam. (05.09.2023)
3. Suggestion are provided for the expert member's nomination in Board of studies and Research council of Mechanical Department. (05.09.2023)
4. Online motivation session "Importance of Mechanical Engineering and Job opportunities" (12.11.2024)
5. Curriculum Development Meeting along with Domain Coordinators, Professors and NBA Coordinator. 13.11.2024 (Wednesday)



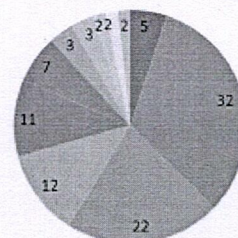
Faculty Innovative Practices 2023-2024

Sl. No.	Subject code & Name	Name of the Faculty Member(s)	Topic	Name of the Innovative practice
1.	GE8077 Total Quality management	Dr.S.Rajakarunakaran Mr.G.Prabu ram	Customer Satisfaction	coolmath games- Coffee shop
2.	GE8077 Total Quality management	Dr.S.Rajakarunakaran Mr.G.Prabu ram	Team and Team Work	1. Guide the Blind 2. Hula Hoop 3. Water Relay Race
3.	MF8071 Additive Manufacturing	Dr.J.Jerold John Britto	I INTRODUCTION AM Process Chain, Classification.	Exploring the Foundations: NPTEL's Introductory Lecture
4.	ME3493 Manufacturing Technology	Dr.S.Maharajan	CNC Turning Part Programming	Theory to Practice
5.	MG8091 Entrepreneurship Developme	Mr.R.Arun Kumar, AP(SG)/Mech	Types of Entrepreneurs	Activities on types of Entrepreneur
6.	CME340 CAD/CAM (Honors Course)	Dr.J.Jerold John Britto	Unit V CAM CNC Part Programming	CNC Mastery: From Code to Cut
7.	CME340 CAD/CAM (Honors Course)	Dr.J.Jerold John Britto	II 2D Drafting	Hands-On Workshop (Industry Assisted)
8.	CME380 Automobile Engineering	Mr.L.Karthikeyan	Unit-I/Vehicle Structure and Engines	Reflective Journal Activity
9.	CME362 Energy Conservation in	Mr.R.Arun Kumar,	Unit I / Energy Auditing	Auditing exercise

Department Budget Allocation 2024-2025

Budget Head	Amount in Rs.	Percentage
Academic	150000	5
Recurring Items	950000	32
Research and development (Publications, IP Generations, Research center, R&D activities)	641667	22
General Amenities/Maintenance/Spares/AMC	350000	12
Co-Curricular Activities	312500	11
Extra-curricular Activities	200000	7
Faculty Competency	100000	3
Organizing Events	100000	3
Governance/Admin	50000	2
Training and Placement (Department Level)	50000	2
Others	50000	2
Total	2954167	100

Student Strength: 215 (37+63+52+63)

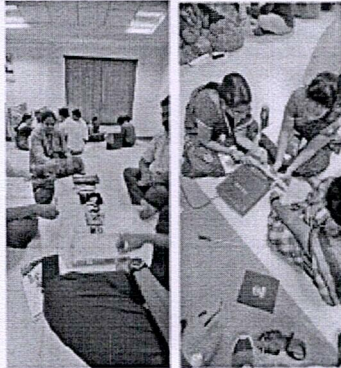


- Based on the first year admission AY 2024-2025, the revised budget has been allocated in the month of October 2024
- Approval through ERP
- Tracking the expenditure details through <https://docs.google.com/spreadsheets/d/1BImww0HMyi3E2pV44q-fNBXWcZiReFF08cXiYDRtFo/edit?gid=0#gid=0>

- Academic
- Recurring Items
- Research and development (Publications, IP Generations, Research centre, R&D activities)
- General Amenities/Maintenance/Spares/AMC
- Co-Curricular Activities
- Extra-curricular Activities
- Faculty Competency
- Organizing Events
- Governance/Admin
- Training and Placement (Department Level)
- Others

Implementation of CDIO framework – Innovation in Engineering Education (RIT is a CDIO member Institute)

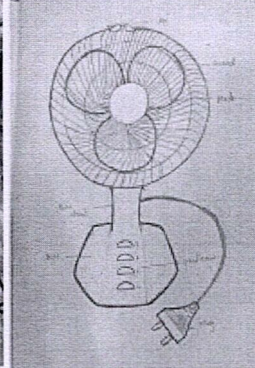
Learn Engineering by Activity by Products (LEAP) offered by LEAP, IIT Madras Research Park conducted for both faculty and students



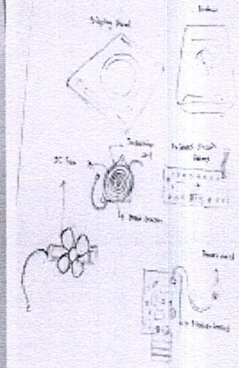
Faculty Competency Enhancement Programme (AY 2023-2024)



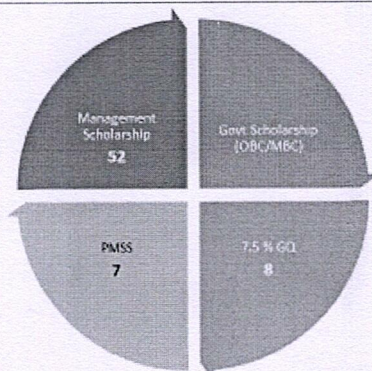
Student Programme (AY 2024-2025)



Student Creativity



Benefits for economically / socially challenged students



- Swachh Bharat Mission
- Tree Plantation
- Orphanage visit
- Temple Cleaning

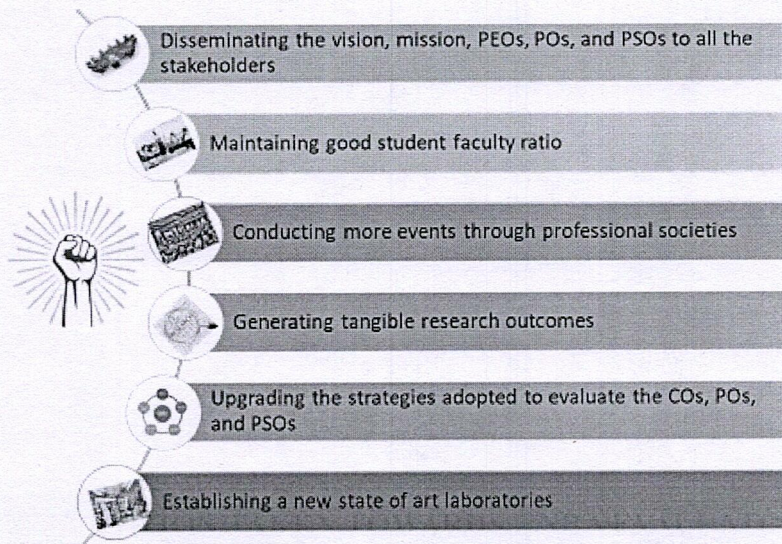
Outreach Activities

- World Environmental Day
- Yoga day
- Universal Human Values
- Power of Vote



ACTION TAKEN TOWARDS – NBA EVALUATOR'S VISIT REPORT

NBA Valid Up to – 30.06.2027

[illegible]

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Transformation of Affiliated Institution to Autonomous

Based on the eligibility criteria prescribed by the UGC Regulations 2023 – Notification F.No. 1-18/2021 (CPP-II) dated on 3rd April 2023 i) 10 years of existence ii) under section 2f of the UGC act (iii) Accredited by NAAC and NBA –application form is submitted in UGC web portal on 28.06.2023.

As per the Anna University Statutes on Academic Matters 2023, the details about the submission of application form is communicated to parent university on 03.07.2023.

For forwarding the application to UGC for Award of Fresh Autonomous Status, the soft and hard copy of PROFORMA is submitted to The Director, Centre for Academic Courses, Anna University, Chennai on 19.09.2023.

UGC declared Autonomous Status. Awaiting response from the Anna University. As per the bylaws, the constitution of the academic council, Board of Studies, and Finance Committees are going on.

Curriculum Design and Developmental work (domain wise) towards autonomous status is going on

Sustainable Development Goals



RIT is a signatory of the SDG accord since November 2023

- Disseminate the significance of SDG to all the stakeholders with internal and external resource persons
- Map the activities conducted inline with SDG
- Create a specific tab on the institute website
- All the dept. events will be mapped with the SDG target/ indicator

SDG Goal	3	6	7	8	9	10	11	12	13	15	17
Scopus Indexed Publications	14	9	18	3	22	1	8	5	2	1	10

Focusing on



Twitter

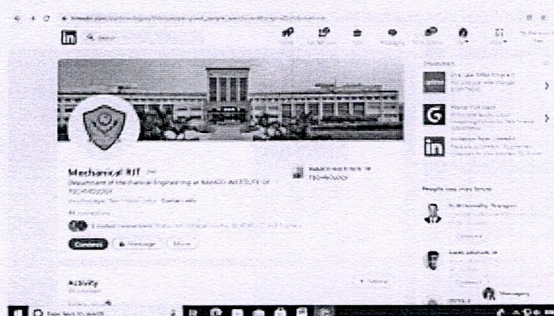


Dissemination
of
Department
Credentials

Facebook



LinkedIn



www.ritrpm.ac.in
www.linkedin.com/mechanical-rit
www.twitter.com/ritmechrjpm
www.instagram.com/ritmechrjpm
www.facebook.com/ritmechrjpm
<https://t.me/ritmechrjpm>

Industry Institute Interactions

Effectiveness of Industry supported Laboratory and MoU signed Industries



- 7 students completed 2 Weeks Internship & Industrial Training Programme
- Organized Industry assisted Hands-On Workshop on Creo 9.0



- Industrial visit on 23.09.2023
- Knowledge sharing lecture conducted on 09.01.2024.
- One batch completed final year project
- 11 students completed internship



Gowrihouse
Metal Works LLP

- 6 Lecture series conducted
- 8 students completed 2 weeks Industrial Training Programme



- TVS - ATP Orientation - III Year on 24.09.2024 & Eligible test on 09.10.2024
- 3 students completed 30 day slot - III ATP
- MSME Project visit on 29.09.2023 & 30.10.2023



- 9 students completed 2 weeks internship Programme



- One batch of students completed final year project



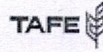
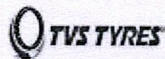
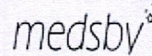
- 9 students - Internship from 22.01.2024 to 03.02.2024.
- Conducted Placement drive on 25.10.2024

Percentage of students undertaking project work/field work and internships

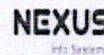
Sl. No.	YEAR	No of students	Completed two weeks mandatory internship	Percentage of Completed students
1	IV	63	63	100 %
2	III	50	50	100 %
3	II	55	-	-



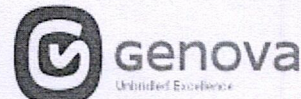
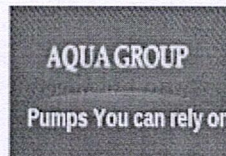
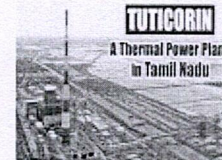
Gowrihouse
Metal Works LLP



Cultivating The World



Info Systems



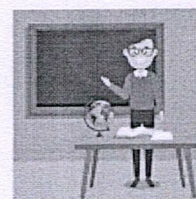
Criteria parameters :

Parameter	Particulars	Present progress
7.1	Actions taken based on the results of evaluation of each of the POs & PSOs	➤ 2023-2024 Odd sem – Attainment calculation completed ➤ 2023-2024 Even sem – In Progress
7.2	Academic Audit and Action Taken thereof during the Period of Assessment	➤ Academic Audit system/process and its implementation in relation to Continuous Improvement ➤ 26 th and 27 th ISO internal audit
7.3	Improvement in Placement, Higher Studies and Entrepreneurship	➤ Updated up to last passed out batch – 2019-2023 / 2020 – 2024 – updated (9 th PAQIC assessment period)
7.4	Improvement in the quality of students admitted to the program	➤ Data updated up to 2025 admission

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Department Present Progress:

- Closing the loop at course level, program level and institution level ensures quality assurance of the program.
- All COs attainment and POs attainment analysis is made to provide continuous improvement through course delivery, assessment and curriculum.
- Information regarding action taken based on the results of evaluation of each PO for two to three assessment years along with academic audit system / process, placement, higher studies, entrepreneurship and quality of students admitted to the program in relation to continuous improvement.



- Tailored additional courses – Up skill (Design thinking / CDIO approach / Integrated course / LEAP Program)
- Active Mentoring – Not limited to academics
- Project based learning / Digital tools and resources – Through Professional societies
- Parental communication (I and II year – PTA with 80% attendance)
- Data driven decision making – Domain Classification
- Project based learning (Mini Project)
- Professional Development (Trainings / Support additional courses / Interdisciplinary initiatives)
- Online courses (Mandate Maths course)
- Freedom on Course plan development
- Domain specific knowledge acquisition & Drive team
- Functional framework practice – Effective workload share / Delegate specific tasks to subcommittees or task forces to prevent overburdening a few individuals.

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7.2 Actions taken in relation to continuous improvement:

Observations	Actions taken for continuous improvement	Effectiveness
Internal Audit inference Audit 26th & 27th inferences		
Best Practices		
❖ Theme-based innovative practices are followed to enhance entrepreneurial thinking - MGS091	❖ Planned to continue the recorded good practices	✓ Continuous improvement in TLP
❖ T to P learning method used in ME3493	❖ Mentor system - A total of 25 students received mentoring, with 10 students actively following their envisioned paths	
❖ New Mentoring system – Separation of students and realize their potential	❖ In teaching learning, booklet-based tutorial sheets with rubrics terminology are being followed.	
❖ Tutorial Sheets with Rubrics – Problematic courses	❖ Tutorial – Students continuous follow-up	
Improvement Potential		
❖ Active and collaborative learning to be maximized for integrated courses.	❖ Active TLP recommended for all problematic courses	✓ Continuous improvement in TLP
❖ With the support of Adjunct faculty, design and develop the advanced courses in the upcoming semester.	❖ Curriculum design phase I meeting is completed on 13.11.2024 with Adjunct faculty (Online mode)	✓ Dynamic learning environment
❖ New Value added Courses can be designed, developed and it can be offered to all the students to meet out the outcome based attainment	❖ Domain wise – Curriculum design is in progress	✓ Enhancing bright students skill set
❖ Project proposal submission to various funding agencies can be increased	❖ 3 value added courses MVA031, 032, 033 approvals has been communicated to AU approval – Request sent on 25.07.2024	
❖ Interdisciplinary projects can be enhanced 5 to 10%	❖ Project proposal submission is mandated for faculty with PhD (ASP & Professor level)	
❖ Strategic plan can be followed for Training and Placement	❖ Placement and Training – Dept. level student ABC analysis is completed / Eligible students attending GATE coaching / Pursuing NPTEL domain courses	

7.2 Refinements leads to improvements:

Initiatives	Drive team	Outcome	Reference
Project based learning – Initiatives	HOD	Signed MoU with LEAP – Learn Engineering by Activity with Products.	DRM/2023-24 / Odd Semester / 02/18
Academic performance improvement – II & III year	Faculty members	Upon discussion, the following measures were decided to carry out: 1. Senior faculty members have to address the students regularly. 2. Coaching classes has to be planned for the II and III 3. Senior faculty members allotted to II and III year courses	DRM/2023-24 / Odd Semester / 03/11
New course plan – KCFs implementation	HOD & Academic coordinator	New course plan implementation	DRM/2023-24 / Even Semester / 02/11
LEAP program / Design thinking course plan	HOD & Faculty i/c	Leap program planned for I Year students – Completed Design thinking course for III Year students – Completed	DRM/2023-24 / Even Semester / 03/15
Industry – Student connect program initiatives	HOD & Faculty i/c	7 th February, 2024: Fintech Software Security & Compliance 8 th February, 2024: Industry 4.0 9 th February, 2024: IoT	DRM/2023-24 / Even Semester / 04/08

7.3 Improvement in Placement, Higher Studies and Entrepreneurship

Item	(B - 2017)	(B - 2018)	(B - 2019)	(B - 2021)	(B - 2022)	(B - 2023)	(B - 2024)
Total No. of Final Year Students (N)	71	141	143	118	97	47	80
No. of students placed in companies (x)	45	98	91	103	92	31	69*
No. of students admitted to higher studies with (y)	0	7	6	6	2	2	10*
No. of students turned entrepreneur (z)	1	2	6	1	-	-	-
$x + y + z =$	46	107	103	110	94	33	69*
Placement Index : $(x + y + z)/N$	0.65	0.76	0.72	0.93	0.97	0.70	0.86
Average placement= $(P1 + P2 + P3)/3$		0.71			0.87		-

* 10 students interested in higher studies / PSUs – 69 students placed out of 70

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7.4 Students admission details

Item		(60) (2024-25)	(60) (2023-24)	(60) (2022-23)	(60) (2021-22)
National Level Entrance Examination	No of students admitted	Not Applicable			
	Opening Score/Rank				
	Closing Score/Rank				
State/University/ Level Entrance Examination/ Others (TNEA)	No of students admitted	38	58	38	57
	Opening Score/Rank	174	176.5	168	184
	Closing Score/Rank	87.5	92	86.5	131.5
Name of the Entrance Examination for Lateral Entry or lateral entry details (DOTE)	No of students admitted	7	18	08	45
	Opening Score/Rank	94.40	89.68	91.93	94.52
	Closing Score/Rank	75.00	76.80	69.34	63.74
Average CBSE/Any other board result of admitted students (Physics, Chemistry & Maths)		64.52	66.49	59.80	80.34 (Covid Batch)
Batch Strength Overall (Enrolled)		38 + 22* *LE seats	65	56	65

Recommendations and suggestions given by the DAC members as follows:

1. Suggestions on Vision, Mission and PEO of the Department

VISION:

To be recognized nationally for its quality education, research and extension programmes in Mechanical Engineering

MISSION:

- Producing technically competent and socially responsible mechanical engineers by imparting knowledge of cutting edge technologies and contemporary issues
- Encouraging students for active participation in Co-curricular and Extra-curricular activities and societal outreach Activities.
- Motivate students to pursue higher studies, Entrepreneurs and research.
- Establish centres of excellence in promising fields of Mechanical Engineering / Emerging Fields
- Develop linkages with industries, R&D organizations and leading educational institutions in India and abroad for achieving excellence in teaching, research and consultancy activities with sustainability.

PEO

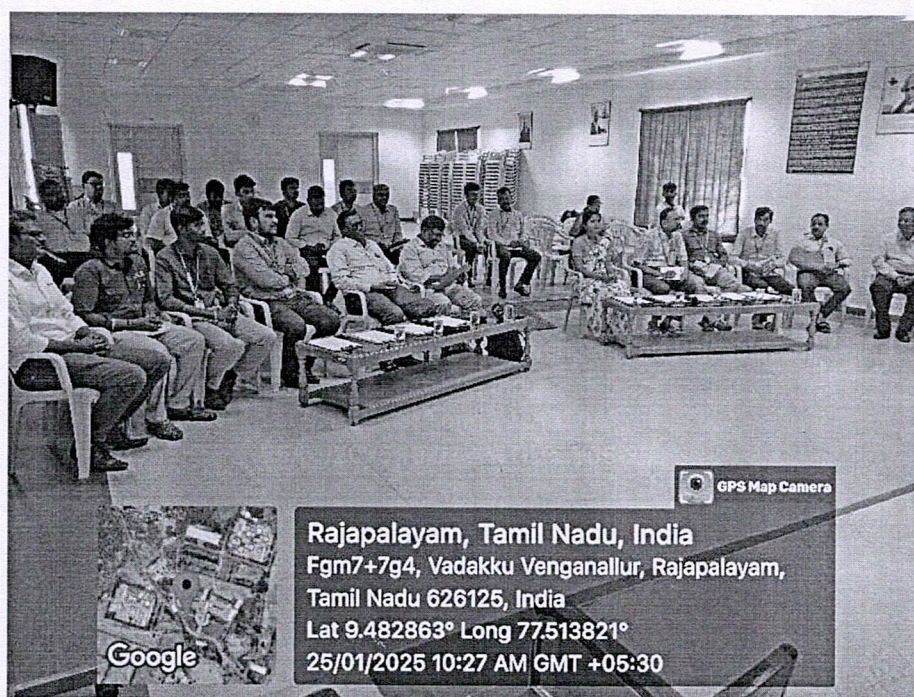
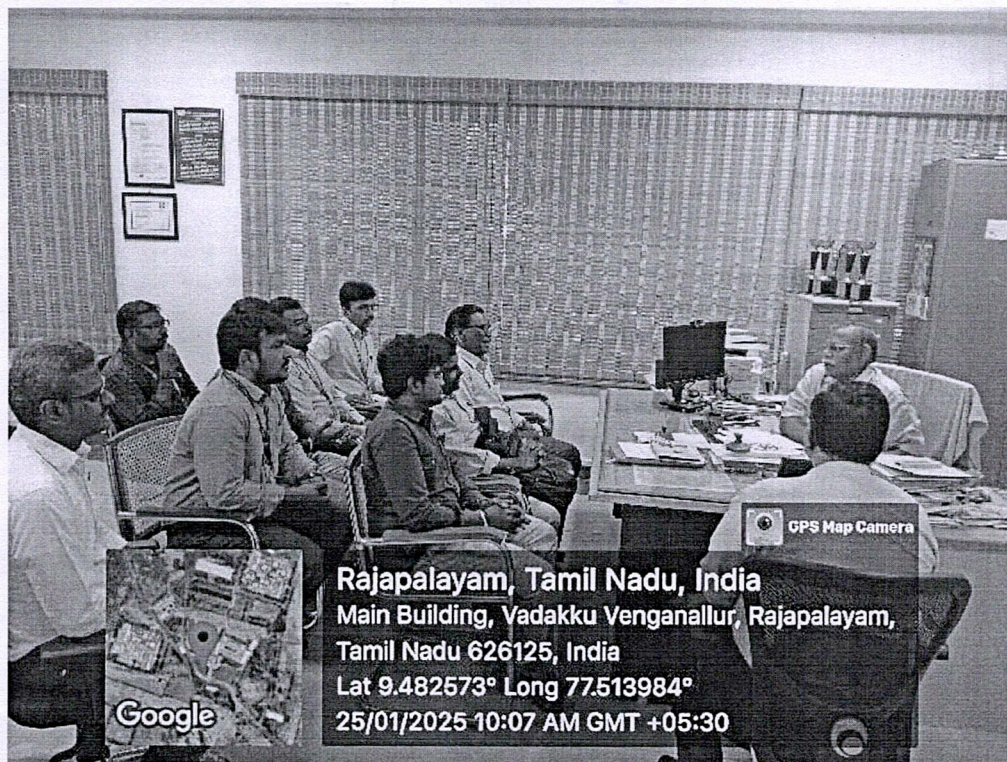
- Graduates will achieve success in careers that deal with the design, simulation and analysis of engineering systems, experimentation and testing, manufacturing, technical services, and research
- Graduates will demonstrate professional development by pursuing higher education and professional certification in the areas of mechanical engineering.
- Graduates will function both independently and as a member of a team in accomplishment of project with social and ethical responsibility

PSO

- Understand, analyse, apply, design and develop engineering systems adopting thermal, design and manufacturing concepts
- Utilize computational and design tools for efficient product development
- Apply the acquired knowledge for innovative solutions to cater societal needs and industrial problems

2. Suggested to offer skill development courses in collaboration with NSDC and other professional Institutes
3. Suggested to offer value added courses and industry linked courses in the emerging areas.
4. Members suggested to collect feedback from industrial experts, employers and alumni for the autonomous curriculum.

5. To enhance learning outcomes and bridge the gap between theory and practical, it is recommended to plan an integrated course syllabus for theory-cum-practical-connected courses.
6. Streamlined the total credits of the new curriculum can be as per the norms AICTE and Anna University Affiliations.
7. Suggested to effectively incorporate the courses related to Artificial Intelligence, Machine Learning and Deep Learning in the vertical courses
8. It is suggested to actions taken for higher studies with reputed institution with entrance such as GRE, TOFEL & IELTS. This may be given in the presentation in the form of awareness program conducted, counselling and mentorship, competitive exam preparation.
9. Members suggested to provide classes for other languages such as Hindi, Japan (preferably N5 & N4)) and based on the need.
10. Members suggested to allocating seed money for research projects would encourage faculty and students to explore innovative ideas and technologies, with financial support for the development of prototypes.
11. To enhance the overall development of faculty members and contribute to the institution's outreach, members suggested that extension activities of faculty members be added to their responsibilities such as Industrial projects and minimum 5 days Industrial Visits.
12. Members proposed to improve the overall academic performance, enhance graduate outcomes, and ensure students are better prepared for their future careers.
13. Members proposed to improve the consultancy related laboratory utilization.
14. Members suggested to conduct special coaching class cum revision test can be planned for slow learners during study holidays. Faculty members must be in close contact with their parents.
15. Members recommended to update research related equipment details apart from Anna university syllabus and their usage as well as outcome.
16. Members suggested to conduct a certification courses on SAP which is an employability course and Industry ready course specifically for final year and third year students
17. Regarding results improvement, more practice will be given through proper monitoring in coaching and advice the students to avoid using mobile phones and to keep their study materials in hardcopy.
18. No of students opting Higher studies and becoming an Entrepreneur can be improved.
19. Members Emphasised on Commercialization of Patents.
20. Members Proposed to give an awareness about SDG needs and analyse the impact of AI and Gen AI in teaching learning process.
21. Members appreciated the involvement of the faculty members in the department.
22. Members suggested to improve the enrolment of girl student in the department.



NBA Coordinator/Mech.
(Dr.G.Praburam, ASP I/Mech)

Dr. G. Praburam
2/5/25

Reviewed by
(HOD/Mech)

[Signature]
2/5/25

Approved by
(Principal)

[Signature]
25/2/25