Date:11- 04-2026

Board of Studies (BOS)

Minutes of meeting held on 11-04-2026, 02:00 PM – 04:00 PM & Action taken report.

Microsoft Teams (Online Meeting)

(Meeting Link: https://teams.microsoft.com/meet/42286433843335?p=BHto0xG9bidkFBFVgW)

Agenda:

1. R23 Regulation Course Structure (4-1 and 4-2 Semesters)
2. R23 Syllabus for 4-1 and 4-2 Semesters
3. R23 Syllabus of IV year, Minor and Honors Program
4. Any other matter

Minutes:

1. The Head of the Department, Dr. S. Baskaran welcomed all members to the BOS meeting.
2. Dr. S. Baskaran introduced external members and internal members to the participants.
3. Dr. S. Baskaran presented an overview of the institution, department, recent activities, and achievements.
4. Dr. S. Baskaran presented the agenda of the BOS meeting.
5. Dr. S. Baskaran presented the Academic initiatives to the BOS members and explained the following:
   - Regulations 2023 Course Structure and Syllabus for 4-1 and 4-2 Semesters
   - Students Projects & Internship
   - Syllabus of Minor and Honors Programs
6. Dr. S. Baskaran presented the course structure of R23 Regulations to the members.
7. The course structure for 4-1 &4-2 semesters are mentioned below:

IV Year I Semester

S. No.	Category	Course Code	Course Title	Hours Per Week				Credits
				L	T	P	Total	
1	PCC	23ME115	AI and ML for Mechanical Engineering	3	0	0	3	3
2	Management Course		**Management Course- II** *(ANNEXURE – V)*	2	0	0	2	2
3	PE		**Professional Elective – IV** *(ANNEXURE - IV)*	3	0	0	3	3
4	PE		Professional Elective – V *(ANNEXURE - IV)*	3	0	0	3	3
5	OE		**Open Elective – III** *(ANNEXURE - III)*	3	0	0	3	3
6	OE		**Open Elective – IV** *(ANNEXURE - III)*	3	0	0	3	3
7	SEC		**Skill Enhancement Course – V** *(Refer ANNEXURE - VI)*	1	0	2	3	2
8	AUC	23HUM901	Gender Sensitization	2	0	0	2	-
9	PROJ	23ME702	Summer Internship II	0	0	4	4	2
Total				**20**	**0**	**6**	**26**	**21**

IV Year II Semester

S. No.	Category	Course Code	Course Title	Hours Per Week				Credits
				L	T	P	Total	
1	PROJ	23ME703	Project Work and Internship	0	0	24	24	12
Total				**0**	**0**	**24**	**24**	**12**

(L = Lecture, T = Tutorial, P = Practical, C = Credit

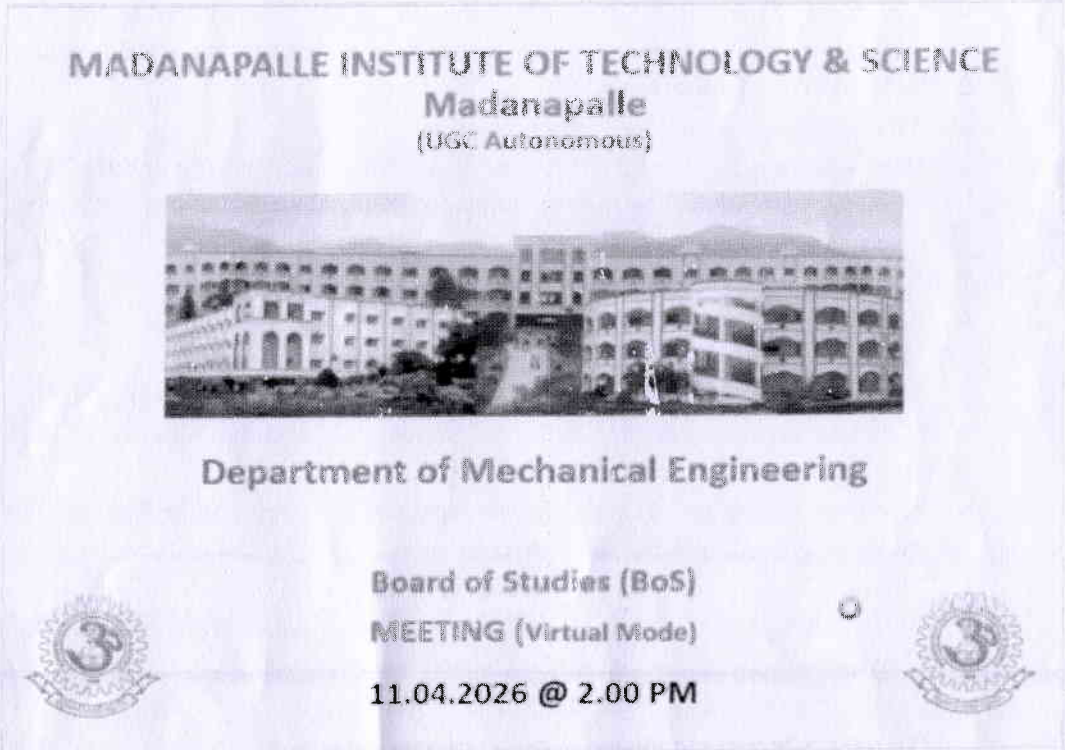
8. The members approved the course structure pertaining to IV-year B.Tech. Mechanical Engineering under R23 Regulations.
9. Dr. S. Baskaran has elaborated detailed discussion of syllabus of each course offered by ME dept.
10. 23ME115 AI&ML for Mechanical Engineering:
    - Members suggested to add real time mechanical engineering applications and algorithms.
    - Members appreciated the inclusion and implementation of the course "AI & ML for Mechanical Engineering" in the curriculum.
    - Members suggested to Keep first 3 units related AI and remaining 2 units related to ML.
    - All suggestions given by the members were added in the revised curriculum.
11. 23ME409 Computational Fluid Dynamics:
    - Members suggested to add application, case study in unit 5.
    - Members suggested to teach the course by including the application videos of CFD.

- All suggestions given by the members were added.

12. 23ME410 Power Plant Engineering:
    - Members suggested adding topics related to the importance and working principles of different types of power plants to enhance students' understanding of energy systems.
    - All suggestions given by the members were implemented.
13. 23ME411 Product Lifecycle Management:
    - Members appreciated the introduction of PLM Course and contents.
    - Members suggested to add some software tools related to PLM
    - All suggestions given by the members were implemented.
14. 23ME412 Mechatronics and MEMS
    - Members suggested to add field application.
15. 23ME413 Total Quality Management:
    - Members suggested including the importance of Quality Assurance in the curriculum to strengthen students' understanding of quality standards and practices.
16. 23ME414 Cryogenics and Space Propulsion:
    - Members appreciated the course content.
    - All members accepted the syllabus as it is.
17. 23ME415 Waste to Energy Conversion Technologies:
    - Members appreciated the course content.
    - Members suggested incorporating specific waste conversion techniques along with relevant case studies to enhance practical understanding and application.
18. 23ME416 Smart Manufacturing:
    - All members accepted the syllabus as it is.
    - Members suggested establishing tie-ups with manufacturing industries (such as Siemens, CMTI, etc.) to provide students with enhanced laboratory exposure and practical learning opportunities.
19. 23ME303 (OE4) Total Quality Management:
    - All members accepted the syllabus as it is.
20. 23ME304 (OE4) 3D Printing Technologies:
    - Members suggested to include the Advance Additive Manufacturing in Unit 5.
    - Members suggested to change the course name as Additive Manufacturing.
21. 23ME603 (SEC V) Drone Technology:
    - Members suggested evaluating the adaptability and comprehension levels of students while delivering the curriculum.
    - Members suggested to add history of unmanned aerial vehicle in Unit 1.
22. Dr. S. Baskaran presented the R23 Honor & Minor Course Structure and Syllabus of each course along with the department's vision and mission.
23. 23HDME105 (Honors) Rocket and Space Propulsion:
    - All members accepted the syllabus as it is.
24. 23MDME105 (Minors) Design of Gas Turbine Engines:

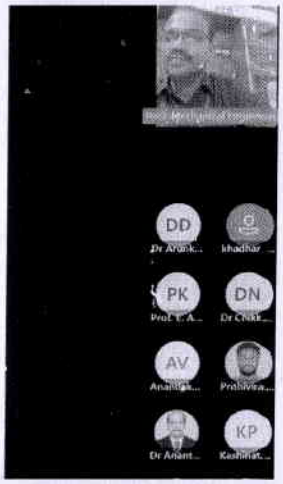
- Members observed that the minor course structure is aligned with the thermal engineering domain and suggested revising the title to "Minor in Thermal Engineering."
- Members suggested to offer more minor courses with equal importance of Design, Thermal, Manufacturing.

25. 23ME703 Project work and Internship:
    - Members suggested to encourage students to undertake offline internships in nearby industries and permitting them to carry out offline projects to enhance practical exposure.
    - One of the External Panel Members requested that an industrial visit be planned to ACE Designers, Bengaluru, to provide students with greater exposure to CNC machines and automation systems.
26. Dr. S. Baskaran presented the Mechanical Department Vision and Mission.
    - All members accepted the Vision and Mission as it is.
27. Dr. S. Baskaran concluded the meeting and thanked all the members for attending and contributing to the improvement of the curriculum and syllabus.
28. The revised course-wise syllabus of all R-23 4-1 &4-2 courses, honors and minor has been attached with the minutes for reference.
29. A few screenshots of the online meeting are displayed below:



Meeting Agenda

- R23 Regulation Course Structure (4-1 and 4-2 Semesters)
- R23 Syllabus for 4-1 and 4-2 Semesters
- R23 Syllabus of IV year, Minor and Honors Program
- Any other matter



BoS External Members

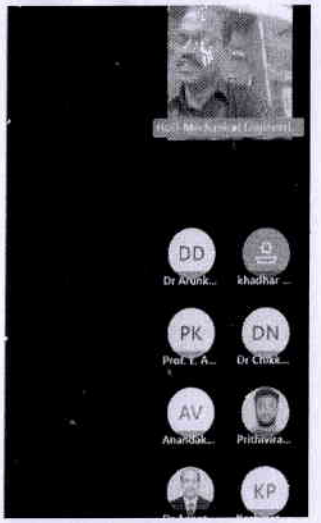
S. No.	Member	Designation
1.	Dr. B. Durga Prasad (JNTUA University Nominee)	Professor, Mechanical Engineering, JNTU, Ananthapuramu.
2.	Dr. V. Anandakrishnan (Academic Expert)	Professor, Production Engineering, NIT, Trichy.
3.	Dr. E. Anil Kumar (Academic Expert)	Professor, Mechanical Engineering, IIT, Tirupati.
4.	Dr. N. Chikkanna (Academic Expert)	Professor & Chairman, Aerospace Engineering, Visvesvaraya Technological University, Belagavi.
5.	Mr. Kashinath M Patnasetty (Industry Expert)	Head, VAS Application Support, Ace Designers Limited, Bengaluru.
6.	Mr. K. Khadhar Valli Basha (Alumni & Industry Expert)	Senior CAE Analyst, Caterpillar, Bengaluru.



IV Year I Semester

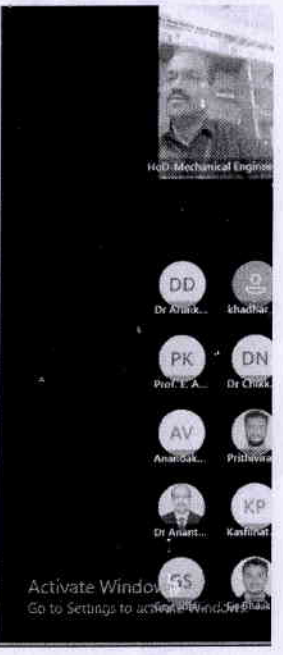
S. No.	Category	Course Code	Course Title	Hours Per Week				Credits
				L	T	P	Total	
1	PCC	23ME115	AI and ML for Mechanical Engineering	3	0	0	3	3
2	Management Course		**Management Course- II** *(ANNEXURE – V)*	2	0	0	2	2
3	PE		**Professional Elective – IV** *(ANNEXURE - IV)*	3	0	0	3	3
4	PE		**Professional Elective – V** *(ANNEXURE - IV)*	3	0	0	3	3
5	OE		**Open Elective – III** *(ANNEXURE - III)*	3	0	0	3	3
6	OE		**Open Elective – IV** *(ANNEXURE - III)*	3	0	0	3	3
7	SEC		**Skill Enhancement Course – V** *(Refer ANNEXURE - VI)*	1	0	2	3	2
8	AUC	23HUM901	Gender Sensitization	2	0	0	2	-
9	PROJ	23ME702	Summer Internship II*	0	0	4	4	2
Total				20	0	6	26	21

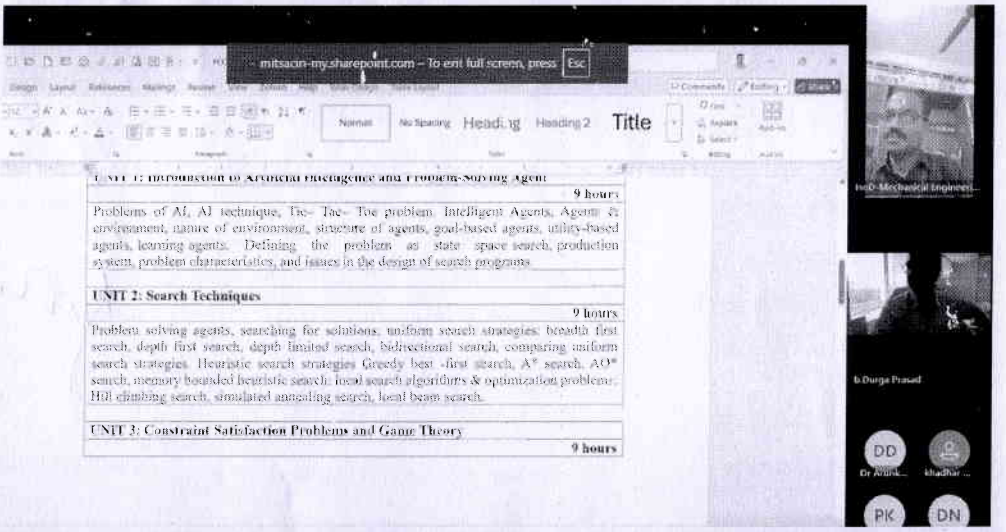
* 2 Months' internship during 3rd year summer vacation and to be evaluated in IV Year I Semester



Syllabus – 4th Year 1st Semester

Course Code	Name of the Course
23ME115	AI and ML for Mechanical Engineering
	Professional Elective – IV
23ME409	Computational Fluid Dynamics
23ME410	Power Plant Engineering
23ME411	Product Lifecycle Management
23ME412	Mechatronics and MEMS
	Professional Elective – V
23ME413	Total Quality Management
23ME414	Cryogenics and Space Propulsion
23ME415	Waste to Energy Conversion Technologies
23ME416	Smart Manufacturing
	Open Elective – III (To be offered under MOOCs Category from SWAYAM – NPTEL)
23ME3M02	Power Plant Engineering
	Open Elective – IV
23ME303	Total Quality Management
23ME304	3D Printing Technologies
	Skill Enhancement Course – V
23ME603	Drone Technology





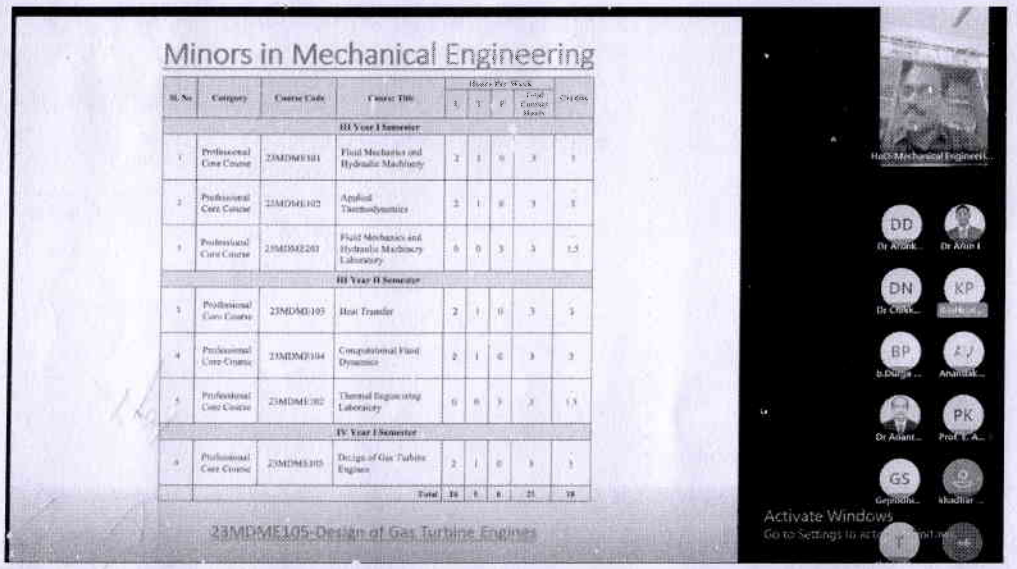
UNIT 1: Introduction to Artificial Intelligence and Problem-Solving Agent — 9 hours

Problems of AI, AI technique, Tic- Tac- Toe problem. Intelligent Agents, Agents & environment, nature of environment, structure of agents, goal-based agents, utility-based agents, learning agents. Defining the problem as state space search, production system, problem characteristics, and issues in the design of search programs

UNIT 2: Search Techniques — 9 hours

Problem solving agents, searching for solutions, uniform search strategies: breadth first search, depth first search, depth limited search, bidirectional search, comparing uniform search strategies. Heuristic search strategies Greedy best -first search, A* search, AO* search, memory bounded heuristic search: local search algorithms & optimization problems: Hill climbing search, simulated annealing search, local beam search.

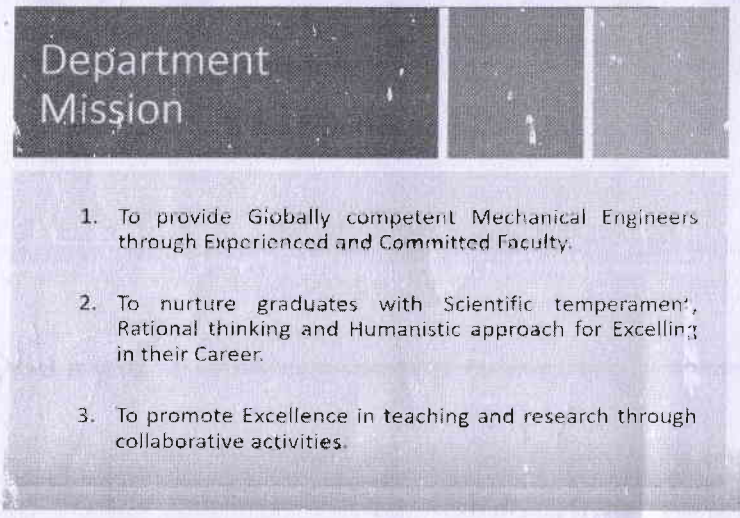
UNIT 3: Constraint Satisfaction Problems and Game Theory — 9 hours



Minors in Mechanical Engineering

Sl. No	Category	Course Code	Course Title	Hours Per Week L	T	P	Total Contact Hours	Credits
			III Year I Semester					
1	Professional Core Course	23MDME101	Fluid Mechanics and Hydraulic Machinery	2	1	0	3	3
2	Professional Core Course	23MDME102	Applied Thermodynamics	2	1	0	3	3
3	Professional Core Course	23MDME2201	Fluid Mechanics and Hydraulic Machinery Laboratory	0	0	3	3	1.5
			III Year II Semester					
5	Professional Core Course	23MDMD103	Heat Transfer	2	1	0	3	3
6	Professional Core Course	23MDMD104	Computational Fluid Dynamics	2	1	0	3	3
7	Professional Core Course	23MDME202	Thermal Engineering Laboratory	0	0	3	3	1.5
			IV Year I Semester					
9	Professional Core Course	23MDME105	Design of Gas Turbine Engines	2	1	0	3	3
			Total	16	5	6	21	18

23MDME105-Design of Gas Turbine Engines



Department Mission

1. To provide Globally competent Mechanical Engineers through Experienced and Committed Faculty.
2. To nurture graduates with Scientific temperament, Rational thinking and Humanistic approach for Excelling in their Career.
3. To promote Excellence in teaching and research through collaborative activities.



Approval:

The above-mentioned meeting minutes have been approved by the following members of the Industry Alumni Advisory Board (BOS).

Sl. No.	Member	Designation	Signature
1.	**Dr. S. Baskaran** (Chairman & Subject Expert – Manufacturing)	Assoc. Professor & Head of the Department, ME	
2.	**Dr. B. Durga Prasad** (JNTUA University Nominee)	Professor, Mechanical Engineering, JNTU, Ananthapuramu.	Approved via email
3.	**Dr. V. Anandakrishnan** (Academic Expert)	Professor, Production Engineering, NIT, Trichy.	Approved via email
4.	**Dr. E. Anil Kumar** (Academic Expert)	Professor, Mechanical Engineering, IIT, Tirupati.	Approved via email
5.	**Dr. N. Chikkanna** (Academic Expert)	Professor & Chairman, Aerospace Engineering, Visvesvaraya Technological University, Belagavi.	Approved via email
6.	**Mr. Kashinath M Patnasetty** (Industry Expert)	Head, VAS Application Support, Ace Designers Limited, Bengaluru.	Approved via email
7.	**Mr. K. Khadhar Valli Basha** (Alumni & Industry Expert)	Senior CAE Analyst, Caterpillar, Bengaluru.	Approved via email
8.	**Dr. R. Prithvirajan** (Subject Expert - Manufacturing)	Assoc. Professor & MOOC's Coordinator, ME, MITS.	
9.	**Dr. Anantha Raman L.** (Subject Expert – Thermal)	Assistant Professor & NBA Coordinator, ME, MITS	
10.	**Dr. Thotta S S Bhaskara Rao** (Subject Expert – Thermal)	Assistant Professor & Research Coordinator, ME, MITS.	
11.	**Dr. G. Veeresalingam** (Subject Expert – Design)	Assistant Professor & Exam Cell Coordinator, ME, MITS.	
12.	**Dr. D. Arunkumar.** (Subject Expert – Design)	Assistant Professor & Academic Coordinator, ME, MITS.	

Dr. S. Baskaran
Chairman-BOS,
Assoc. Professor & Head,
Department of ME, MITS

PRINCIPAL
Madanapalle Institute of
Technology & Science
MADANAPALLE-517325