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B.E. /B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATION, NOV/DEC 2011

Common to Material Science and Mechanical Engineering

SECOND SEMESTER- (REGULATION 2008)

ME 9151- CONCEPT OF ENGINEERING DESIGN

Time: 3 hr

Max. Marks: 100

Answer ALL Questions

PART - A (10x 2= 20 Mark)

1. Define product life cycle.
2. Differentiate between Static and Dynamic products give an example.
3. What is meant by codes and standards?
4. What is brain storming with respect to new product development?
5. What is meant by concept map?
6. What is meant by detail design?
7. What is ergonomics design?
8. What is aesthetics in design?
9. List any four visual aids.
10. What are the basic elements of communications system?

PART - B (5 x16 = 80 Mark)

11. Explain with an practical example for the following:
  - (i) Empirical design, 4
  - (ii) Rational design, 4
  - (iii) Adequate design and 4
  - (iv) Optimum design. 4
- 12.a. Explain in detail the gathering of information and generation of alternative solutions for a product design. 16

Or

- 12.b. Explain with example and compare the difference between scientific and design methods. 16
- 13.a. Explain the Morphology of engineering systematic design process for a product with diagrams. 16
- Or**
- 13.b. Describe the role of the following modals in engineering design:
- (i) Simulation and Scale modeling. 8
  - (ii) Geometric modeling 8
- 14.a. Explain in detail the various tools to reduce environmental impact for designing a product. 16
- Or**
- 14.b. Explain in detail about the guidelines of design for manufacturing? 16
- 15.a. Explain in detail the various visual aids tools used in engineering design. 16
- Or**
- 15.b. Explain how to write a technical report after design a new product. 16
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