

**(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)**

S.P.G.Chidambara Nadar - C.Nagammal Campus

S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

**MINUTES OF THE MEETING OF THIRD BOARD OF STUDIES MEETING HELD ON 13.11.2021 AT 10.00 AM IN ONLINE TOWARDS CONSIDERING THE PROPOSED R2020 UG PROGRAMME, B.E. – MECH CURRICULUM (V SEMESTER AND VI SEMESTER), INFORMATION ABOUT THE PONTS DISCUSSED IN AC MEETING, AMENDMENT INTRODUCED IN AU R2017, VALUE ADDED COURSES/ SKILL DEVELOPMENT COURSES.**

**Platform: Google Meet**

**Meeting Link:** [meet.google.com/bqr-isan-csx](https://meet.google.com/bqr-isan-csx)

Dr.S.Senthil , Principal (In-Charge ) and HOD (Department of Mechanical Engineering) welcomed all the members of the Board of studies and Faculty members of Department of Mechanical Engineering to the 3<sup>rd</sup> BOS meeting. The following members were present.

S.No	Name of the Expert	Designation	Capacity
1.	Dr. A. Valan Arasu, Ph.D.,	Professor/ Mechanical Engineering, Thiagarajar College of Engineering, Madurai -	Anna University Nominee
2.	Dr. S.C. Vettivel, Ph.D.,	Associate Professor/Mechanical Engineering, Chandigarh College of Engineering and Technology, Chandigarh	Academic Council Nominee
3.	Dr. V. Anandhkrishnan, Ph.D.,	Associate Professor/Production Engineering National Institute of Technology, Tiruchirappalli – 620015.	Academic Council Nominee
4.	Er. K. Rajarathinam B.E.,	Proprietor Essar Engineers, Coimbatore	Industrialist Nominee
5.	Er. R. Mayakannan M.Tech.,	CAE Engineer Renault Nissan Technology and Business Centre, Chennai	Alumni Nominee

Internal Members of BoS – Mechanical Engineering Department		
S.No	Name of the Faculty	Designation
1.	Dr. S. Senthil	Principal In-charge and Head / Mech Chairman of BoS - Mech
2.	Dr. S. S. Saravana Kumar	Associate Professor / MECH
3.	Dr. P. Narayanasamy	Assistant Professor / MECH
4.	Dr. S. Thanga Kasi Rajan	Assistant Professor / MECH UG Programme Coordinator
5.	Dr. B. Prabhu	Assistant Professor / MECH
6.	Dr. M. Prithiviraj	Assistant Professor / MECH
7.	Mr. T. Ramesh	Assistant Professor / MECH
8.	Mr. S. Chidambara Kumaran	Assistant Professor / MECH
9.	Mr. D. Palani Kumar	Assistant Professor / MECH
10.	Mr. B. Balavairavan	Assistant Professor / MECH
11.	Mr. N. R. Madhan	Assistant Professor / MECH
12.	Mr. R. SakthivelMurugan	Assistant Professor / MECH PG Programme Coordinator
13.	Mr. B. K. Parrthipan	Assistant Professor / MECH
14.	Mr. S. Devaraj	Assistant Professor / MECH
15.	Mr. T. Suresh	Assistant Professor / MECH
16.	Mr. A.SankaraNarayana Murthy	Assistant Professor / MECH
17.	Mr. K. Muruganathan	Assistant Professor / MECH
18.	Mr. S. Muthu Natarajan	Assistant Professor / MECH

**THE MINUTES:**

The meeting is called for considering the Undergraduate curriculum of B.E. Mechanical Engineering (V Semester to VI Semester).

## **DISCUSSIONS:**

### **BOS 003.01**

HOD/Mech recorded his appreciation to the external experts especially Dr.V. Anandhakrishnan and Dr. A. Valan Arasu for their suggestion to follow the II year curriculum alone instead of going for entire curriculum. He also informed that the academic council members gave approval to follow the curriculum and syllabi of II year for the entire college and for all the UG programmes.

### **BOS 003.02**

**Dr. S. Thanga Kasi Rajan gave a brief presentation for the approval of 2<sup>nd</sup> BOS minutes held on May 07, 2021 and action taken report**

- Dr.S.Thanga Kasi Rajan gave a brief presentation about the action taken on the 2<sup>nd</sup> BoS meeting. He also informed that II year curriculum alone is implemented. As per the suggestion given by Dr. A. Valan Arasu, one member from thermal stream Mr. T. Suresh, AP/ Mech was added in the 3 member committee for online courses. The other suggestions mentioned in 2<sup>nd</sup> Bos minutes (sl.no. 5 – 6 & 8 – 20) is resolved and curriculum and syllabi are published in website.
- Regarding the PG curriculum, it is informed that the changes in list of equipment are also approved by academic council members. (Sl. no. 24 of 2<sup>nd</sup> BOS meeting).
- The members of the BoS resolved and approved the same.

### **BOS 003.03**

**Dr. S. Thanga Kasi Rajan presented the Information about the points discussed in the 2<sup>rd</sup> AC meeting and its recommendations:**

- Informed that the academic council members approved the II year curriculum and syllabi for all the UG programmes and suggested to go for 3<sup>rd</sup> and final year curriculum and syllabi in the successive BOS and Academic council meeting

- Informed the two major amendments in Personality and Character Development and Passing criteria which were approved in the Academic council meeting.
- Informed the question paper pattern consisting of Part A (10 x 2 marks = 20 marks) and Part B (5 x 16 marks = 80 marks). For UG, the question paper consists of 60 % LOTS and 40 % HOTS. For PG the question paper consists of 50 % LOTS and 50 % HOTS.
- Informed the pass percentage of the students (IV semester, VI semester and VIII semester).

**BOS 003.04**

**Dr. S. Thanga Kasi Rajan presented the R2020 UG III year Curriculum of B.E – Mechanical Engineering programme.**

**SEMESTER V (Model –I)**

S.No.	Course code	Course Title	Category	Contact Periods	L	T	P	C
THEORY								
1	ME1501	Applied Hydraulics and Pneumatics	PC	3	3	0	0	3
2	ME1502	Design of Machine Elements	PC	3	3	0	0	3
3	ME1503	Dynamics of Machinery	PC	3	3	0	0	3
4	ME1504	Hybrid and Electric Vehicles	PC	3	3	0	0	3
5	ME1505	Metrology and Measurement Techniques	PC	3	3	0	0	3
6		Open Elective–I	OE	3	3	0	0	3
		Audit Course–II*	AU	3	3	0	0	0
		Online course**			-	-	-	3
PRACTICAL								
7	ME1511	CAD Laboratory	PC	4	0	0	4	2
8	ME1512	Metrology Laboratory	PC	4	0	0	4	2
9	ME1581	Kinematics and Dynamics Laboratory	PC	4	0	0	4	2
TOTAL				33	21	0	12	24

**SEMESTER V (Model –II)**

S.No.	Course code	Course Title	Category	Contact Periods	L	T	P	C
THEORY								
1	ME1501	Applied Hydraulics and Pneumatics	PC	3	3	0	0	3
2	ME1502	Design of Machine Elements	PC	3	3	0	0	3
3	ME1503	Data Analytics for Mechanical Engineers or Artificial Intelligence for Manufacturing	PC	3	3	0	0	3
4	ME1504	Dynamics of Machinery (Theory Integrated with Laboratory)	PC	4	2	0	2	3
5	ME1505	Hybrid and Electric Vehicles	PC	3	3	0	0	3
6	ME1506	Metrology and Measurement Techniques (Theory Integrated with Laboratory)	PC	5	3	0	2	4
7		Open Elective–I	OE	3	3	0	0	3
		Audit Course–II*	AU	3	3	0	0	0
		Online Course **			-	-	-	3
PRACTICAL								
8	ME1511	CAD Laboratory	PC	4	0	0	4	2
Total				33	21	0	12	24

**Semester VI**

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
THEORY								
1	ME1601	Computer Integrated Manufacturing	PC	3	3	0	0	3

2	ME1602	Design of Transmission Systems	PC	3	3	0	0	3
3	ME1603	Heat and Mass Transfer	PC	3	3	0	0	3
4		Professional Elective – I	PE	3	3	0	0	3
5		Professional Elective – II	PE	3	3	0	0	3
6*		Online course**			-	-	-	3
<b>PRACTICAL</b>								
7	ME1611	Simulation and Analysis Laboratory	PC	4	0	0	4	2
8	ME1612	Thermal Engineering Laboratory	PC	4	0	0	4	2
9	ME1621	Design and Fabrication Project	EEC	4	0	0	4	2
<b>Total</b>				<b>27</b>	<b>15</b>	<b>0</b>	<b>12</b>	<b>24</b>

**Professional Elective I (Semester VI)**

Sl. No.	Course Code	Course Title	Credits			
			L	T	P	C
1	ME1631	Basics of Finite Element Analysis	3	0	0	3
2	ME1632	Gas Dynamics and Jet Propulsion	3	0	0	3
3	ME1633	Mechanical Vibrations and Noise Control	3	0	0	3
4	ME1634	Operations Research	3	0	0	3
5	ME1635	Refrigeration and Air Conditioning	3	0	0	3

**Professional Elective II (Semester VI)**

S.No.	Course Code	Course Title	Credits			
			L	T	P	C
1	ME1631	Additive Manufacturing	3	0	0	3
2	ME1632	Computer Aided Design	3	0	0	3
3	ME1633	Energy Conservation and Auditing	3	0	0	3
4	ME1634	Non Destructive Testing and Evaluation	3	0	0	3
5	ME1635	Renewable Sources of Energy	3	0	0	3
6	ME1636	Artificial Intelligence in Manufacturing	3	0	0	3

**Open Elective I (Semester V) – Offered to other Departments**

S.No.	Course Code	Course Title	Credits			
			L	T	P	C
1	OME1551	Introduction to Mechanical Engineering concepts	3	0	0	3
2	OME1552	Production Technology	3	0	0	3
3	OME1553	Renewable Energy Sources	3	0	0	3
4	OME1554	World Class Manufacturing	3	0	0	3

**Audit Course (Offered to all Departments)**

S.No	Course Code	Course Title	Credits			
			L	T	P	C
1	AUD101	Constitution of India	3	0	0	0
2	AUD102	Value Education	3	0	0	0
3	AUD103	Pedagogy Studies	3	0	0	0
4	AUD104	Stress Management by Yoga	3	0	0	0
5	AUD105	Personality Development and Soft Skills	3	0	0	0
6	AUD106	Essence of Indian Knowledge Tradition	3	0	0	0
7	AUD107	Sanga Tamil Literature Appreciation	3	0	0	0
8	AUD108	Design Thinking	3	0	0	0

- Dr. V. Anandhkrishnan enquired about the credit details of theory based laboratory courses Dynamics of Machinery and Metrology & Measurements. Resolved that the laboratory part of metrology and dynamics consisting of 30 hours hence one credit can be allotted for laboratory component.
- Dr. S.C. Vettivel enquired how the syllabus content of Artificial Intelligence in Manufacturing was framed and recommended to proceed with the Model 2 by considering the emerging areas.
- Dr. A. Valan Arasu enquired the assessment pattern of theory based laboratory. Resolved that the assessment consisting of 40 % internal (20 %

theory and 20 % laboratory) and 60 % from end semester (theory). After discussion, Dr. A. Valan arasu agreed to proceed with Model 2.

- Dr. V. Anandhakrishnan recommended to have Artificial Intelligence in Mechanical Engineering instead of Artificial intelligence for manufacturing.
- Er. R. Mayakannan agreed to have the modern tools like Artificial Intelligence subject in the curriculum. He also suggested to have the laboratory or practical part in the theory. Resolved that the course instructor has 10 marks for conducting activity in the theory papers like seminar / mini project etc.,. Also it was informed that the curriculum has automation and IOT lab in the 7<sup>th</sup> semester.
- Dr. V. Anandhakrishnan and Er. K. Rajarathinam insisted to give some small projects like simple programming (computational techniques) for the students especially in Artificial Intelligence areas so that the understanding of the students and application knowledge would be improved. Also, they suggested to introduce some practical part in the syllabus if possible. Dr. S.C. Vettivel suggested to give applications in entire Mechanical Engineering. Dr.V. Anandhakrishnan suggested to include Artificial Intelligence in different applications like battery management systems etc.,.
- Dr. S. Thanga Kasi Rajan presented the VI semester curriculum of B.E. Mechanical Engineering. All the Board of studies members agreed to proceed the same in the VI semester.
- Dr. A. Valan arasu enquired the mode of conduct of online courses. Resolved that the students should earn 6 credits and the credits earned by the students are printed in their final consolidated mark statement. The student can opt the online courses from 5<sup>th</sup> semester to 7<sup>th</sup> semesters.
- Dr. V. Anandhakrishnan suggested to change the name of the subject as Finite Element analysis instead of Basics of Finite Element analysis.
- Dr. S. Thanga Kasi Rajan presented the list of open elective courses and its syllabus content. He also asked the members to suggest which branch these courses could be offered.
- Dr. V. Anandhakrishnan suggested to combine the syllabus content of casting and welding in Production Technology course. He also suggested to include additive manufacturing as a separate unit. Care to be taken that the student should learn all the basic manufacturing process.



- Dr. A. Valan Arasu suggested to have appealing title for Introduction to Mechanical Engineering concepts. Dr. V. Anandhkrishnan suggested that the title like introduction or basics of Mechanical etc., should be covered in the first year itself. He also suggested to provide one unit in all major domains of the Mechanical Engineering.
- Er. R. Mayakannan suggested to have some basic theory part in simulation and analysis lab so that it would give more knowledge for the students when the students will be working in R & D departments.

#### **BOS 003.05**

**Dr. S. Thanga Kasi Rajan presented the list of online courses and their syllabus. The following discussions were made.**

- Dr. S.C. Vettivel suggested that the content in the NPTEL list are too advanced. 60 to 80 % of the students only can able to complete the online course. Hence some basic courses offered in NPTEL can be selected.
- Dr. A. Valan Arasu also pointed that the NPTEL contents cannot be reduced. Instead, some basic courses can also be offered so that all students could able to pass and score marks. He also verified the assessment pattern. Dr. S. Thanga Kasi Rajan informed that assessment is not done internally. The student has to submit the assignment regularly in the NPTEL and secure the mark. The grades secured by them are recommended to the Controller of Examination of the Institution.
- Dr. S. Thanga Kasi Rajan concluded that for each semester, before offering the course to the students, the list of courses to be offered with syllabus will be sent to the all the BOS members through mail for approval.

#### **BOS 003.06**

**Dr. S. ThangaKasiRajan presented the list of value added courses and their syllabus. The following discussions were made.**

S.No.	Course Title	Total hours	Credits
1.	Skill Enhancement Course for EG	30	1
2.	Skill Enhancement Course for CAD/CAM	30	1

3.	Aptitude I	30	2
4.	Aptitude II	30	2
5	CNC Programming	30	1

- Er. N.R. Madhan Presented the syllabus content of skill development courses for the students
- Er. A.Sankara Narayana Murthy presented the importance of Aptitude for students and its syllabus content.
- Dr. A. Valan Arasu enquired the credits earned would be taken into account for CGPA calculation. Dr. S. Thanga Kasi Rajan resolved that the credits are added as over and above credit for the students and it will not be calculated in their CGPA.
- All the BOS members agreed the same.

#### **BOS 003.07**

**Dr. S. Thanga Kasi Rajan presented the new amendment introduced in AU R 2017. The following discussions were made.**

- Dr. S. Thanga Kasi Rajan presented the new amendment in Personality and Character Development. The committee members also suggested that the Principal could take the final decision for the KCET R 2020 batch students.
- Dr. S. Thanga Kasi Rajan presented the new amendment in passing criteria of AU R 2017. Dr. S.C. Vettivel and Dr. A. Valan Arasu suggested keeping the same 4 arrear attempts for the students after that his/her internal mark could be nullified.
- Dr. A. Anandhakrishnan enquired the percentage of failure students who are coming under this category. He insisted that the internal mark should not affect the pass percentage etc.,

#### **BOS 003.08**

- Dr. S. Senthil discussed the automation lab for our students. Also he thanked the BOS members for their suggestions given for open elective courses.

**BOS 003.09**

The meeting ended with the Vote of Thanks by Dr. S.S. Saravanakumar, Associate Professor, Department of Mechanical Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.




(Dr.S.SENTHIL)

BoS Chairman –MECH

Principal (In charge) & HOD/MECH



BOS Co-ordinator



UG/Co-ordinator



HOD/MECH

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