



## DEPARTMENT OF MECHANICAL ENGINEERING

### Minutes of Board of Studies Meeting held on 20/07/2020

The following members were present while finalizing the structure of M. Tech in Machine Design. BoS was held on 20/07/2020 in AGF – 06 from 02:00 to 05:00pm.

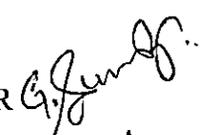
External Members: (Given their suggestions online through mail)

1. Dr. Narasimharao R – Professor, Department of Mechanical Engineering, NIT Warangal
2. Dr. L Sivarama Krishna – Joint Director, Centre for Product Design, OU, Hyderabad
3. Mr. K V L Narayan Rao – Sr. Manager, ARDC, HAL, Bengaluru

Internal Members:

4. Dr. L S Raju – HOD, Department of Mechanical Engineering, VFSTR 
5. Dr. P M V Rao – Professor & Dean Evaluation, VFSTR 
6. Mr. T CH Anil Kumar – PG Coordinator, Department of Mechanical Engineering, VFSTR 

Invitees:

7. Dr. G. Suresh – Associate Professor, Department of Mechanical Engineering, VFSTR 
8. Mr. E Govinda Rajulu – Assistant Professor, Department of Mechanical Engineering, VFSTR 
9. Mr. Mihir Barman – Assistant Professor, Department of Mechanical Engineering, VFSTR 
10. Mr. K Pradeep Chand – Assistant Professor, Department of Mechanical Engineering, VFSTR 

The following were discussed while finalizing the courses and syllabi as per directions from Dean, Academics:

- Mr. T Ch Anil Kumar, PG – Coordinator addressed the meeting about the procedure followed while framing new curriculum and changes incorporated in proposed R20 Curriculum to that of R17 Curriculum.
- Mr. T Ch Anil Kumar informed the members that the feedback from wide array of stakeholders are carefully collected, analyzed and their suggestions are taken into account while designing the Curriculum
- He also addressed that the same Choice Based Credit System (CBCS) is practiced in the curriculum
- Mr. T CH Anil Kumar addressed the main essence of R20 Curriculum that major restructuring has taken place in the curriculum which is oriented towards Project based



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- learning. The percentage of Curriculum revision is 65% for the program MD.
- AFEA and CAD are restructured and offered as Computer Aided Simulation with more emphasis on case based real time scenarios as per suggestions from stakeholder's.
  - OT and DS are offered as electives in R20 Curriculum which were regular courses earlier to accommodate audit courses and humanities course.
  - New courses namely Failure Analysis, Theory of Elasticity and Plasticity, Robotics and Automation are offered as electives as suggested by stakeholders especially students, faculty and employers
  - New advanced courses like Mechanisms for Automation and Design of Shape Memory Alloy Actuators are offered as electives in the place of courses which became obsolete.
  - Former elective courses namely Industrial Tribology and Reliability Engineering are undergone major revision and offered with new names as Applied Tribology (offered as elective course) and Design for Reliability (offered as core course) respectively.
  - List of courses under Employability, Entrepreneurship and Skill Oriented are indicated in Appendix I
  - List of new courses introduced are given in Appendix II

T. CA. And Ch

PG Coordinator

  
Chairman, BoS



## M.Tech R20 Machine Design Program Course Structure

### I year I Semester

Course Name	C
Computer Aided Simulation	4
Failure Analysis	4
Theory of Elasticity and Plasticity	3
Design for Reliability	3
Department Elective- 1	3
Audit Course-1	-
Minor project	2
Total Credits	19

### I year II Semester

Course Name	C
Robotics and Automation	4
Mechanical Vibrations	4
Department Elective- 2	3
Department Elective- 3	3
Research Methodology & IPR	2
Audit Course-2	-
Employment Orientation Program	2
Mini project	2
Total Credits	20

### II Year I & II Semester

Course Name	C
MOOCs Course-1	3
MOOCs Course-2	3
Total Credits	6

Course Name	C
Project/Internship (Phase-I)	10
Project/Internship (Phase-II)	16
Total Credits	26

Courses offered under Choice Based Credit System are highlighted in the structure

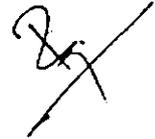
T. CA. Anil Kumar

PG Coordinator

P. J. S. Reddy  
Chairman, BoS

**List of Courses where Theory integrated with Lab**

<b>S.No</b>	<b>Year</b>	<b>Title of the Course</b>
1	I	Computer Aided Simulation
2	I	Failure Analysis
3	I	Robotics and Automation
4	I	Mechanical Vibrations



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## APPENDIX – I

### List of Courses that Enable Employability or Entrepreneurship or Skill Development in the R20 Machine Design

S. No	Year	Semester	Course Name	Course Type
1	I	I	Computer Aided Simulation	Employability
2	I	I	Failure Analysis	Employability
3	I	I	Theory of Elasticity and Plasticity	Skill development
4	I	I	Design for Reliability	Skill development
5	I	I/II	Mechanisms for Automation Systems	Skill development
6	I	I/II	Design of Shape Memory Alloy Actuators	Skill development
7	I	I/II	Applied Tribology	Employability
8	I	I/II	Condition Monitoring and Fault Diagnosis of Machinery	Employability
9	I	I/II	Nano Technology	Skill development
10	I	I/II	Design Synthesis	Skill development
11	I	I/II	Industrial Hydraulics and Pneumatics	Employability
12	I	I/II	Mechanics of Composite Materials	Employability
13	I	I/II	Design and Metallurgy of Welded Joints	Employability
14	I	I/II	Optimization Techniques	Employability
15	I	I/II	Computational Fluid Dynamics	Employability
16	I	II	Robotics and Automation	Employability
17	I	II	Mechanical Vibrations	Skill development
18	I	II	Mini project	Skill development
19	II	I	MOOCs Course-1	Skill development and Employability
20	II	I	MOOCs Course-2	Skill development and Employability
21	II	I	Project/Internship (Phase-I)	Skill development and Employability
22	II	II	Project/Internship (Phase-II)	Skill development and Employability

T. CA.

PG Coordinator

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**APPENDIX – II**  
**List of new courses in the R20 M. Tech Machine Design Curriculum**

S. No	Year	Semester	Course Name
1	I	I	Computer Aided Simulation
2	I	I	Failure Analysis
3	I	I	Theory of Elasticity and Plasticity
4	I	I	Design for Reliability
5	I	II	Robotics and Automation
6	I	II	Mechanical Vibrations
7	I	I/II	Mechanisms for Automation Systems
8	I	I/II	Design of Shape Memory Alloy Actuators
9	I	I/II	Applied Tribology
10	I	I/II	Condition Monitoring and Fault Diagnosis of Machinery
11	I	I/II	Nano Technology
12	I	I/II	Design Synthesis
13	I	I/II	Industrial Hydraulics and Pneumatics
14	I	I/II	Mechanics of Composite Materials
15	I	I/II	Design and Metallurgy of Welded Joints
16	I	I/II	Optimization Techniques
17	I	I/II	Computational Fluid Dynamics
18	I	II	Mini project
19	II	I	MOOCs Course-1
20	II	I	MOOCs Course-2
21	II	I	Project/Internship (Phase-I)
22	II	II	Project/Internship (Phase-II)

T. CA. Anil C.

PG Coordinator

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