School of Technology, Pandit Deendayal Energy University, Gandhinagar
Department of Mechanical Engineering

Minutes of the meeting of the Board of Studies in Mechanical and Automobile Engineering which was held on 12.07.2023 from 03:00 pm via hybrid mode at E-Block Ground Floor Committee Room and MS Teams Online Platform in the presence of the following members:

A. Members Present:

Sr. No.	Name	Sr. No.	Name
1	Dr. Jatin Patel – Chairman, BoS and Head, Dept. of Mech. Engg., SoT, PDEU	9	Dr. Vivek Patel, Associate Professor, Dept. of Mech. Engg., SoT, PDEU
2	Dr. Dilip Srinivas Sundaram, Associate Professor, Mechanical Engineering, Indian Institute of Technology Gandhinagar. (External Expert-Academic) (online)	10	Dr. Hiren Dave, Assistant Professor, Dept. of Mech. Engg., SoT, PDEU
3	Dr. Shailendra Kumar, Professor, Department of Mechanical Engineering, S.V. National Institute of Technology, Surat (External Expert-Academic) (online)	11	Dr. Jaydeep Patel, Assistant Professor, Dept. of Mech. Engg., SoT, PDEU
4	Dr. Ravi Kumar Varma, Scientist/Engineer-SF, Process & Materials Quality Assurance Division–Mechanical (PMQD-M), Space Applications Centre (SAC), Indian Space Research Organisation (ISRO) (External Expert-Industry)	12	Dr. Krunal Mehta, Assistant Professor, Dept. of Mech. Engg., SoT, PDEU
5	Dr. Ankush Sharma, Scientific Officer, Ahmedabad Textile Industry's Research Association (ATIRA) (External Expert-Industry)	13	Dr. M. B. Kiran, Associate Professor, Dept. of Mech. Engg., SoT, PDEU (online)
6	Prof. S. S. Kachhwaha, Dean-SoT, PDEU	14.	Mr. Jainam Modi, Current Student, Dept. of Mech. Engg., SoT, PDEU
7	Prof. Vishvesh Badheka, Dean-Academic Affairs, PDEU (online)	15.	Mr. Aman Sorathiya, Current Student, Dept. of Mech. Engg., SoT, PDEU (online)
8	Prof. Anurag Mudgal, Professor, Dept. of Mech. Engg., SoT, PDEU	16.	Mr. Savan Prajapati, Admin Assistant, Dept. of Mech. Engg., SoT, PDEU

Alumni invitees Mr. Pratik Patel and Mr. Arrown Dalsaniya could not attend the meeting.

At the beginning of the meeting, the Chairman welcomed all the members. Thereafter, the items on the agenda were taken on hand as under:

Item No.	Particulars

1. At the onset of the meeting, the Chairman introduced the new and existing members of the Board of Studies of the Department of Mechanical and Automobile Engineering.

2. Consideration of confirmation of minutes of the previous meetings held on 02.03.2023.

Resolution:
Resolved that the minutes of the previous meeting held on 02.03.2023 be confirmed as circulated with the agenda.

3. Consideration of the note on action taken on the decisions of the previous meeting held on 02.03.2023

Resolution:
Resolved that the note on action taken on the decisions of the previous meeting held on 02.03.2023 circulated with the agenda as Encl-III, be noted and approved.

4. Consideration of modifications/addition/deletion in courses/course contents for B. Tech. Mechanical and B. Tech. Automobile Engineering program and proposal to make it effective from the AY 2023-24.

Resolution:
Resolved to recommend to the Faculty of Engineering & Technology with regard to Introduction of Teaching & Examination Scheme and Syllabi of Semesters – III, IV, V, VI, and VII of the B. Tech. Mechanical and Automobile Engineering programs in supersession of existing curriculum, to be made effective from the academic year 2023-24 onwards, be approved as per Encl.-IV circulated with the agenda, with the following suggestions:

i. In reference to the updates for COs for the course 20ME201T-Thermodynamics, it was suggested by an external expert to correct some typographic errors. It was also suggested to use a single verb as per Bloom's Taxonomy. (Ex. 'Apply' to be used instead of 'State and apply'. The minute details in reference to question paper pattern were discussed and it was suggested that the faculty could update the pattern consistent with guidelines by the PDEU Exam Cell.
ii. A new course on 'Vehicle Body Engineering and Safety Systems' was proposed to be offered as Professional Core Elective for Sem-5 B. Tech. Automobile Engineering students. It was suggested by external experts to have a more quantitative analysis in place of a descriptive study. The verb 'Understand' should be replaced with a more measurable one in CO2.
iii. A new lab 'Advanced Engine Technologies Lab' was proposed to be added to the existing Professional Core Elective 'Advanced Engine Technologies' and correspondingly the course needs to be shifted from the existing Elective basket to another Elective basket-2 which has courses with theory as well as lab component, for Sem-7 B.Tech. Automobile Engineering students. The list of experiments were appreciated by the members with a suggestion to have more project-based learning rather than demonstration-based learning.

iv. It was proposed to convert 'Vehicle Aerodynamics' course from PCE to PCC and also, to add a new lab for 'Vehicle Aerodynamics'. Correspondingly, the course on 'Vehicle Safety' is to be converted from PCC to PCE.

v. For the course on 'Heat Transfer', it was proposed to remove CO6 which pertains to 'Mass Transfer', as 'Mass Transfer' was removed from the syllabus previously.

In view of the above, the Chairman, be authorized to submit the revised documents incorporating the suggestions directly to the Faculty of Technology & Engineering for further consideration.

5. Consideration of modifications/addition/deletion in courses/course contents for Ph.D. programs in Department of Mechanical Engineering and proposal to make it effective from the AY 2023-24.

Resolution:

Resolved to recommend to the Faculty of Engineering & Technology with regard to Introduction of Teaching & Examination Scheme and Syllabus of Semester – I of the Ph.D. program in supersession of existing curriculum, to be made effective for the students admitted in the academic year 2023-24 onwards be approved as per Encl.-V circulated with the agenda, with following suggestions:

i. A new course on 'Sustainability in Food, Energy and Water (SFEW) through circular economy and Renewable energy applications' was proposed for the PhD program as a Professional Core Elective. The course was appreciated by the members owing to its inclination towards sustainable development. It was suggested to rename Unit-1 in line with 'Review on the fundamentals…' and to modulate the time allocated accordingly, as the students taking up the course might have already studied the fundamentals.

In view of the above, the Chairman, be authorized to submit the revised documents incorporating the suggestions directly to the Faculty of Technology & Engineering for further consideration.

6. Consideration of review of the feedback received from various stakeholders like parents, alumni, Industries Expert and Recruiters etc.

Resolution:

Resolved that the feedback received from various stakeholders were reviewed. However, the Chairman informed that the suggestions are already incorporated, wherever feasible.

7. The Chairman invited the members to put forth any other suggestions for improving the teaching-learning process.

Resolution:

Various members of the board presented their suggestions as follows:

i. It was suggested by Dr. Ankush Sharma to have courses pertaining to Modeling, Automotive materials, and EV technologies for the B.Tech. Automobile Engineering students. It was informed by the internal members that the courses pertaining to the suggested topics are already being offered to the students.

ii. It was suggested by Dr. Shailendra Kumar to have manufacturing courses for the 1st and 2nd year students. The chairman informed that the course on 'Workshop' is being offered to all 1st year students. Dr. Shailendra Kumar also suggested to reconsider the naming of 'Computer Programming-II' and 'Computer Programming-I' as it didn't match the chronology. The chairman assured to forward the suggestion to the respective department of the first year BoS.

iii. It was suggested by Dr. Ravi Kumar Varma that a course on 'Non-destructive Testing' should be offered to the students. It was informed that the existing course on 'Engineering Metallurgy' currently offers the same topic to the students. Dr. Varma also suggested to offer elective courses on Quality Engineering and Aerospace Engineering. Dr. Varma also showed willingness to involve B. Tech. and M. Tech. Students at SAC, ISRO for their internship/project work.

iv. The following points were suggested by the student member, Mr. Jainam Modi:

a. ROS must be included in the course on Robotics, and a dedicated lab should also be introduced.
b. MATLAB should also be exhaustively included in the course curriculum.
c. Exam pattern should be changed to 60% IA + 40% ESE
d. More project and execution-based tasks like debate etc. should be given in the course on 'Communication Skills'
e. 'Mechanical Vibrations' should be offered as PCC instead of PCE.
f. Industry 4.0 is covered during various courses and the duplication must be removed.
g. Aerospace/Aeronautics/Aerodynamics related courses must be included in the curriculum.
h. More modern machining should be taught along with conventional machining.
i. Modeling software other than 'Solidworks' must be taught.

The chairman assured to incorporate the above suggestions with the following resolution/information:

1. Programming using MATLAB is offered as part of CAD exercises.
2. The current exam pattern has 50% weightage to ESE and the other weightage is for continuous evaluation in the form of IA (25%) and MSE (25%).
3. Entire curriculum has been designed to suit to the needs of Industry 4.0, however any unnecessary repetition will be removed from the courses.
4. Modern machining offered as part of CAM.
5. The chairman urged that learning 'Solid Modeling' is more important, as software are just the tools to achieve expertise in modeling.

The meeting ended with a vote of thanks.

Dr. Jatin Patel
Chairman,
BoS in Mechanical and Automobile Engineering