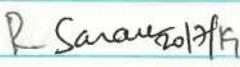
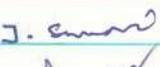
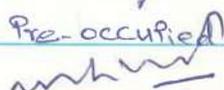
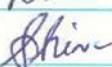
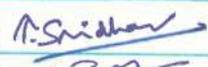
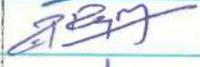
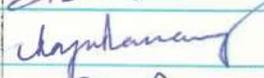
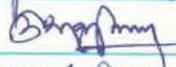
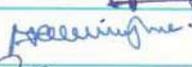
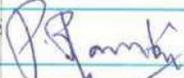
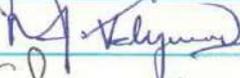
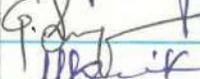
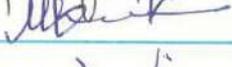
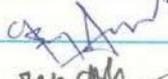
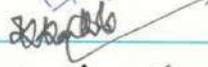
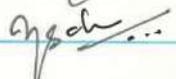


MINUTES OF THE 36th MEETING OF THE
BOARD OF STUDIES IN MECHANICAL ENGINEERING

20-07-2019

The minutes of the meeting of the Board of Studies in Mechanical Engineering held on 20.07.2019 at 10.30AM in IT Block A/c Conference Hall.

The following members were present in the meeting

S.NO	NAME	DESIGNATION	SIGNATURE
1	Dr. K. Marimuthu	Chairman	
2	Dr. V. Selladurai	Member	
3	Dr. R. Saravanan	University Nominee (UG & PG)	
4	Prof. T. Sundara Rajan	Expert Member - Academic	
5	Dr. V. Prabhu Raja	Expert Member - Academic	
6	Er. B. Jayakumar	Expert Member - Industry	Pre-occupied
7	Mr. M. Nachimuthu	Expert Member - Industry	
8	Mr. A.S. Shiva Kumaran	Co-opted Member	
9	Dr. P.K. Palani	Co-opted Member	Pre-occupied.
10	Dr. T. Sridhar	Member	
11	Dr. R. Rajesh	Member	
12	Dr. N. Rajam Ramaswamy	Member	
13	Dr. G. Swushkannan	Member	
14	Dr. A.S. Krishnan	Member	
15	Mr. P. Ramakrishnan	Member	
16	Dr. M. Velliangiri	Member	
17	Dr. G. Suganya Priyadarshini	Member	
18	Mr. M. Karthikeyan	Member	
19	Mr. C. Balaji Ayyanar	Member	
20	Mr. K. Karthik	Member	
21	Dr. S. Balamurugan	Member	

22	Dr. C. Vivek	Member	for 2019	3. The Bo
23	Dr. G. Sivakumar	Member	G. Sivakumar	witho
24	Dr. P. Mohan	Member	P. Mohan	in th
25	Mr. S. Selvam	Member	S. Selvam	4. Prof. T. S
26	Mr. D. P. Sam Solomon	Member	D. P. Sam Solomon	Electric
27	Mr. P. Manivel	Member	P. Manivel	Electri
28	Mr. R. Vishnu	Member	R. Vishnu	Lab-I.
29	Mr. G. Balamurugan	Member	G. Balamurugan	5. Dr. V. Pr
30	Mr. R. S. Mohan Kumar	Member	R. S. Mohan Kumar	Mecha
31	Mr. M. Muruganandam	Member	M. Muruganandam	if the
32	Mr. C. Manivannan	Member	C. Manivannan	insiste
33	Ms. P. Aruna Devi	Member	P. Aruna Devi	the la
34	Mr. H. SivaRathina Moorthy	Member	H. SivaRathina Moorthy	it can
35	Mr. S. Kellingiri	Member	S. Kellingiri	/Mater
36	Mr. S. Thirumurugan	Member	S. Thirumurugan	6. Mr. M. M
37	Mr. Tony Punnoose Valayil	Member	T. Punnoose Valayil	linked
38	Mr. S. K. Pradeep Mohan	Member	S. K. Pradeep Mohan	also a
39	Dr. R. Satiskumar	Member	R. Satiskumar	worki
40	Mr. S. Praveen Kumar	Member	S. Praveen Kumar	that,
41	Mr. G. Ramkumar	Co-opted Member	G. Ramkumar	semest

1. Dr. K. Marimuthu, Professor and Head of the Department of Mechanical Engineering welcomed the gathering and gave an outline on the agenda of meeting.
2. Dr. A. S. Krishnan, Associate Professor in the Department of Mechanical Engineering presented the curriculum for the under graduate Mechanical Engineering programme. He pointed out that the first year curriculum and syllabi has been approved by the Science & Humanities Board of Studies and the third and fourth semester curriculum and syllabi are to be finalized and ratified by this board.

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3. The Board members pointed out that the labs though without credits in the third semester should be mentioned in the curriculum with zero credits.
4. Prof. T. Sundararajan enquired if there is any Electrical & Electronics lab. Dr. A.S. Krishnan responded that the Electrical lab has been placed under Mechanical Engineering Lab-I.
5. Dr. V. Prabhuraja said that placing electrical lab under Mechanical lab will be hard to justify. He also enquired if the labs are aligned with theory. Dr. R. Saravanan insisted that the same name should not be used for the labs in third and fourth semester. He suggested that it can be named as Strength of Materials/Applied Thermodynamics/Materials lab.
6. Mr. M. Nachimuthu suggested that the MiniProject can be linked with industries and call it industrial project. He also added that the vacation period can be used for working with industries. Dr. K. Marimuthu responded that such things can be carried out in the coming semesters as MoU's are being signed with local industries.
7. Dr. R. Saravanan suggested that the course "Heat Transfer" may be renamed as "Heat and Mass Transfer". He also enquired if there is any credit for Mini Project in the fifth semester. Dr. A.S. Krishnan responded that Mini Project is evaluated continuously on an annual basis and the credits for the same will be awarded in sixth semester.
8. Dr. V. Prabhuraja insisted on splitting the course "Kinematics & Dynamics of Machinery" into two separate subjects. He also suggested moving the course on Optimization to elective and "Operations Research" can

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be placed under HSM. He also enquired if there is any laboratory component for "Automation in Manufacturing".

9. Prof. T. Sundararajan observed that the Thermal and Manufacturing stream is well balanced. However, a course on FEA may be added as a core course to make the stream wise distribution well balanced. He also enquired if it was required to have two courses separately for Electrical and Electronics Engineering.

10. Dr. K. Marimuthu responded that the basic concepts of Electrical and Electronics is very essential and therefore those courses cannot be compromised. He also added that the SWAYAM courses are given in the eighth semester so that it will be easy for students who opt for Fast Track courses.

11. Dr. R. Saravanan suggested that the course title "Machine Drawing (using AutoCAD)" can be renamed by removing "using AutoCAD". He also suggested that the course "Operations Research" can be renamed as "Systems Engineering" and shifted from HSM to ESC.

12. Dr. K. Marimuthu added that the number of credits for ESC should not be compromised ^{even} if the total number of credits goes up to 168.

13. Prof. T. Sundararajan suggested that the course "Engineering Mechanics" can be shifted to ESC as it is common to all branches. Dr. K. Marimuthu responded that the subject is specifically designed for Mechanical Engineering students and not common to all branches.

14. The Board members also pointed out that the courses "Design for Manufacturing" and "Metrology and Quality Control" be shifted to Manufacturing electives list. They

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- also suggested that courses such as "Fuel Cells"
"Hydrogen energy" may be introduced as open electives.
15. Dr. R. Saravanan suggested renaming the course "Alternative Energy Resources" with "Energy Conversion Techniques".
 16. Prof. T. Sundararajan suggested shifting the course "Non-Destructive Evaluation and Imaging" to the Design electives list. He also added that an elective on "Additive Manufacturing" can be introduced.
 17. Dr. V. PrabhuRaja added that a course on Geometric Modelling is very important and the same may be added.
 18. Mr. A.S. Shivakumaran suggested renaming "Total Quality Management" as "Total Productivity Management" as TQM is a part of TPM.
 19. Dr. R. Saravanan added that the courses "Engineering Economics" and "Financial Management" be added to the electives list.
 20. The Board also ratified the NPTEL Online Course "Rapid Manufacturing" completed by student Nithin as equivalent to a three credit course in the final semester.
 21. Dr. V. PrabhuRaja suggested that the title of unit-IV in kinematics be changed to "Particle Kinematics". He also added that the portions "Balancing of Forces" and "Gyroscopes" are missing and have to be included in any of the courses.
 22. The Board members pointed out that the three units in Mathematics-III has to be split into five units. They also pointed out that the text and reference books should be of latest editions. They also added that the course outcomes should be matched with the units and the same has to be checked.
 23. Dr. V. PrabhuRaja pointed out that the fifth unit in

- Strength of Materials may be renamed as "Stress in Cylinders and shells". Dr. N. Rajam Ramaswamy suggested that the third unit be renamed as "Deflections of beams".
24. Dr. N. Rajam Ramaswamy added that the text book for "Materials Engineering" may be replaced by a book by Callister and Subramaniam. He also added that the applications of microprocessor and embedded processor should be added in Basic Electronics Engineering.
25. The Board members also suggested that the number of text books can be limited to two and reference books may be limited to five.
26. Dr. V. Prabhuraja insisted that more of hydraulic machinery can be added as only the last unit covers machinery part in "Fluid Mechanics and Machinery". Prof. T. Sundararajan pointed out that the number of hours (10) for Dimensional Analysis can be reduced and re-distributed to other units.
27. Dr. T. Sridhar suggested that the fourth unit may be named as "Steam Power Cycles" and the third unit may be named as "Gas Power Cycles" in Applied Thermodynamics.
28. Prof. T. Sundararajan pointed out that the number of hours (6+6) for Reciprocating Air Compressors may be reduced and redistributed to other units. Dr. V. Prabhuraja insisted on including the Rotary Compressor part also in Applied Thermodynamics. Dr. R. Saravanan suggested that the components of refrigerators can be added in the fifth unit.
29. Dr. V. Prabhuraja added that the term "RPM" be replaced with "speed" in the third unit of Instrumentation and Control. The members suggested adding Data Acquisition Systems, Sensors, Sensor characteristics and Actuators

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30. Dr. V. Prabhuraja pointed out that the content on Assembly Drawing is very little and suggested that at least 60% of the syllabus should be pertained to assembly drawing in "Machine Drawing". He also suggested combining the five units as Representation of Joints and introduce more assemblies.
31. Dr. R. Saravanan suggested that the unit size should be more or less uniform. He added that the course outcomes should match with the units.
32. Dr. S. Balamurugan, Assistant Professor in the Department of Mechanical Engineering presented the curriculum and syllabi for M.E. Heat Power Engineering.
33. Prof. T. Sundararajan suggested that a core course may be added like "Fuels and Combustion" which can be common for everyone. He also added that a book on Compressible Flow by E. Radhakrishnan may be added for the course "Compressible Flow". He also suggested that a book by K.N. Seetharamu may be added as a reference for Finite Element Analysis course.
34. Dr. R. Saravanan insisted on introducing a unit on Optimization Techniques in "Design and Optimization of Thermal Equipments". He also said that the unit on "Linear Programming" may be removed.
35. Dr. K. Marimuthu insisted on removing pre-requisite from the syllabi.
36. Dr. V. Prabhuraja insisted on additional content for course on "Process Control" as only one unit is allotted under Process Control. Dr. R. Saravanan said that the topics on measurements can be cut down and measurements of heat flux, heat flow and turbulence can be added. Optical Techniques, Conductivity of two-phase materials can

also be added to the syllabus.

37. Prof. T. Sundararajan insisted on updating the electives list with advanced courses such as "Fuel Cells", "Hydrogen Fuel", "Turbulence", "Hybrid Vehicles" and the like.

38. Prof. T. Sundararajan added that topics on participating media may be added in the course "Principles of Radiation". He also added that the concepts of Green house effect may be added as well. Dr. T. Sridhar pointed out that the syllabus is inclusive of green house effect and introduction on participating media may be considered depending on the feasibility.

39. Dr. C. Vivek, Assistant Professor in the Department of Mechanical Engineering presented the curriculum and syllabi for M.E., Advanced Manufacturing Technology.

40. Dr. V. Prabhu Raja enquired as what is being covered in Simulation lab and if there is a corresponding theory course for the lab. He suggested adding one theory hour along with the lab.

41. Dr. V. Prabhu Raja insisted on shifting "Finite Element Analysis for Manufacturing" from elective to core and a corresponding lab would be good addition.

42. Dr. K. Marimuthu asked to remove experiment 8 from the list of experiments and remove the word "Regression Modelling" from experiment 7 in Welding Laboratory.

43. Dr. V. Prabhu Raja pointed out that the CIM Lab involves both CIM and FEA and it will be hard to justify to have contents of both CIM & FEA in a single course.

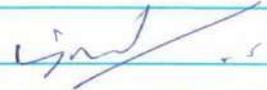
43. The Board members also insisted on adding "Artificial Intelligence and Machine Learning" and

"IoT"

44. Dr. K. M. convey their suggestions feasible

"IoT in Manufacturing" to the list of electives.

44. Dr. K. Marimuthu proposed the Vote of Thanks and conveyed his thanks to the expert members for offering their valuable suggestions. He also added that their suggestions will be incorporated depending on the feasibility and requirements.



Dr. K. MARIMUTHU

CHAIRMAN - BOARD OF STUDIES

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