AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY

(Autonomous)

(Approved by AICTE, New Delhi & Permanently Affiliated to JNTU-GV, Vizianagaram)

NAAC Accredited with A+ grade

Tamaram (V), Makavarapalem, Narsipatnam (RD), Anakapalle Dist, Pin-531113.

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Department of Mechanical Engineering

Minutes of the 3rd Board of Studies (BOS) Meeting

Meeting Mode: Hybrid (Offline and Online)
Date & Time: 02nd June 2026, 02:30 PM to 04:00 PM
Venue: Conference Hall, AIET(A), Makavarapalem
Zoom Meeting Link: https://us06web.zoom.us/j/9030986321?pwd=YbCxwrCJ0uwgScGEnI3ynQEd85PU3M.1

Agenda:

1. Welcome Address by the BoS Chairperson.
2. Discussion, review and approval of the proposed curriculum for B.Tech Mechanical Engineering for III B.Tech I & II Semesters under R24 Regulations, effective from the Academic Year 2026-2027.
3. Discussion, review and approval of the proposed curriculum for B.Tech Mechanical Engineering for IV B.Tech I & II Semesters under R24 Regulations, effective from the Academic Year 2027-2028.
4. Finalization of the syllabus for III B.Tech I Semester Mechanical Engineering courses, laboratories, electives, employability course, IPR course and internship evaluation.
5. Finalization of the syllabus for III B.Tech II Semester Mechanical Engineering courses, laboratories, professional electives, open elective, AIML Lab, employability course and Constitution of India.
6. Finalization of the syllabus for IV B.Tech I Semester Mechanical Engineering courses, professional elective, open elective, Computer Aided Analysis & Mechatronics Lab, employability course, Value Education and internship evaluation.
7. Finalization of the syllabus for IV B.Tech II Semester Professional Elective-V, Open Elective-IV and Internship & Project.
8. Discussion and approval of Open Electives offered by the Department of Mechanical Engineering to other departments.
9. Discussion and suggestions on Teaching-Learning Methodology, Co-Curricular and Extra-Curricular activities for the academic year 2026-2027.
10. Any other academic matter and
11. Miscellaneous issues.

The following members attended the Board of Studies (BOS) Meeting of Mechanical Engineering Department held on 02nd June 2026:

1. Dr. G. Swami Naidu, Professor of Metallurgical Engineering, JNTU-GV-CEV(A), Vizianagaram (Expert Member nominated by University, JNTU-GV).
2. Dr. E. Anil Kumar, Professor of Mechanical Engineering, IIT Tirupati (Expert Member nominated by Academic Council).
3. Dr. K. N. S. Suman, Professor of Mechanical Engineering, AUCE(A), Andhra University, Visakhapatnam (Expert Member nominated by Academic Council).
4. Sri. S. V. Mallikarjuna Rao, Senior Team Lead, Tata Motors, Pune, Maharashtra (Nominated from Industry).
5. Dr. R. Sundara Ramam, Professor of Mechanical Engineering, Vignan's Institute of Information Technology (A), Visakhapatnam (Expert from outside the Autonomous College).
6. Sri. Chakravarthula Jaya Srivatsa, Sr. Design Engineer, Bosch Global Software Technologies Pvt. Ltd., Coimbatore (Nominated from Alumni).
7. Dr.C.P.V.N.J Mohan Rao, Professor of Computer Science & Engineering, Principal, AIET(A)-Makavarapalem.
8. Dr.R Prasada Rao, Associate Professor of ECE, Dean Academics, AIET(A)-Makavarapalem.
9. All the faculty members of Department of Mechanical Engineering.
10. Dr. V. Hari Kiran, Chairperson, Board of Studies, Mechanical Engineering.

Minutes:

Agenda 1. Welcome and Introduction

- Dr. C. P. V. N. J. Mohan Rao, Principal, AIET(A)-Makavarapalem, welcomed the BoS members and thanked them for their participation and academic support to the department.
- Dr. V. Hari Kiran, Chairperson, BoS-ME, briefly presented the agenda and informed the members that the curriculum and detailed syllabi for III and IV B.Tech Mechanical Engineering under R24 Regulations were circulated for review.

Agenda 2: Review and Approval of III B.Tech I & II Semester Course structure under R24 Regulations

Discussion:

- The proposed course structure structure for III B.Tech I and II Semesters was presented for review.
- Members noted the inclusion of professional core courses, professional electives, open electives, skill enhancement courses, employability courses, mandatory courses and internship evaluation.
- The structure was found to be aligned with the academic requirements of R24 Regulations and the needs of Mechanical Engineering students.

Resolution : The BoS Members , Unanimously agreed the proposed Course Structure for III B.Tech –I & II Sem Under R24 for implementation from the Academic Year 2026-2027.

Agenda 3: Review and Approval of IV B.Tech I & II Semester Course structure under R24 Regulations

Discussion:

- The proposed course structure for IV B.Tech I and II Semesters was presented for review.
- Members observed that the structure includes advanced core courses, professional electives, open electives, skill-oriented laboratory work, internship evaluation and project work.
- It was noted that III and IV B.Tech together carry 78 credits, while I and II B.Tech credits had already been completed as 82 credits.

Resolution / Conclusion: The BoS Members,Unanimously agreed the proposed Course Structure for IV B.Tech –I & II Sem Under R24 for implementation from the Academic Year 2027-2028.

Agenda 4: Finalization of III B.Tech I Semester Syllabus

Discussion:

- The syllabus for
  1. Machine Tools & Metrology,
  2. Thermal Engineering,
  3. Design of Machine Members,
  4. Professional Elective-I,
  5. Open Elective-I,
  6. Machine Tools & Metrology Lab,
  7. Thermal Engineering Lab,
  8. Drone Technology & Instrumentation and Control Systems Lab,
  9. Employability Skills-I,
  10. Technical Paper Writing and Intellectual Property Rights, and
  11. internship evaluation was discussed.
- The Principal stated that the detailed syllabi were prepared unit-wise with Course Outcomes and Learning Outcomes as per Outcome Based Education requirements.
- Dr. R. Sundara Ramam asked whether Thermal Engineering Unit-I overlaps with the earlier Thermodynamics syllabus. The Chairperson clarified that the contents were verified and that duplication with Thermodynamics was not found. It was also clarified that the present Thermal Engineering syllabus was framed by combining the required portions of Thermal Engineering-I and Thermal Engineering-II.
- Members reviewed the course basket under **Professional Elective-I**, including
  1. Unconventional Machining Process,
  2. Additive Manufacturing,
  3. Tribology,
  4. Hydrogen Fuel Cell Technology,
  5. Industrial Hydraulic & Pneumatics and the recommended 8/12-week MOOC SWAYAM / NPTEL option.
- **Open Elective-I** Will be opted from Other Departments

Resolution : The syllabus for III B.Tech I Semester was reviewed, finalized and approved by the BoS members.

Agenda 5: Finalization of III B.Tech II Semester Syllabus

Discussion:

- The syllabus for
  1. Theory of Machines,
  2. Heat Transfer,
  3. Professional Elective-II,
  4. Professional Elective-III,
  5. Open Elective-II,
  6. Theory of Machines Lab,
  7. Heat Transfer Lab,
  8. Artificial Intelligence & Machine Learning Lab,
  9. Employability Skills-II and
  10. Constitution of India was discussed.
- Dr. E. Anil Kumar suggested that Artificial Intelligence and Machine Learning should be introduced with Mechanical Engineering applications, particularly through case studies related to thermal, solid mechanics and other mechanical engineering problems.
- The Principal clarified that Artificial Intelligence & Machine Learning Lab is a mandatory skill enhancement course for all Mechanical Engineering students and is independent of open elective selection.
- Dr. K. N. S. Suman and Dr. R. Sundara Ramam suggested providing basic theory or fundamentals of AI/ML before or along with the AIML Lab so that students can effectively perform the laboratory work.
- The Members reviewed the elective baskets under **Professional Elective-II**, including
  1. Cryogenics,
  2. Nano Technology,
  3. Product Design & Development,
  4. Thermal Management of Electronic Systems,
  5. Operations Management the recommended 8/12-week MOOC SWAYAM / NPTEL option and
- **Professional Elective-III** including
  1. Instrumentation & Control Systems,
  2. Non Destructive Evaluation ,
  3. Smart Materials,
  4. Automobile Engineering
  5. Automation in Manufacturing and the recommended 8/12-week MOOC SWAYAM / NPTEL option.
- **Open Elective-II** Will be opted from Other Departments

Resolution : The III B.Tech II Semester syllabus was reviewed, finalized and approved by the BoS members. AIML Lab shall include Mechanical Engineering application-oriented case studies, and basic AI/ML theory or tutorial support shall be provided before or during laboratory delivery.

Agenda 6: Finalization of IV B.Tech I Semester Syllabus

Discussion:

- The syllabus for
  1. Finite Element Methods,
  2. Hybrid & E-Vehicles,
  3. Managerial Skills for Engineers,
  4. Professional Elective-IV,
  5. Open Elective-III,
  6. Computer Aided Analysis & Mechatronics Lab,
  7. Employability Skills-III,
  8. Value Education and
  9. internship evaluation was discussed.
- Sri. S. V. Mallikarjuna Rao appreciated the inclusion of Hybrid & E-Vehicles, Product Design & Development and Smart Manufacturing related areas in the curriculum, considering current automobile and manufacturing industry requirements.
- He specifically emphasized the importance of Battery Management Systems, current automobile industry trends, product design tools and automotive regulations. The Chairperson clarified that Battery Management System content is included in the relevant unit of the Hybrid & E-Vehicles syllabus.

- **Professional Elective-IV** options, including
    1. Optimization Techniques,
    2. Advanced Materials,
    3. Supply Chain Management,
    4. Refrigeration & Air Conditioning,
    5. Smart Manufacturing and the recommended 8/12-week MOOC SWAYAM / NPTEL option, were reviewed.
- **Open Elective-III** Will be opted from Other Departments

Resolution : The IV B.Tech I Semester syllabus was reviewed, finalized and approved by the BoS members.

Agenda 7: Finalization of IV B.Tech II Semester Syllabus

Discussion:

- The syllabus for Professional Elective-V, Open Elective-IV and Internship & Project was discussed.
  Professional Elective-V option, including
    1. Power Plant Engineering,
    2. Industrial Robotics,
    3. Production Planning & Control,
    4. Design for Manufacturing,
    5. Operations Research and the recommended 12-week MOOC / SWAYAM / NPTEL option, were reviewed.
- **Open Elective-IV** Will be opted from Other Departments, which can be offered either as a regular subject or as an 8/12-week MOOC through SWAYAM/NPTEL.
- Sri. Chakravarthula Jaya Srivatsa suggested that knowledge of Geometrical Dimensioning and Tolerancing (GD&T) / geometric modelling is essential for Design for Manufacturing, since manufacturing and assembly require proper understanding of dimensional and tolerance requirements.
- The Chairperson agreed to plan a 30-hour / one-week workshop or online programme on GD&T / geometric modelling for students, prior to commencement of that course.

Resolution : The IV B.Tech II Semester syllabus was finalized and approved by the BoS members.

Agenda 8: Open Electives Offered by the Department to Other Departments

Discussion:

- The list of Open Electives offered by the Department of Mechanical Engineering to other departments was reviewed.
- The proposed **Open Electives** include
    1. Principles of Robotics,
    2. Green Manufacturing,
    3. Electrical & Hybrid Vehicles,
    4. Industrial Safety,
    5. Introduction to CAD,
    6. Waste to Energy Conversion,
    7. Hydrogen Fuel Cell Technology,
    8. Industrial Engineering and Management,
    9. Principles of 3D Printing Technology,
    10. Non-Conventional Energy Resources,
    11. Automation in Manufacturing,
    12. Operations Research,
    13. Sustainable Energy Technologies,
    14. Energy Conservation Management,
    15. Total Quality Management and
    16. Nano Materials.
- A clarification was sought regarding whether all students of a section must choose the same open elective. It was clarified that open electives are multidisciplinary courses offered by departments and students may select from the available options, subject to sufficient student strength and institutional norms.
- It was further clarified that the mandatory AIML Lab is independent of open elective selection.

Resolution : The Open Electives offered by the Department of Mechanical Engineering were approved. The open elective opting mechanism was clarified and accepted by the members.

Agenda 9: Teaching-Learning Methodology, Co-Curricular and Extra-Curricular Activities for 2026-2027

Discussion:

- Members suggested strengthening curriculum delivery through workshops, online sessions, guest lectures, industry-oriented case studies and application-based laboratory sessions.
- The department identified AI/ML case studies for Mechanical Engineering, a GD&T / geometric modelling workshop and an automobile / EV industry session as important academic value additions.
- Members emphasized that such activities should support student employability, industry awareness and practical understanding of contemporary Mechanical Engineering areas.

Resolution : The department shall plan and conduct relevant workshops, guest lectures, online sessions, case-study based laboratory activities and other co-curricular activities during the academic year 2026-2027.

Agenda 10: Any Other Academic Matter

Discussion:

- The Principal stated that the suggestions given by the external experts and members were well taken and would be incorporated in the detailed syllabus wherever applicable.
- The members were requested to extend approval for adopting the curriculum and syllabi for the respective batches.
- The revised syllabus and minutes were proposed to be circulated to all BoS members after incorporation of accepted suggestions.

Resolution : The members agreed to the adoption of the curriculum and syllabi after incorporating the accepted suggestions. The department shall circulate the revised documents to all BoS members for records.

Agenda 11: Miscellaneous Issues

Discussion:

- No other miscellaneous issue requiring a separate academic decision was raised after the agenda-wise discussions.

Conclusion :

- The Chairperson thanked the Principal, Dean Academics, external experts, industry member, alumni member, internal faculty members and all participants for their valuable inputs and approval.
- The meeting concluded with a vote of thanks. The approved curriculum and syllabi shall be processed further as per institutional procedure.

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Members Present:

S.N0	BOARD MEMBERS	SIGNATURE
1	Dr.G.Swami Naidu , Professor	Online (zoom)
2	Dr.E.Anilkumar, Professor	Online (zoom)
3	Dr.K.N.S.Suman, Professor	Online (zoom)
4	Sri.S.V.Mallikarjuna Rao, Senior Team Lead	Online (zoom)
5	Dr.R.Sundara Ramam, Professor	Online (zoom)
6	Sri.Chakravarthula Jaya Srivatsa, Sr.Design Engineer	Online (zoom)
7	Dr.C.P.V.N.J.Mohan Rao, Professor, Principal AIET	
8	Dr.R Prasada Rao, Academic Dean, AIET	
9	Dr.V.Harikiran, (Chairperson)	
10	Mr.A.N.S.Surya Prakash, Assistant Professor	
11	Mr.K.Naga Raju, Assistant Professor	
12	Mr.K.V.N.S.rama Krishna, Assistant Professor	
13	Mr.G.Sivaram, Assistant Professor	
14	Ms.P.Sadhana, Assistant Professor	
15	Mr.P.Ramana Babu, Assistant Professor	
16	Mr.B.RamaKrishna, Assistant Professor	
17	Mr. V V Naidu, Assistant Professor	
18	Mr.K.Sriram Kumar, Assistant Professor	
19	Mrs.G.A L Rekha, Assistant Professor	
20	Mr. K tataji, Assistant Professor	
21	Mrs.A.Himabindu, Assistant Professor	
22	Mr.A.Kondababu, Assistant Professor	
23	Mr.B.Sri Yeswanth, Assistant Professor	

Chairperson
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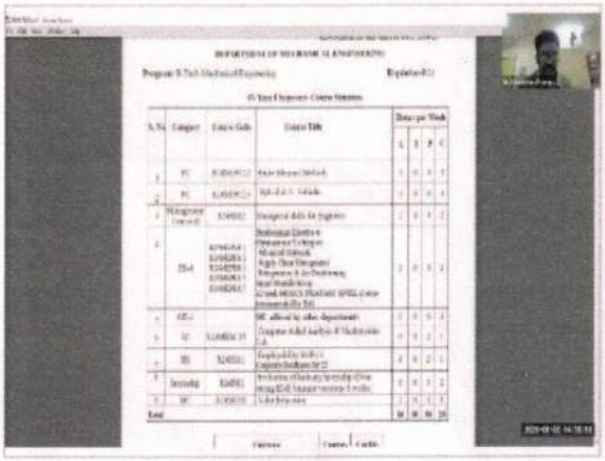

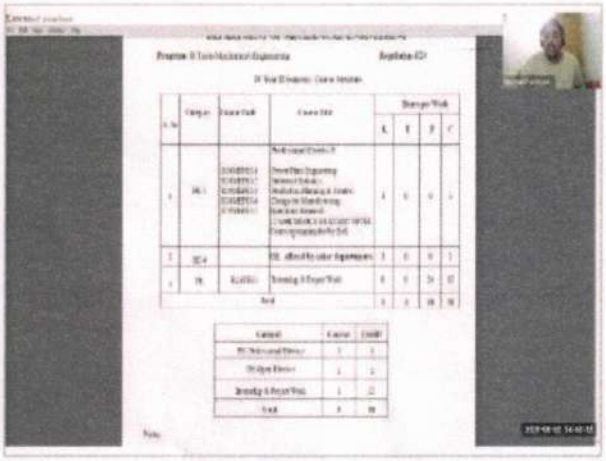

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