



Vishnu Waman Thakur Charitable Trust's
VIVA Institute of Technology

Approved by AICTE New Delhi, Recognized by DTE, Govt. of Maharashtra
And Affiliated to University of Mumbai

An Autonomous Institute
ACCREDITED by NAAC with "B++" Grade

Department of Mechanical Engineering

Detailed Minutes of Meeting (MoM)

Board of Studies (BoS) – Mechanical Engineering (UG & PG course)

Review and Approval of Autonomous Curriculum

Department: Mechanical Engineering

Date: 19th June 2026

Time: 12:00 PM

Mode: Online Meeting

Members Present

The meeting was attended by the Chairman of the Board of Studies, departmental faculty members, external academic experts, industry experts, and invited members. The Board convened to review the proposed curriculum under the autonomous framework and to provide recommendations for enhancing the academic quality, industry relevance, and outcome-based education structure of the programme. The meeting was attended by following members.

Name of the Member	Designation	Position
Dr. Niyati Nitin Raut	Head of the Department	Chairman
Dr. Gajanan Thokal	Subject experts, Associate Professor, Pillai University, Panvel	Member
Dr. Rajesh Bisane	Subject experts, Assistant Professor, Symbiosis Institute of Technology, Pune	Member
Dr. Bhushan Patil	Expert nominated by the Vice- Chancellor, Professor, Fr. Conceicao Rodrigues College of Engineering, Bandra West.	Member



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Mr. Vinay A. Chansikar	Industrial Representative, Owner, Preciworld Mechanicals, Virar	Member
Mr. Sachin S. Deshpande	Industrial Representative, Director, A.R.S. Energy Auditors, Virar West.	Member
Mr. Ritesh Dandale	College Alumni, Product Manager, Botsynce Technologies	Member
Mr. Pramod Shetty	Industrial Expert, Production Manager, Sams Techno Mech Pvt. Ltd., Vasai.	Member
Mr. Hitesh Tare	Industrial Expert, Director, Skyline Pharma Tech., Vasai E.	Member
Dr. Chinmay Sanjay Pingulkar	Associate Professor	Member
Mr. Vinit Deepak Raut	Assistant Professor	Member
Mr. Omkar Kanchankumar Joshi	Assistant Professor	Member
Mr. Sushil Shyamacharan Mishra	Assistant Professor	Member
Mr. Suneet Jayeshkumar Mehta	Assistant Professor	Member
Mr. Tejas Hareshwar Chaudhari	Assistant Professor	Member
Mr. Swapnil Prakash Raut	Assistant Professor	Member
Mr. Pratik Prakash Raut	Assistant Professor	Member
Mr. Priyank Madhukar Vartak	Assistant Professor	Member
Ms. Chhaya Shamrao Patil	Assistant Professor	Member
Mrs. Henisha Anish Raut	Assistant Professor	Member



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Dr. Niyati Raut, Head of the department, Mechanical Engineering and Chairperson of the Board of Studies, welcomed all the members. She highlighted the agenda of the meeting for discussion and approval as under

Agenda

1. Review and approval of First Year Curriculum.
2. Adapt University syllabi for Higher Semesters (III to VIII).
3. Suggestions for improvement of standards of teaching and research.
4. Implementation of examination and evaluation system as per autonomy guidelines.
5. Any other matter with permission of the Chair.

Agenda 1: Review and Approval of the First Year Curriculum

The Chairperson briefed the members on the proposed First Year Curriculum, highlighting its structure, content coverage, learning outcomes, and relevance to Outcome Based Education (OBE). The Board deliberated on the curriculum and made the following recommendations:

Review of Syllabus

The Board discussed the structure, content coverage, learning outcomes, and relevance of each module.

The following suggestions were made by **Dr. Rajesh Bisane**:

- Detailed mathematical equations need not be explicitly listed in the syllabus document as they can be adequately covered through teaching-learning activities.



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- Self-learning topics should not be separately highlighted in the syllabus. Instead, faculty members may communicate such topics during the commencement of the course and encourage independent learning.
- Total instructional/contact hours should be clearly mentioned at the end of every course syllabus to ensure transparency and proper academic planning.

Course Outcome (CO) Mapping

Dr. Rajesh Bisane suggested that each Course Outcome should be mapped to a single Bloom's Taxonomy level. Multiple Bloom's levels should not be assigned to the same outcome to maintain clarity and measurable assessment.

Quality Assurance of Syllabus Documents

Dr. Rajesh Bisane recommended:

- Comprehensive proofreading of the entire curriculum document.
- Correction of grammatical, formatting, and typographical errors.
- Uniformity in terminology, formatting, and outcome statements.

Student Orientation and Communication

Dr. Rajesh Bisane suggested preparing a standard PowerPoint presentation template for curriculum orientation.

The objective is to:

- Communicate course structures effectively.
- Explain Programme Outcomes and Course Outcomes.
- Clarify assessment methods and credit requirements.
- Improve student understanding of the autonomous curriculum framework.



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Resolution

The Board approved the First Year Curriculum in principle, subject to incorporation of the above recommendations and necessary revisions in the syllabus.

Agenda 2: Adapt University Syllabi for Higher Semesters (III to VIII)

The Board discussed the adaptation of higher semester syllabi in accordance with autonomous regulations, emerging industry requirements, and recent technological developments. The members deliberated on curriculum enhancement initiatives and made the following recommendations:

Introduction of Emerging Technologies

The Board discussed the need to introduce contemporary technologies in the curriculum to meet industry demands.

Suggestions:

- **Dr. Rajesh Bisane** recommended replacing the proposed AI/ML Open Elective with an Augmented Reality and Virtual Reality (AR/VR) course, citing increasing applications of immersive technologies in engineering design, manufacturing, simulation, and training.
- It was further suggested that an Electric Vehicle (EV) Technology course be introduced as a Departmental Optional Course in Semester VII to align with developments in sustainable transportation and automotive engineering in progressive manner with the batch aligned with NEP 2020 scheme.



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Major Project Structure

The structure of the Major Project was reviewed.

Dr. Rajesh Bisane suggested that a portion of the Major Project activity should begin during the Third Year itself rather than being confined entirely to the Final Year. The project should begin in third year with the project output and its publications completed in the preceding semesters of final year engineering.

Industry 4.0-Oriented Curriculum

Dr. Rajesh Bisane and **Mr. Ritesh Dandale** emphasized the importance of Industry 4.0 technologies in modern engineering education.

They recommended following topics under laboratory activities whichever feasible

- Industrial Automation
- Internet of Things (IoT)
- Artificial Intelligence Applications
- Digital Manufacturing
- Smart Systems
- Data Analytics in Engineering

Internship and Project-Based Learning

The internship framework was discussed in detail.

Dr. Rajesh Bisane suggested:

- Students should undergo internship training involving approximately 24 hours per week.



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- Low Level Startup-based internships should be avoided.
- Internship activities should be integrated with Project-Based Learning (PBL) to maximize experiential learning outcomes.

Inclusion of Energy Conservation Concepts

Mr. Sachin Deshpande suggested incorporating concepts related to the Energy Conservation Act, energy auditing, and energy efficiency practices within the curriculum as there are numerous job opportunities in this field.

The Board observed that such topics would strengthen students' awareness of sustainable engineering and national energy policies.

Industry Training Requirement

Mr. Hitesh Tare emphasized the importance of mandatory industry training.

He suggested:

- Structured industrial training should be integrated into the curriculum.
- Students should receive practical exposure to industrial processes, quality systems, maintenance practices, and manufacturing technologies.
- Industry engagement should become a compulsory academic requirement.

Review of M.E. Manufacturing Systems Engineering Curriculum

During the discussion on the curriculum structure of the M.E. Manufacturing Systems Engineering programme, **Dr. Rajesh Bisane** suggested replacing the requirement of two compulsory SWAYAM courses in Semester III with one SWAYAM course and an Internship or On-the-Job Training (OJT) component.



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Resolution

The Board approved the adaptation of higher semester syllabi with suitable modifications to incorporate emerging technologies, Industry 4.0 concepts, internships, industrial training, and project-based learning approaches wherever feasible.

Agenda 3: Suggestions for Improvement of Standards of Teaching and Research

The Board discussed measures to enhance the quality of teaching, learning, research, innovation, and student engagement. The members made the following recommendations:

Recognition of NPTEL Courses

Dr. Gajanan Thokal proposed awarding academic credits for relevant NPTEL courses, as credit allocation would encourage active student participation and course completion.

Student Orientation and Communication

Dr. Rajesh Bisane suggested preparing a standard PowerPoint presentation template for curriculum orientation.

The objective is to:

- Communicate course structures effectively.
- Explain Programme Outcomes and Course Outcomes.
- Clarify assessment methods and credit requirements.
- Improve student understanding of the autonomous curriculum framework.



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Resolution

The Board recommended promoting student participation in NPTEL courses and strengthening curriculum communication through structured orientation programmes.

Agenda 4: Implementation of Examination and Evaluation System as per Autonomy Guidelines

The proposed examination and evaluation framework was discussed in detail. The Board reviewed the assessment methodology, question paper design, and outcome-based evaluation practices and made the following recommendations:

Examination Pattern and Question Paper Design

Dr. Gajanan Thokal observed that the existing pattern, wherein one question is asked from each module, may allow students to prepare selectively and still attempt the entire examination.

He suggested that:

- The examination pattern should promote comprehensive learning across all modules.
- Assessment design should encourage conceptual understanding rather than selective preparation.

Bloom's Taxonomy in Assessment

The Board discussed the mapping of examination questions with Bloom's Taxonomy levels.

Dr. Rajesh Bisane recommended that adequate emphasis be given up to Level 3 (Application) questions in semester examinations.



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Resolution

The examination and evaluation framework was approved in principle, subject to incorporation of the above recommendations to promote comprehensive learning and effective assessment practices.

Agenda 5: Any Other Matter with Permission of the Chair

The Chairperson invited the members to deliberate on additional matters related to academic development and departmental growth. During the discussion, the revised Vision and Mission Statements of the Department were presented before the Board for review and suggestions.

Review of Vision and Mission Statements

The Head of Department presented the revised Vision and Mission Statements of the Department before the Board.

During the discussion:

Dr. Bhushan Patil suggested that the term "Sustainability" should be explicitly incorporated into the Department Vision Statement, considering the growing importance of sustainable engineering practices and environmental responsibility.

Dr. Rajesh Bisane further recommended including the phrase "Ethics and Sustainability" in the Vision Statement to ensure that graduates develop professional integrity along with technical competence.



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Resolution

The Board recommended incorporating the suggestions received regarding inclusion of “Sustainability” and “Ethics and Sustainability” in the Department Vision Statement.

Vote of Thanks

Dr. Niyati Raut thanked all the Board members, academic experts, industry representatives, and faculty members for their valuable suggestions, constructive inputs, and active participation in the deliberations. She assured the members that the recommendations of the Board would be duly considered and incorporated wherever feasible.

Key Recommendations of the Board of Studies

- Detailed mathematical equations need not be explicitly listed in syllabus documents.
- Self-learning topics should not be separately highlighted in the syllabus.
- Total instructional/contact hours should be clearly specified in every course syllabus.
- Each Course Outcome should be mapped to a single Bloom's Taxonomy level.
- Curriculum documents should undergo comprehensive proofreading and standardization.
- A standard curriculum orientation presentation should be prepared for students.
- Introduce an AR/VR course in place of the proposed AI/ML Open Elective.
- Introduce Electric Vehicle Technology as a Departmental Optional Course in Semester VII.
- Initiate Major Project activities from the Third Year and complete project outputs and publications during the Final Year.
- Strengthen Industry 4.0 content through Industrial Automation, IoT, AI Applications, Digital Manufacturing, Smart Systems, and Data Analytics.
- Integrate internships with Project-Based Learning.



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- Avoid low-level startup-based internships.
- Incorporate Energy Conservation Act, energy auditing, and energy efficiency concepts into the curriculum.
- Make structured industrial training a compulsory academic requirement.
- Provide practical exposure to industrial processes, quality systems, maintenance practices, and manufacturing technologies.
- Replace one compulsory SWAYAM course in M.E. Manufacturing Systems Engineering Semester III with Internship/OJT.
- Award academic credits for relevant NPTEL courses.
- Revise examination patterns to encourage comprehensive learning across all modules.
- Emphasize Bloom's Taxonomy Level 3 (Application) questions in semester examinations.
- Incorporate "Sustainability" and "Ethics and Sustainability" in the Department Vision Statement.

12:12 PM | BOS Mech VIVA

N Niyati Raut (Presenting, annotating) | Admit 1 guest | 13

VIVA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING
WELCOMES BOARD OF STUDIES

19TH JUNE 2026

H Hitesh Tare

DR BHUSHAN PATIL

N Niyati Raut

S Sachin Deshpande

G Gajanan Thakal

Dr. Rajesh Bisane

r ritesh dandale

3 others

omkar joshi

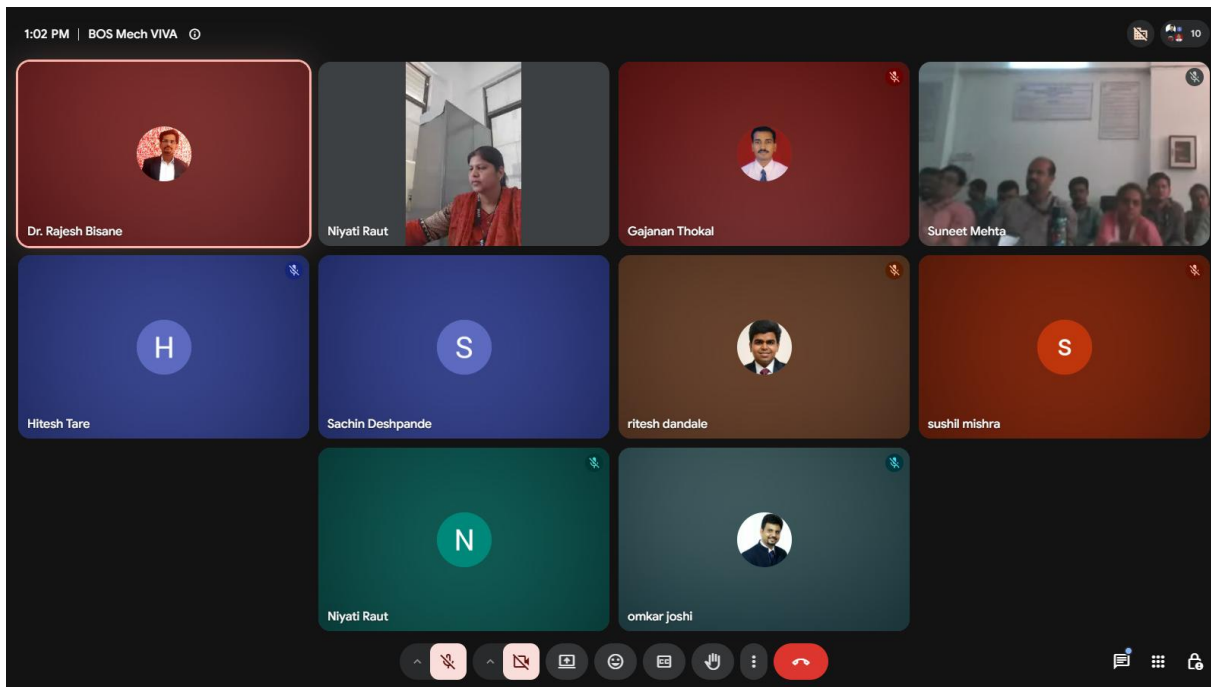


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12:21 PM | BOS Mech VIVA

Semester wise Credit Distribution Structure

Four Year UG Engineering Program

Course Category	Type	I	II	III	IV	V	VI	VII	VIII	Total Credits
Basic Science Course	BSC/ESC	06-08	08-10	--	--	--	--	--	--	14-18
Engineering Science Course		10-08	06-04	--	--	--	--	--	--	16-12
Programme Core Course (PCC)	Program Courses	--	02	08-10	08-10	10-12	06-10	04-06	04-06	44-56
Programme Elective Course (PEC)		--	--	--	--	04	08	02	06	20
Multidisciplinary Minor (MD M)	Multidisciplinary Courses	--	--	02	02	04	02	02	02	14
Open Elective (OE) Other than a particular program		--	--	04	02	02	--	--	--	08
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	02	02	--	02	--	02	--	--	08
Ability Enhancement Course (AEC-01, AEC-02)	Humanities Social Science and Management (HSSM)	02	--	--	02	--	--	--	--	04
Entrepreneurship/Economics/Management Courses		--	--	02	02	--	--	--	--	04
Indian Knowledge System (IKS)		--	02	--	--	--	--	--	--	02
Value Education Course (VEC)		--	--	02	02	--	--	--	--	04
Research Methodology	Experiential Learning Courses	--	--	--	--	--	--	--	04	04
Comm. Engg. Project (CEP)/Field Project (FP)		--	--	02	--	--	--	--	--	02
Project		--	--	--	--	--	--	--	04	04
Internship/ OJT		--	--	--	--	--	--	12	--	12
Co-curricular Courses (CC)	Liberal Learning Courses	02	02	--	--	--	--	--	--	04
Total Credits (Major)		20-22	20-22	20-22	20-22	20-22	20-22	20-22	20-22	160-176

Abbreviations: OE: Generic/Open Electives; VSEC: Vocational Skill and Skill Enhancement Courses; VSC: Vocational Skill Courses; SEC: Skill Enhancement Courses; AEC: Ability Enhancement Courses; IKS: Indian Knowledge System; VEC: Value Education Courses; OJT: On Job Training / Internship / Apprenticeship.

DEPARTMENT OF MECHANICAL ENGINEERING - VIVA
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1:03 PM | BOS Mech VIVA

Niyati Raut (Presenting, annotating)

Sachin Deshpande

Niyati Raut

Dr. Rajesh Bisane

6 others

omkar joshi

Implementation of examination and evaluation system as per autonomy guidelines

- Academic Credit Framework**
 - Adoption of the credit structure in accordance with NEP 2020.
 - Minimum requirement of 32 credits per academic year for progression to the next level.
 - Implementation of multiple entry-exit provisions and credit accumulation through the Academic Bank of Credits (ABC), wherever applicable.
- Examination Schedule and Result Timeline**
 - Declaration of end-semester results within two weeks from the last examination date.
 - Completion of revaluation within two weeks from the date of application.
 - Conduct of supplementary/re-examinations within two weeks after declaration of revaluation results.
 - Publication of the academic calendar with predefined examination timelines.

29 Jun 25

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13:03 19-06-2025





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