



# FRANCIS XAVIER<sup>™</sup> ENGINEERING COLLEGE AN AUTONOMOUS INSTITUTION

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## Department of Mechanical Engineering

### Seventh Board of Studies meeting

**Date | Time:-** 18.08.2022 | 10.00 am to 01.00 pm

**Venue: Presentation Hall** – Blended Mode (Offline and Online)

**Platform:-** Google Meet

**Link particulars:-** Video call link: <https://meet.google.com/epr-zvqp-trp>

#### Chaired by

Dr.R.Samuel Hansen,  
Professor and Head of the Department, FXEC.

#### Members Present (Offline): -

- 1.Dr.A. Krishnaveni, Professor, GCE, Tirunelveli, Anna University Nominee
- 2.Dr. A. Arul Marcel Moshi ,Assistant Professor, NEC, Expert Member, Alumni

#### Members Present (Online)

1. Dr. V. Senthil Kumar,Associate Professor, Department of Production Engineering, NIT, Tiruchirapalli, Tamilnadu.
2. Dr.R. Sudhakarbandian, Professor, VIT University, Expert Member Other than Parent University.
3. Mr. R. Srinivasa Raghavan, AVP, Manufacturing, Alliance Tire Group, Tirunelveli.

#### Internal Members

1. Dr.V.Velmurugan, Professor | Principal| FXEC
2. Dr. R. Samuel Hansen, Professor | Mechanical | FXEC
3. Dr.Zeenathul Farida Abdul Gani, Professor | Mechanical | FXEC,
4. Dr.M.Kannan, Professor | Mechanical | FXEC
5. Dr.SM Rajkumar, Associate Professor | Mechanical | FXEC,
6. Mr.M.Ayyanar Raja, Assistant Professor | Mechanical | FXEC,
7. Mr.K.Ariyanayagm, Assistant Professor | Mechanical | FXEC,
8. Dr.S.Balakrishnan, Assistant Professor | Mechanical | FXEC
9. Dr.R.K.ABhalji, Assistant Professor | Mechanical | FXEC
10. Dr.K.Vinukumar, Assistant Professor | Mechanical | FXEC
11. Mr.S.Thanumalaya Perumal, Assistant Professor | Mechanical | FXEC,



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## **Department of Mechanical Engineering**

12. Mr. K.Robinston Jeyasingh, Assistant Professor | Mechanical | FXEC,
13. Mr. S.Sheikh Sulaiman, Assistant Professor | Mechanical | FXEC,
14. Mr. J.Jeremy Jeba Samuel, Assistant Professor | Mechanical | FXEC,
15. Mr.R.Rahesh, Assistant Professor | Mechanical | FXEC,
16. Mr.M.Saravana Kumar, Assistant Professor | Mechanical | FXEC.
17. Mr.R.Rahesh, Assistant Professor | Mechanical | FXEC
18. Mr.V.TVimalananth, Assistant Professor | Mechanical | FXEC
19. Mr.S.Mahesh, Assistant Professor | Mechanical | FXEC
20. Mr.SM.SuderRajan, Assistant Professor | Mechanical | FXEC





**Department of Mechanical Engineering**

**VI- Board of Studies Meeting Minutes And Action Plan**

S.No	Recommendation and comments	Action	Reference
1.	InEngineering Thermodynamics Course, under the Unit 3 Properties of Pure Substances, the cycle improvement methods topics can be renamed as Cycle Efficiency Improvement Methods.	Recommended Changes Included	Updated UG R2021 Syllabus Document.
2.	In Engineering Materials and Metallurgy Course, under the Unit 2 Heat Treatment, instead of mentioning as Surface treatment process, techniques which are planned to taught to the students in surface treatment process canbe mentioned.	Recommended Changes Included	Updated UG R2021 Syllabus Document.
3.	In Fundamentals of Electrical and electronics course, Unit 4 Electronic Circuits are replaced with Electrical drives and characteristics unit that is aprerequisite for mechatronics course.	Electrical drives added as a one unit.	Updated UG R2021 Syllabus Document.
4.	In Dynamics of Machine Course, CO-PO Mapping and Concept Mapping need torevised.	Recommended Revisions Made	Updated UG R2021 Syllabus Document.
5.	In Mechatronics System Course, unit 1 title can be renamed to Introduction to Mechatronics and Hydraulic System, instead of	Unit 1 Title is updated	Updated UG R2021 Syllabus Document.

## Department of Mechanical Engineering

	Introduction and Hydraulic System		
6.	In CAD/CAM Course, the 9 <sup>th</sup> lab experiment "Demonstration of parametric modelling using simple components" can be updated as "Demonstration of equation driven modelling of simple components (Connecting Rod, SpurGear).	Recommended Revisions Made	Updated UG R2021 Syllabus Document.
7.	In Sixth Semester, Applications of Finite Element Analysis course title can be changed to Finite Element Analysis	Recommended Changes Made	Updated UG R2021 Syllabus Document.
8.	In Total Quality Management and Reliability Course, Occupation Safety and Health Administration topic can be removed from the Unit 1 - Quality: Introductory Concepts.	Recommended Changes Made	Updated UG R2021 Syllabus Document.
9	In Total Quality Management and Reliability course, Corrective and Preventive actions with examples topic from unit 2 TQM Techniques can be updated as corrective and preventive maintenance actions with examples.	Recommended Changes Made	Updated UG R2021 Syllabus Document.
10	In Total Quality Management and Reliability Course, the Course Outcome 5 <sup>th</sup> statement "Design systems with a focus on enhancing	Course Outcome statement is updated.	Updated UG R2021 Syllabus Document.





### Department of Mechanical Engineering

	reliability” can be reframed Since the unit contents are introductory concepts of reliability.		
11	In Finite Element Analysis Laboratory Course, Under Static Structural Analysis – Stress analysis of axisymmetric components can be updated with specific axisymmetric components	Specific Axisymmetric components included in the syllabus.	Updated UG R2021 Syllabus Document.
12	In Finite Element Analysis Laboratory Course, Suggestions given for to include specific mechanical parts in Modal Analysis of a Mechanical parts experiment.	Specific Mechanical Parts are included.	Updated UG R2021 Syllabus Document.

**Department of Mechanical Engineering****Agenda**

Item No.	Particulars
Item : 1	UG R2021 - Curriculum and Syllabus Upto 4 <sup>th</sup> Semester
Item : 2	PG R 2021 - Curriculum and Syllabus
Item : 3	Industry Supported Courses

S.No.	Minutes - Comments
<b>Item : 1 UG R2021 - Curriculum and Syllabus Upto 4<sup>th</sup> Semester</b>	
The board members suggested the following corrections towards the curriculum and syllabus presented by the board chairman	
1.1	<ul style="list-style-type: none"><li>• The contact hours, L P T and the credit distribution should be appropriately changed for the courses wherever mistyped.</li><li>• The course outcome statements for all the courses needs refinement.</li><li>• The course objectives for all the courses need to be redefined.</li><li>• The mapping of course outcomes (CO) with program outcomes (PO) need to be brainstormed and should be mapped by the team ( streamwise)</li><li>• The assessment pattern for the courses should be verified (Eg. For Theory course, CAT - 30%. FAT - 10% and ESE 60%)</li></ul>
1.2	The title of the course on Application of programming in Mechanical Engineering can be renamed to accommodate all the disciplines of engineering to make the course content multidisciplinary.
1.3	All the non-credit mandatory courses can be mandated but can be categorised under Audit course. However, these audit courses can be made to be offered to all the students.
1.4	The course on Indian constitution and Heritage can be handled by faculty from Arts and Sciences. Even it is handled by faculty members from engineering discipline who have thorough knowledge in these courses, guest lectures must





**Department of Mechanical Engineering**

	<ul style="list-style-type: none"> <li>The statement "not for examination" mentioned in the syllabus need to be removed.</li> </ul>
1.16	The level of bloom from the course outcome statements needs to be removed to maintain uniformity.
1.17	The content on Engineering materials in Chemistry, Special Engineering materials in Physics and the content on materials in Engineering Materials and Metallurgy need to be checked and appropriately included in the corresponding courses.
1.18	The course outcome statements for the course Computer aided Machine Drawing need to be made exercise specific to gain the attainment of all the course outcomes.
1.19	In the course Strength of Materials, the content in the syllabus should include uniformly varying load
1.20	In the course Environmental science and sustainable engineering, all the types of pollution need to be added and a content on Solid waste management can also be given.
1.21	GD & T content can be included in unit IV in the course Metrology and Instrumentation.
1.22	The study experiments in Thermal Engineering Lab should be marked as study experiments.
1.23	The course on Applied Hydraulics and Pneumatics may be promoted as a professional core paper in the 5 <sup>th</sup> semester as it is important in competitive exams such as HPCL, IOCL, ONGC.
<b>Item : 2 PG R2021 - Curriculum and Syllabus</b>	
2.1	The electives offered for the PG course can be refined to include the advance topics in Industrial safety engineering.



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## Department of Mechanical Engineering

	be arranged.
1.5	The analytical courses may be given 4 credits by giving one tutorial hour (3+1). If there is limitation in total credits, 3 credits can be assigned by giving two theory and one tutorial hour (2+1). However, 4 credits need to be allotted for Theory of Machines as both KoM and DoM are merged to ToM.
1.6	The course code for TQM needs to be changed from ME code to GE code as it is categorized under HSSM.
1.7	The course on Intellectual Property Rights should come under Audit course and not EEC
1.8	The summer internship or Industrial training need to be undergone at the end of 4 <sup>th</sup> semester and the credit can be earned in the 5 <sup>th</sup> semester after proper evaluation.
1.9	The course on Comprehension in the 7 <sup>th</sup> semester can be renamed as technical comprehension.
1.10	The project work can be split as phase I in the 7 <sup>th</sup> semester and phase II in the 8 <sup>th</sup> semester.
1.11	Considering the weightage in competitive exams like GATE, the course on Operation Research can be offered as a professional core.
1.12	Adequate content on Numerical methods can be included in the place of transforms or even a separate course on Numerical Methods can be introduced.
1.13	The course on English for Technical Communication in the 2 <sup>nd</sup> semester can also be changed as a theory cum practical course as in semester I.
1.14	In the 2 <sup>nd</sup> semester Engineering Mechanics course, topics on belt drive, ladder friction need to be added in unit V
1.15	<ul style="list-style-type: none"> <li>• For the course Computer Aided Engineering Graphics, projection of planes needs to be included in Unit 1</li> <li>• In unit IV, combination of simple solids can be included</li> <li>• Exercises on Development of Surfaces should be added in the list of experiments:</li> <li>• Additional text and reference books need to be included.</li> </ul>





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## Department of Mechanical Engineering

Item : 3 Industry Supported Course	
3.1	The L & T Edutech course modules can be offered to the students as per their choice. The courses on Design of Fire and safety system for buildings and Industrial Piping Engineering seemed to have more scope.

Chairman  
Board of Studies  
(Dr.R.Samuel Hansen)







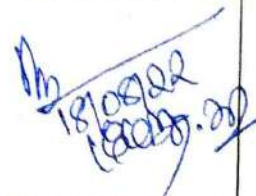


**Department of Mechanical Engineering**

**Minutes of the Seventh Board of Studies meeting Approval**

The meeting minutes of Seventh Board of Studies of the Department of Mechanical Engineering, Francis Xavier Engineering, Tirunelveli, held on 18-08-2022 at 10.00 am is approved.

**Members:**

Sl.No.	Members as per UGC norms	Members nominated	Signature
1.	Head of the Department concerned (Chairman)	Dr.R.Samuel Hansen Professor and Head Department of Mechanical Engineering Francis Xavier Engineering College Tirunelveli	
2.	One Expert nominated by the Vice Chancellor from a panel of six recommended by the college Principal	Dr.A.Krishnaveni Professor Department of Mechanical Engineering, Government College of Engineering, Tirunelveli.	 Dr. A. KRISHNAVENI, M.E., Ph.D., MISTE., Professor, Dept. of Mechanical Engineering Govt. College of Engineering Tirunelveli-627 007.
3.	Experts in the subject from outside the college nominated by the academic council	Dr.V.Senthil Kumar, Associate Professor, Department of Production Engineering, NIT, Tiruchirapalli Tamilnadu.	
4.	Experts in the subject from outside the college nominated by the academic council	Dr.R.R.Sudhakara Pandian, Professor, School of Mechanical Engineering, VIT, Vellore	
5.	One representative from industry / corporate sector / allied area relating to placement	Mr.R.Srinivasa Raghavan, AVP, Manufacturing, Alliance Tire Group, Tirunelveli.	
6.	One Post Graduate meritorious aluminous nominated by the Principal	Dr.A.Arul Marcel Moshi Assistant Professor, Department of Mechanical Engineering, National Engineering College, Kovilpatti.	


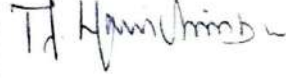



## Department of Mechanical Engineering

### Minutes of the Seventh Board of Studies meeting Approval

The meeting minutes of Seventh Board of Studies of the Department of Mechanical Engineering, Francis Xavier Engineering, Tirunelveli, held on 18-08-2022 at 10.00 am is approved.

#### Members Attended Through Online:

Sl.No.	Members as per UGC norms	Members nominated	Signature
1	Experts in the subject from outside the college nominated by the academic council	Dr. V. Senthil Kumar, Associate Professor, Department of Production Engineering, NIT, Tiruchirapalli Tamilnadu.	
2	Experts in the subject from outside the college nominated by the academic council	Dr. R. R.Sudhakara Pandian, Professor, School of Mechanical Engineering, VIT, Vellore	
3	One representative from industry / corporate sector / allied area relating to placement	Mr. R. Srinivasa Raghavan, AVP, Manufacturing, Alliance Tire Group, Tirunelveli.	








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## Department of Mechanical Engineering


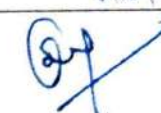
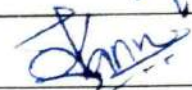



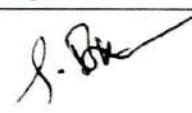


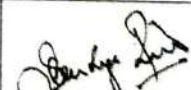
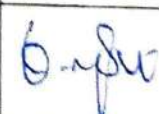

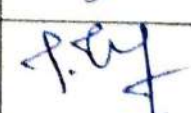
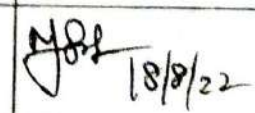
### MEMBERS PRESENT

Sl.No.	Members as per UGC norms	Members nominated	Signature
1.	Head of the Department concerned (Chairman)	Dr.R.Samuel Hansen Professor and Head Department of Mechanical Engineering Francis Xavier Engineering College Tirunelveli	
2.	One Expert nominated by the Vice Chancellor from a panel of six recommended by the college Principal	Dr.A.Krishnaveni, Professor Department of Mechanical Engineering, Government College of Engineering, Tirunelveli.	 KRISHNAVENI, M.E. P.H.D., MISTE. Professor (Sr.) Dept. of Mechanical Engineering Govt. College of Engineering Tirunelveli-627 007.
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**Department of Mechanical Engineering**

**Members Present**

S.no	Name of the Faculty Members	Designation/Department	Signature
1	Dr. R. Samuel Hansen	Professor   Mechanical	 18/8/22
2	Dr.Zeenathul Farida Abdul Gani	Professor   Mechanical	
3	Dr.M.Kannan	Professor   Mechanical	
4	Dr.S.M Rajkumar	Associate Professor   Mechanical	
5	Mr.M.Ayyanar Raja	Assistant Professor   Mechanical	
6	Mr.K.Ariyanayagm	Assistant Professor   Mechanical	
7	Dr.S.Balakrishnan	Assistant Professor   Mechanical	
8	Dr.R.K.ABhalji	Assistant Professor   Mechanical	
9	Dr.K.Vinukumar	Assistant Professor   Mechanical	
10	Mr.S.Thanumalaya Perumal	Assistant Professor   Mechanical	
11	Mr. K.Robinston Jeyasingh	Assistant Professor   Mechanical	
12	Mr. S.Sheik' Sulaiman	Assistant Professor   Mechanical	
13	Mr. J.Jeremy Jeba Samuel	Assistant Professor   Mechanical	
14	Mr.M.Saravana Kumar	Assistant Professor   Mechanical	 18/8/22



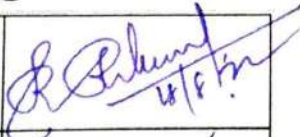
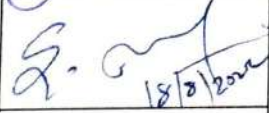
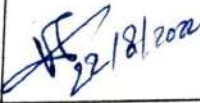
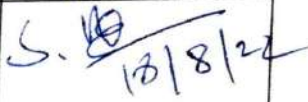
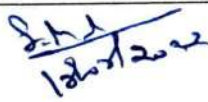


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15	Mr.R.Rahesh	Assistant Professor   Mechanical	 18/8/22
16	Mr.S.Rakesh	Assistant Professor   Mechanical	 18/8/2022
17	Mr.V.TVimalananth	Assistant Professor   Mechanical	 22/8/2022
18	Mr.S.Mahesh	Assistant Professor   Mechanical	 18/8/22
19	Mr.S.MSunderrajan	Assistant Professor   Mechanical	 18/8/2022