DEPARTMENT OF APPLIED MECHANICS AND HYDRAULICS
NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL
COURSE PLAN AND EVALUATION PLAN

1. Course Code : **AM-110**
2. Course Title : **ENGINEERING MECHANICS**
3. L-T-P : 3-0-0
4. Credits : 3
5. Pre-requisite : Basic Concepts of Physics and Mathematics
6. Course Instructor : **Dr. Pruthviraj U**
7. Teaching Department : Applied Mechanics and Hydraulics
8. Objectives of the Course : To develop ability to: Idealize complex physical problems
   Analyze and Solve problems
   Interpret results
9. Skill development of the student expected from the course : Ability to think, Analyse and solve Engineering Problems
   Ability to represent any work in a clear, logical and concise manner
   Ability to visualise and idealise the Engineering Problems
   Ability to understand stress and strain concepts related to deformable bodies
   Ability to judge about the results and its accuracy
10. **Course Coverage:**

Stage No.	Contents	Contact Hrs
I	Introduction, Concept of FBD, Coplanar Concurrent force system, Coplanar Non-Concurrent force system and Moments	10
II	C.G. and M.I of Plane area	08
III	Support Reactions, Trusses	10
IV	Simple stress and Strain, Mechanical Properties of Materials, Statically Determinate Problems and Elastic Constants	06
V	Shear Force and Bending Moment Diagrams	06
	Total Contact Hours	**40**

11. **Reference Books:**

- F.P. Beer and E.R. Johnston, Mechanics for Engineers – Statics & Dynamics, Tata McGraw – Hill.
- F.L. Singer. Engineering Mechanics – Statics and Dynamics, Harper and Row Publishers.
- J.L. Marium and L.G. Kraige, Engineering Mechanics – Vol I & II, John Wiley & Sons.
- S.P. Timoshenko and D.H. Young, Engineering Mechanics, McGraw – Hill.
- I.H. Shames, Engineering Mechanics – Statics and Dynamics, Prentice Hall of India.
- S.S. Bhavikatti and K.G. Rajashekarappa, Engineering Mechanics, Wiley Eastern Ltd.
- S.S. Bhavikatti and A.V. Hegde, Engineering Mechanics - Problems and Solutions.
- F.P. Beer and E.R. Johnston, Mechanics of Materials, Tata McGraw – Hill.
- F.L. Singer. Strength of Materials, Harper and Row Publishers.
- Hearns E.J., Mechanics of Materials, Pergaman Press.
- Gere and Timoshenko, Mechanics of Materials, CBS Publishers & Distributors.

12. Details of Tutorials if any : Tutorials will be conducted regularly in every week, after covering the theory.
13. Weightages for various components of the Evaluation Plan:

Quizzes /Announced Tests/Surprise tests : 25 %
- Announced Test 01 (AT-01) : 10% (AT-01 : 7th September 2018)
- Announced Test 02 (AT-02) : 10% (AT-02 : 2nd November 2018)
- Surprise test : 5%

Mid-Sem Exam : 25 % — 1½ hrs, 50 marks
End-Sem Exam : 50 % — 3 hrs, 100 marks.

TOTAL : 100 %

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