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12MAR323

Third Semester M.Tech. Degree Examination, Dec.2014/Jan.2015
DFM Techniques and Product Design

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 Discuss the basic principles of product designing for economical production. (20 Marks)
- 2 Mention any four considerations in the design of parts produced by,
 - i) Planning
 - ii) Shaping
 - iii) Screw machining
 - iv) Grinding
 - v) Rolled burnishing. (20 Marks)
- 3 Explain the design recommendation for the following materials for producing parts:
 - a. Ceramics (07 Marks)
 - b. Glass (06 Marks)
 - c. Rubber. (07 Marks)
- 4
 - a. Explain the selective assembly, with a suitable example. (10 Marks)
 - b. List the design recommendation for designing fasteners. (10 Marks)
- 5 What are the essential factors of product design? Explain in brief. (20 Marks)
- 6
 - a. Describe designing of components for ease of machining. (10 Marks)
 - b. Give the producibility requirements in the design of machine components. (10 Marks)
- 7
 - a. Discuss about the ergonomic consideration in product design on the following:
 - i) Man as applicator of forces. (10 Marks)
 - ii) Man as occupant of space. (10 Marks)
 - b. Discuss the importance of design of controls and displays. (10 Marks)
- 8
 - a. Explain the steps involved in value analysis plan. (10 Marks)
 - b. Enumerate the different blocks to creativity. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

High