

Reg.No

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B.E.DEGREE EXAMINATIONS, MAY 2012
II Semester B.E.Mechanical Engineering

73

ME – 9151 CONCEPTS OF ENGINEERING DESIGN
(Common to II Semester B.E. Materials Science and Engineering)

Time: 3 Hours

Maximum Marks:100

Answer ALL the Questions.
Write Legibly. Illegible handwriting will carry zero mark.

PART – A

(10 x 2 = 20 Marks)

1. What are the advantages of computer aided design ?
2. Compare codes and standards.
3. How real life problem is different from structured problem ?
4. What are the advantages of simulations ?
5. What are the four stages of psychological view of problem solving ?
6. Mention two examples for technical contradictions.
7. What is the importance of ergonomics in design ?
8. What is the role of aesthetics in design ?
9. Compare the following modes of communications: Text, Verbal, and visual.
10. State two advantages and two disadvantages of e-mail.

PART – B

(5 x 16 = 80 Marks)

11. i) Explain five categories of design projects, with suitable examples. (10)
ii) Write short notes on: Embodiment design, and Planning for disposal. (6)
- 12.A)i) Sketch the basic module of design process, and explain each operation of it with examples. (10)
ii) In need identification, explain hierarchy of five needs of human. (6)
(OR)
B)i) Explain the four levels of customer requirements, considering a bicycle as an example. (6)
ii) Explain the four methods of gathering information from customers. (10)
- 13.A)i) Tabulate the characteristics of Convergent and Divergent thinkings. (7)
ii) Explain in detail, the mental blocks for creativity. (9)
(OR)
B) Write notes on: i) Brainstorming ii) Inventive Problem Solving
- 14.A)i) Explain the four kinds of inter-actions between human and products. (6)
ii) Explain any six actions to be taken for user-friendly design. (10)
(OR)
B) Explain the guidelines, with sketches, for Design for Assembly.
- 15.A) Explain with sketches, types of visual aids and their uses.
(OR)
B) Write notes on: i) Concept Map ii) Product Life Cycle iii) Functional Decomposition
ii) House of Quality.
