



**SETHU INSTITUTE OF TECHNOLOGY, PULLOOR,  
KARIAPATTI – 626 115**

**MINUTES OF SEVENTH MEETING FOR THE BOARD OF STUDIES IN THE  
DEPARTMENT OF MECHANICAL ENGINEERING HELD ON 06/09/2019.**

The Seventh Meeting of the Board of Studies in the Department of Mechanical Engineering was held at 10.00 AM on 06/09/2019 at Seminar Hall of Mechanical Engineering Department, Sethu Institute of Technology, Pulloor, Kariapatti.

The following members were present.

Sl. No	Name of the Members	Designation and Institution	Position	Signature
1.	Dr. G. D. Sivakumar	Vice Principal / HOD Mechanical, Sethu Institute of Technology.	Chairman	
2.	Dr. D. Jebakani	Associate Professor(CAS), Department of Mechanical Engineering, Government College of Engineering, Tirunelveli, Tamil Nadu - 627007. Ph: 9944253810 Email : jebakani@gcetly.ac.in	University Nominee	 6/9/19
3.	Dr. U. Arunachalam	Assistant Professor, University College of Engineering, Anna university Constituent College, Konam, Nagercoil – 629004. Ph: 9443279233 Email : arunachalam_u@yahoo.com	Member- External	 06/09/19



4.	Dr. B. Stalin	Assistant Professor & Head I/C, Department of Mechanical Engineering, Anna university Regional campus, Keelakuilkudi, Madurai – 625 019, Ph: 9865264158 Email : stalin1312@gmail.com	Member- External	B. Stalin 6/9/19
5.	Mr. G. Rajamurthy	Managing Director, Singai Coirs Pvt. Ltd., Singampunari, Sivaganga District. Ph: 9047093311 Email : globalrajamurthy@gmail.com	Industrial Expert	G.P. 6/9/19
6.	Mr. A. Kosalram	Senior Design Engineer, Auro Lab, Madurai. Ph: 9962750063 Email :kosalram@aurolab.com	Alumni	<del>K. Kosalram</del> 6/9/19
7.	Dr. A. Senthil Kumar	Professor		<del>A. Senthil Kumar</del> 6/9/19
8.	Dr. A.M. Shanawaz	Professor		<del>A.M. Shanawaz</del>
9.	Dr. C. Kailasanathan	Professor		<del>C. Kailasanathan</del>
10.	Dr. S. Mothilal	Professor		<del>S. Mothilal</del>
11.	Dr. R. Murali Kannan	Professor		<del>R. Murali Kannan</del>
12.	Dr. K. Arun Balasubramanian	Professor		<del>K. Arun Balasubramanian</del>
13.	Dr. C. Muthusamy	Professor		<del>C. Muthusamy</del>
14.	Dr. B. Raja Mohamed Rabi	Professor		<del>B. Raja Mohamed Rabi</del>
15.	Dr. V. Srinivasa Raman	Professor		<del>V. Srinivasa Raman</del>
16.	Dr. G. Pitchayya Pillai	Professor		<del>G. Pitchayya Pillai</del>
17.	Dr. A. Anbarasu	Professor		<del>A. Anbarasu</del>
18.	Mr. G.K. Thamilselvan	Associate Professor		<del>G.K. Thamilselvan</del>
19.	Dr. I. Vijay Arasu	Associate Professor		<del>I. Vijay Arasu</del>
20.	Mr. S. Paramasamy	Associate Professor		<del>S. Paramasamy</del>
21.	Mr. G. Nagaraj	Associate Professor		<del>G. Nagaraj</del>



22.	Dr. K. Vinayagar	Associate Professor			<i>[Signature]</i>
23.	Mr. S. Shaik Mohamed Ferozdheen	Associate Professor			<i>[Signature]</i>
24.	Dr. N. Premalatha	Associate Professor			<i>[Signature]</i>
25.	Dr. G. Venkatesan	Associate Professor			<i>[Signature]</i>
26.	Dr. P. Ganeshan	Associate Professor			<i>[Signature]</i>
27.	Mr. T. Gangadharan	Assistant Professor (Sr. Gr.)			<i>[Signature]</i>
28.	Mr. P. R. Rajkumar	Assistant Professor (Sr. Gr.)			<i>[Signature]</i>
29.	Mr. K.M. Ahamed Sheriff	Assistant Professor (Sr. Gr.)			<i>[Signature]</i>
30.	Mr. R. Sridhar	Assistant Professor (Sr. Gr.)			<i>[Signature]</i>
31.	Mr. A. Saravana Kumar	Assistant Professor (Sr. Gr.)			<i>[Signature]</i>
32.	Mr. A. Syed Ibrahim	Assistant Professor (Sr. Gr.)			<i>[Signature]</i>
33.	Mr. S. Shanmugam	Assistant Professor			<i>[Signature]</i>
34.	Mr. P. Meenatchisundaram	Assistant Professor			<i>[Signature]</i>
35.	Mr. T.P. Balaji	Assistant Professor			<i>[Signature]</i>
36.	Dr. R. SelvaBharathi	Assistant Professor			<i>[Signature]</i>
37.	Mr. V. Ramachandran	Assistant Professor			<i>[Signature]</i>
38.	Mr. C. Tamilarasan	Assistant Professor			<i>[Signature]</i>
39.	Mr. B. Muthu Chozha Rajan	Assistant Professor			<i>[Signature]</i>
40.	Mr. S. Devanand	Assistant Professor			<i>[Signature]</i>
41.	Mr. A. Shyam Sundar	Assistant Professor			<i>[Signature]</i>
42.	Mr. K. Sarbudeen	Assistant Professor			<i>[Signature]</i>
43.	Mr. K. Amirtharaj	Assistant Professor			<i>[Signature]</i>
44.	Mr. R. Jayaprakash	Assistant Professor			<i>[Signature]</i>
45.	Mr. M. Jeyaram	Assistant Professor			<i>[Signature]</i>
46.	Mr. P. Karuppasamy	Assistant Professor			<i>[Signature]</i>
47.	Mr. R. Balaji	Assistant Professor			<i>[Signature]</i>



48.	Mr. M. Pasumpon	Assistant Professor		
49.	Mr. S. Saravanan	Assistant Professor		
50.	Mr. R. Seenivasan	Assistant Professor		
51.	Mr. M. Elavarasan	Assistant Professor		
52.	Mr. A. Perumal	Assistant Professor		
53.	Mr. S.A. SethuRaaman	Assistant Professor		
54.	Mr. J. David Gnanaraj	Assistant Professor		
55.	Mr. R. Kathirvel	Assistant Professor		
56.	Dr. V. Vignesh	Assistant Professor		
57.	Mr. C. Ramaraj	Assistant Professor		
58.	Mr. B. MohmedFazil	Assistant Professor		
59.	Mr. J. Vairamuthu	Assistant Professor		
60.	Mr. C. Shravan Kumar	Assistant Professor		
61.	Mr. J. ArunJeevaNijanthan	Assistant Professor		
62.	Mr. V. Ananda Natarajan	Assistant Professor		

The Chairman welcomed the BoS members and presented the Curriculum and Syllabi of Regulation 2019 for the students admitted from the academic year 2019-20, under Autonomous Regulations for B.E.Mechanical Engineering and M.E.CAD/CAM.

The following points were discussed in the meeting

1. Vision, Mission Statements, Program Educational Objectives, Program Outcomes and Program Specific Outcomes
2. Improvements to be made in the syllabus under R2015
3. Technology Forecast regarding R2019
4. Stakeholders Feedback regarding R2019
5. Curriculum and syllabus R2019
6. Mapping of Curriculum with Programme Specific Criteria
7. Employability/ Entrepreneurship/ Skill Development



8. Value added courses
9. New introduced courses under R2019.
10. External Examiners and Scrutiny Members
11. M.E.CAD/CAM

## 1. Vision, Mission Statements, Program Outcomes and Program Specific Outcomes

1.1. The Board of Studies chairman presented the Department Vision, Mission, PEOs, POs and PSOs of the U.G Programme.

### Department Vision statement

- To promote excellence in education and research in mechanical engineering for the benefits of industry and society.

### Mission Statement

1. To provide quality technical educational experience to enable the graduates to become leaders in their chosen profession
2. To educate through modern teaching tools and experiential learning to produce proficient engineer
3. To develop skills in recent technological trends and design software and to facilitate various co-curricular activities to enhance employability and entrepreneurship
4. To establish collaboration with industries for transfer of technical knowledge
5. To promote research activities among faculty members and students
6. To offer beneficial services to the society

### Program Educational Objectives PEOs

After few years of graduation our Mechanical Engineering graduates are expected to:

PEO I (Core Competency)	Develop technical competency to become professionals with expertise in core areas of mechanical engineering.
PEO II (Life Long Learning)	Practice Life Long Learning to solve real time problems and for career development.
PEO III (Professional and Ethical Skills)	Develop professional skills to meet the global standards with ethical and social responsibility.



## Program Outcomes POs

1.	Apply knowledge of mathematics, science, basic engineering, manufacturing, design, thermal and industrial engineering to the solution of complex engineering problems. <b>[Engineering knowledge]</b>
2.	Identify, formulate, research through relevant literature review, and analyze complex mechanical engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and mechanical engineering. <b>[Problem analysis]</b>
3.	Design solutions for complex mechanical engineering problem and design system components that meet the specified needs with appropriate considerations for public health and safety, cultural, societal, and environmental constraints. <b>[Design/ development of solutions]</b>
4.	Conduct investigations of complex mechanical problems in design and analysis of machine elements, mechanisms, thermal systems and to manufacture components and systems using research based knowledge and methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions. <b>[Conduct investigations of complex problems]</b>
5.	Select and apply the latest CAD/CAM/CAE software and sophisticated equipment for modeling and analyzing to predict and solve mechanical engineering problems. <b>[Modern tool usage]</b>
6.	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, cultural issues and consequent responsibilities relevant to professional engineering practice. <b>[The Engineer and Society]</b>
7.	Understand the impact of solutions for mechanical engineering problems in the context of society and environments, and demonstrate the knowledge of and need for sustainable development. <b>[Environment and Sustainability]</b>
8.	Apply ethical principles, and commit to professional ethics and responsibilities and norms of the engineering practice. <b>[Ethics]</b>
9.	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. <b>[Individual and team work]</b>
10.	Communicate effectively on mechanical engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentation, and give and receive clear instructions. <b>[Communication]</b>



11.	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. <b>[Project management and finance]</b>
12.	Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. <b>[Lifelong learning]</b>

### **Program Specific Outcomes PSOs**

- ❖ Apply the concepts of design and manufacturing to solve industrial problems.
  - ❖ Apply the knowledge of Mechanical engineering to design solutions, systems and components to meet the needs of Automobile Industry.
- The BoS members reviewed the Department Vision, Mission statements, PEOs, POs, PSOs and resolved to approve the same without changes.

### **2. Improvements to be made in the syllabus under R2015**

The BoS members reviewed the Curriculum and Syllabi of Regulation 2015 and resolved to approve the same without any changes.

### 3. Technology Forecast regarding R2019

The Chairman of BoS presented the Technology forecast regarding R2019 in front of BoS members

Sl.No.	Publishers	Content of forecast	Action Taken
1.	Collaborative Automotive R & D (CAR), Government of India.	Electric Mobility Vehicle Tracking and Control System Hydroforming	Introduced in the course "Automobile Engineering" Introduced in the course "Fundamentals of Manufacturing Process"
2.	CII	Automobile Sectors - Impact on Indian Economy	Because of the fast growing of the automobile sector and its impact in Indian economy automobile engineering course is introduced as professional core.
3.	NASA	3D Printing Future of Aeronautics	A chapter is included in the course "Smart Manufacturing" Included in the course "Introduction to aircraft industry and aircraft systems"
4.	Technavio	A key factor driving the growth of the computational fluid dynamics market is the growing need to decrease product development time. Industries are implementing CFD software in their product development system due to the need for technological advancements.	<ul style="list-style-type: none"> <li>Professional Elective Course in "CFD" is introduced in the Curriculum.</li> <li>CFD Practical is introduced in the course "Computational Analysis Laboratory"</li> </ul>



Sl.No.	Publishers	Content of forecast	Action Taken
5.	SIEMENS	The Digital Enterprise solution portfolio enables industrial companies of all sizes to implement current and future technologies for the automation and digitalization. Thus, they can tap into the full potential of Industry 4.0 and get ready for the next level of their digital transformation journey.	The chapter "Industry 4.0" is included in the professional core course "Smart Manufacturing"
6.	Global Industry 4.0 Technologies Market Analysis, Trends & Forecast Prediction till 2023 – Market Watch	The "Global Industry 4.0 Technologies Market - 2017-2023" report forecasts that the global Industry 4.0 market* will reach \$214B by 2023.	The chapter "Industry 4.0" is included in the professional core course "Smart Manufacturing"

➤ The BoS members reviewed the technology forecast regarding R2019 and resolved to incorporate the feedback in R2019.

#### 4. Stakeholders Feedback regarding R2019

The Chairman of BoS presented the Stakeholders feedback regarding R2019 in front of BoS members.

S.No	Stake Holder	Name	Feedback	Remarks
1.	International Faculty	Dr. G. Sivakumar, <sup>PhD</sup> Lecturer Mechanical Section, IBRA college of technology Sultanate of Oman	Piping design course as professional elective  Control engineering as open elective course	Included as Professional Elective  "Control System Engineering" is offered by EEE department as an open elective course



S.No	Stake Holder	Name	Feedback	Action Taken
2.	Faculty Member	Dr. U. Arunachalam Assistant professor, University College of Engineering, Nagercoil	<p><b>Thermal Engineering:</b> Rankine cycle chapter should be added in Thermal Engineering course.</p> <p>Elementary treatment about cooling load calculations should be included RSHF, GSHF and ESHF in the topic Air conditioning.</p> <p>The topic "Performance of I.C Engines" should be added.</p> <p>The course <b>Heat and Mass Transfer</b> may be shifted to <b>Fifth semester</b> and <b>Operations Research</b> may be shifted to <b>Sixth semester</b>.</p> <p><b>Applied Thermal Engineering:</b></p> <ul style="list-style-type: none"> <li>In Steam turbines, only elementary treatment is enough, as they have been already taught velocity triangles for turbines and pumps in Fluid Mechanics and Machinery.</li> <li>Unit - 4 (Hydraulic Pumps), Centrifugal pumps may be added with reciprocating pump under the name of Hydraulic Pumps.</li> <li>Unit - 5 (Hydraulic Turbines) may be named as Hydraulic Turbines</li> </ul>	<p>Rankine cycle is included in the course "Engineering Thermodynamics" of R2019.</p> <p>The content added in the course "Engineering Thermodynamics" under the topic of Psychrometry in R2019</p> <p>Already available in the course "Thermal Engineering Laboratory - I" of R2019</p> <p>In R2019 curriculum, "Heat and Mass Transfer" course is shifted to 5<sup>th</sup> semester and "Operation Research" course is shifted to 6<sup>th</sup> Semester.</p> <p>Updated in the course "Applied Thermal Engineering" of R2019</p> <p>Updated in the course "Fluid Mechanics and Machinery" of R2019</p>



S.No	Stake Holder	Name	Feedback	Action Taken
3.	Faculty Member	<p style="text-align: center;">Dr. Kumaresan, Associate Professor, Institute of Energy Studies, Anna University, Chennai.</p>	<p><b>Heat and Mass Transfer:</b></p> <ul style="list-style-type: none"> <li>• The following topics can be excluded</li> <li>• Unit 1(Conduction) – Numerical methods topic can be removed off due to lengthy portions.</li> <li>• Unit 4 (Radiation) – Enough to mention Laws of Radiation so Stefan Boltzman Law and Kirchoff's Law can be removed off.</li> <li>• The following topics can be included</li> <li>• Unit 2(Convection) – Introduction to convection Heat transfer enhancement techniques</li> <li>• Unit 3(Phase change heat transfer and heat exchangers) – Introduction to Heat Pipes.</li> </ul> <p><b>Engineering Thermodynamics:</b></p> <ul style="list-style-type: none"> <li>• Topics can be included in Unit 1(Basic concepts and first law) - Basics of microscopic approach.</li> <li>• Topics can be included in Unit 2(Basic concepts and second law) – Availability.</li> <li>• Reference Book to be included: Y. Cengel and M. Boles, Thermodynamics - An Engineering Approach, Tata McGraw Hill, 7th Edition, 2011.</li> </ul>	<p>Updated in the course "Heat and Mass Transfer" of R2019</p> <p>Updated in the course "Engineering Thermodynamics" of R2019</p>



S.No	Stake Holder	Name	Feedback	Action Taken
		<p>Dr. Kumaresan, - <i>DA-2</i> Associate Professor, Institute of Energy Studies, Anna University, Chennai.</p>	<p><b>Thermal Engineering:</b> Topic impulse and reaction turbine can be included in Unit 3(Steam nozzle and turbines), after Super saturated flow topic.</p> <p><b>Gas Dynamics and Jet Propulsion:</b> The following topics can be included Unit 4(Jet propulsion) – Ramjet and Scramjet engines Unit 5(Rocket propulsion) – Power and Efficiency calculations, Multi stage rockets.</p> <p><b>Power Plant Engineering:</b></p> <ul style="list-style-type: none"> <li>• The following topics can be excluded in Unit 2 – Remove comma between Electrostatic, Precipitator and Unit 5 – Remove Power plant economics.</li> <li>• Unit 1 title should be changed as layout and economics of power plant</li> <li>• The following topics can be included <ul style="list-style-type: none"> <li>• Unit 1 – Tariff Structures,</li> <li>• Unit 2 (steam power plants) – Supercritical boilers</li> <li>• Unit 5 (Other power plants) – Biomass, Solar PV, wind power plants.</li> </ul> </li> </ul>	<p>Updated in the course “Applied Thermal Engineering” of R2019</p> <p>Updated in the course “Gas Dynamics and Jet Propulsion” of R2019</p> <p>Updated in the course “Power Plant Engineering” of R2019</p>



S.No	Stake Holder	Name	Feedback	Action Taken
4.	Industry Member	Dr. Parthasarathi, ✓ Senior Research Scientist, IGCAR, Chennai	<p><b>Manufacturing Technology – I:</b> 3-D Printing and Additive Manufacturing content to be included.</p> <p><b>Engineering Mechanics:</b> Reference book of Meriam Kraige or S. Timshenko should be added.</p> <p><b>Engineering Materials and Metallurgy:</b></p> <ul style="list-style-type: none"> <li>• Glasses, Metallic Glasses content to be included.</li> <li>• Reference book to be included</li> <li>• Mechanical metallurgy by George E. Dieter</li> <li>• Engineering Materials by Ashby</li> </ul> <p><b>Design of Machine Elements:</b> Design of Leaf spring, Half leaf spring content to be included.</p> <p>Belleville spring content to be included.</p> <p><b>Professional Ethics:</b></p> <ul style="list-style-type: none"> <li>• Workplace sexual harassment awareness for women content to be included.</li> </ul> <p><b>Automobile Engineering:</b></p> <ul style="list-style-type: none"> <li>• Reference book by Crouse and Anglin should be included.</li> </ul>	<p>Included in the course "Smart Manufacturing"</p> <p>Updated in the Syllabus</p> <p>Updated in the course "Materials Engineering" of R2019</p> <p>In the course "Design of Machine Element", Unit IV the topic design of various types of springs includes Leaf spring and Half leaf spring.</p> <p>Non availability of data in PSG design data book (prescribed by Anna university)</p> <p>"Gender Equality" - new course is introduced in the R2019 as a Mandatory course</p> <p>Updated in the Syllabus</p>



S.No	Stake Holder	Name	Feedback	Action Taken
			<p><b>Industrial Tribology:</b></p> <ul style="list-style-type: none"> <li>Reference book by IM Hutchings and Prasant Sahoo should be included.</li> </ul> <p><b>Nuclear Engineering:</b></p> <ul style="list-style-type: none"> <li>Reference book by Samuel Glasstone Volume 1 and 2 should be included.</li> </ul> <p><b>Engineering Practices Laboratory:</b></p> <ul style="list-style-type: none"> <li>Basic welding content to be included.</li> <li><b>Tribological testing and NDT techniques</b> may be included as a <b>one credit course</b>.</li> <li>Insist the students to present their project work in National and International level competitions.</li> </ul>	<p>Updated in the Syllabus</p> <p>Updated in the Syllabus</p> <p>Basic welding is included in the course "Engineering Practices Laboratory" of R2019</p> <p>Included in the curriculum R2019 as Professional Elective courses</p> <ul style="list-style-type: none"> <li>Industrial Tribology</li> <li>Non Destructive testing (NDT)</li> </ul>
5.	Industry Member	Mr. C. Jaikumar, ✓ Managing Director 3-D Makers	<ul style="list-style-type: none"> <li>Additive Manufacturing lab may be included to get practical knowledge.</li> <li>Student should be given training in industrial type CNC machine to get real time exposure.</li> </ul>	<p>Included in Smart manufacturing and Mechatronics Laboratory</p> <p>Separate credit is allotted for Internship and Certification courses</p>
6.	Industry Member	Dr. M. Mahendran, ✓ Staff Engineer, GE Aviation	<ul style="list-style-type: none"> <li>Additive Manufacturing may be added as a professional elective</li> <li>Thermal Turbo machines may be included as a professional elective. Even though it is the part of fluid mechanics course, he suggested to include it as separate course in R2019 will provide the knowledge of axial and radial machine design.</li> </ul>	<p>Included as a Professional Elective in R2019</p> <p>Included as a Professional Elective in R2019</p>



S.No	Stake Holder	Name	Feedback	Action Taken
7.	Industry Member	Dr. Paul Murugan, <sup>Ph.D.</sup> Scientist, ISRO, Trivandrum	<p>The following courses to be included in the upcoming curriculum</p> <ul style="list-style-type: none"> <li>• 3-D Printing or Additive Manufacturing</li> <li>• Pressure Vessel Design</li> <li>• Advanced joining techniques like friction stir welding</li> <li>• Flow forming techniques</li> <li>• Hot isostatic process</li> <li>• Torquing methods and fasteners manufacturing</li> <li>• Design with additive manufacturing method</li> <li>• Aero propulsion and structures basics</li> <li>• Finite element techniques with MATLAB</li> <li>• Composite pressure vessel tech</li> <li>• Advanced materials piezo electric and smart materials basics</li> <li>• Structures handling and transportation design methods.</li> </ul>	<p>The following courses are included in the Curriculum R2019:</p> <ul style="list-style-type: none"> <li>• Additive manufacturing</li> <li>• Design of aircraft structures</li> <li>• Flow forming techniques may be given as an One credit course</li> </ul>
8.	Alumni Member	Mr. S. Shanmuga Narayanan, Design Engineer, <sup>Ph.D.</sup> MWC Chennai	<p>The following new courses may be included in the upcoming curriculum. <b>Suggestion for New course:</b> Practical for Finite Element Analysis Geometric Dimensioning and Tolerance CNC software programming</p>	<p>Included in the course "Computational Analysis Laboratory"</p> <p>Included in the course "CAD Laboratory"</p> <p>Included in the course "Smart Manufacturing Laboratory"</p>

S.No	Stake Holder	Name	Feedback	Action Taken
			CMM software programming	Included in the course "Measurement and Instrumentation" of R2019.
			The following topics may be included in the curriculum R2019 Strength and Durability analysis	Included in the course "Computational Analysis Laboratory"
			Surface Design	Included in the course "Industrial Tribology"
			Top Down Assembly Design	Included in the course "CAD Laboratory"
			Solid Modeling	Included in the course "CAD Laboratory"
			Drafting	Included in the course "Computer Aided Drafting Laboratory"

- The BoS members reviewed the stakeholders feedback and resolved to incorporate remarks given by DAB members in the curriculum and syllabus of R2019.



## 5. Curriculum and Syllabi of Regulation 2019

The Chairman of BoS presented the drafted curriculum and syllabus under Regulation 2019 which is designed based on the AICTE model curriculum, Technology Forecast, Stakeholders feedback and Reputed Institutions curriculum.

The following are the suggestions given by the BoS members regarding curriculum and syllabus of R2019.

### 5.1. Semester – I:

#### **Engineering Graphics:**

- The BoS member Dr. U. Arunachalam suggested the syllabus content in the course “Engineering Graphics” may be modified as “axis inclined to any one plane” instead of “axis is parallel, perpendicular and inclined to one plane”.

Based on the above suggestion, the BoS members resolved to revise the syllabus by incorporating the content “axis inclined to any one plane” instead of “axis is parallel, perpendicular and inclined to one plane” in the course “Engineering Graphics”.

### 5.2. Semester – II:

#### **Introduction to Mechanical Engineering:**

- The BoS member Dr. B. Stalin suggested to design the syllabus content based on Design, Thermal, Manufacturing and Industrial Engineering Domain.
- The BoS member Mr. G. Rajamurthy noted that the course title “Introduction to Mechanical Engineering” and the Unit – 1 title are same and hence the Unit -1 title may be modified.

Based on the above suggestion the BoS members resolved to revise the syllabus according to domain of mechanical engineering and change the title for Unit – 1 as “Elements of Mechanical Engineering”.

### 5.3. Semester – IV:

- The BoS member Dr. U. Arunachalam suggested to modify the course “Thermal Engineering Laboratory” as “I.C. Engine Lab” in 4<sup>th</sup> Semester and “Heat and Mass Transfer Lab” in 5<sup>th</sup> Semester.

Based on the above suggestion the BoS members resolved to modify the course name based on thermal domain - “I.C. Engine Lab” as “Thermal Engineering Laboratory – I” and “Heat and Mass Transfer Lab” as “Thermal Engineering Laboratory – II”.

#### 5.4. Semester – VII:

- The BoS member Dr.D.Jebakani suggested that in the course “Project Management and Finance” the syllabus is vast.

Based on the above suggestions the BoS members resolved to retain the same content in the course “Project Management and Finance” because of the necessity of project management skill in industry.

#### 5.5. Professional Elective:

- The BoS member Dr. D. Jebakani suggested that remove the course “Design of Jigs, Fixtures & Press Tools” from professional elective.

Based on the above suggestion the BoS members resolved that the course “Design of Jigs, Fixtures & Press Tools” is vital for mechanical engineering and hence it is decided to retain the course as professional elective.

### 6. Mapping of Curriculum with Programme Specific Criteria

- The Chairman presented the Mapping of curriculum and syllabi of Regulation 2019 with programme specific criteria to all the members of BoS.

The BoS reviewed and resolved to approve the course mapping with Program Specific Criteria (PSC) as given in the Annexure-1.

### 7. Employability/ Entrepreneurship/ Skill Development

- The Chairman presented the courses focusing on Employability, Entrepreneurship/ Skill Development in R2019 Curriculum and syllabus.

The BoS members reviewed and resolved to approve the courses focusing on Employability, Entrepreneurship and Skill Development in R2019 Curriculum and syllabus as given in the Annexure-3.

### 8. Value Added Courses

- The Chairman presented the Value Added Courses.

The BoS members reviewed and resolved to approve the following Value Added Courses to be offered to the students to enhance their skills.

1. Computational Fluid Dynamics (CFD)
2. CATIA
3. 3D – Printing
4. Six Sigma



## 9. New Courses

The Chairman presented the new Professional core, Laboratories, Professional Electives and Integrated courses introduced in R 2019 curriculum.

The BoS members reviewed and resolved to approve the following new courses to be introduced in the curriculum R2019.

### New course Introduced:

1. Introduction to Mechanical Engineering

### New Professional core courses:

1. Automobile Engineering
2. Smart manufacturing

### New Professional Laboratory courses:

1. CAD Laboratory
2. Mechatronics and Smart manufacturing Laboratory

### New Integrated courses:

1. Fluid Mechanics and machinery
2. Measurement and Instrumentation

### New Professional core courses:

1. Non Destructive Testing (NDT)
2. Statistical Quality Control
3. Additive Manufacturing
4. Thermal Turbo machines
5. Piping Design

## 10. External Examiners and Scrutiny Members

- The Chairperson presented the Panel of Faculty members for Valuation to all the members of BoS.
- The BoS members reviewed and resolved to approve the end semester External Examiners and Scrutiny Members as given in the Annexure – 2.

## 11. M.E.CAD/CAM

The M.E. CAD/CAM Head of the department presented the drafted curriculum and syllabus under regulation 2019 for M.E CAD/CAM based on the AICTE model curriculum, Technology forecast, Stakeholder's feedback and reputed Institutions curriculum.

Based on the suggestions given by the members, the following resolutions are made:

11.1 The BoS resolved to approve the curriculum of M.E. CAD/CAM.

- 11.2. The BOS resolved the number of theory papers in I and III semester reduced to 4 subject instead of 5 subject.
- 11.3. The BOS resolved the number of theory papers in II semester reduced to 3 subject instead of 5 subject.
- 11.4. The BoS members reviewed and resolved to approve the following New Courses to be included in the curriculum R2019 based on Stakeholders feedback.

**New Professional core courses:**

1. Advanced Finite Element Analysis
2. Computer Application and Design

**New Professional Laboratory courses:**

1. CAD Laboratory
2. Computer Aided Engineering Laboratory
3. CAM Laboratory
4. Advanced Analysis and Simulation Laboratory
5. Mini Project with Seminar

**New Professional Elective courses:**

1. Integrated Product Design and Process Development
2. Competitive Manufacturing Systems
3. Additive Manufacturing
4. Integrated Mechanical Design

**New Open Elective course:**

1. Industrial Safety

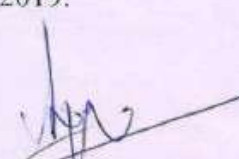
**New Mandatory Credit Course:**

1. Research Methodology and IPR

**New Audit Course:**

1. Pedagogy Studies
2. English for Research paper writing

- The Chairperson thanked the members for their contribution and valuable suggestions given by them in various aspects under Autonomous Regulations 2019.

  
Dr. G.D. Sivakumar

**Chairperson**  
**Board of Studies**  
**Mechanical Engineering**  
**Sethu Institute of Technology**  
**Kariapatti - 626 115**