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Question Paper Code :

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
M.E/M.Tech I-Semester Regular Examinations, November 2015
DESIGN ENGINEERING
(MACHINE DESIGN)

Date:

Time: 3 hours

Max Marks: 60

Answer ONE Question from each Unit
All Questions Carry Equal Marks

All parts of the question must be answered in one place only

UNIT-I

1. a) Discuss Norton model with neat block diagram. (6)
- b) Explain the inputs required for problem formulation. (6)

OR

2. a) Explain various mechanical properties considered for selection of material. (6)
- b) Describe the term reliability with respect to Product design? (6)

UNIT-II

3. Explain the factors considered for product planning. (12)

OR

4. Discuss various stages in the development of a product design. (12)

UNIT-III

5. a) Explain about Maximum Principal Stress theory. (6)
- b) Differentiate between maximum Shear stress theory and Distortion energy theory. (6)

OR

6. a) Explain Modified Goodman diagram for axial and bending stress (6)
- b) Distinguish between Static failure and Fatigue failure (6)

UNIT-IV

7. Explain how abrasive wear and surface fatigue taking place between two mating parts. (12)

OR

8. Explain about different surface fatigue failures occurs in fatigue component (12)

UNIT-V

9. Explain about various modern approaches in design (12)

OR

10. Define Value Engineering. Explain its role in product design (12)