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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Seventh Semester, B.E. - Industrial and Production Engineering

Semester End Examination; Dec. – 2014

Product Design and Manufacturing

Time: 3 hrs

Max. Marks: 100

Note: Answer any FIVE full questions, selecting at least TWO full questions from each part

PART – A

1. a. What are the essential factors of product design? Explain any three of them briefly. 10
- b. List the seven phases the Morphology of design and explain any three phases of it briefly. 10
2. a. Explain the Eilon recommended techniques to enhance appearance in product design. 10
- b. Describe the various types of MODELS designed by industrial designers. 10
3. a. Explain the three basic criteria and objectives of design. 6
- b. Explain any seven principles of casting design of sound casting. 14
4. a. Explain the various design recommendations of simmer for rubber parts. 10
- b. What are the specific design recommendations of J.G Mohr for technical Cramic's parts? 10

PART – B

5. a. Explain the Siddal's classification of design approach. 10
- b. Describe the following:
 - i) Geometric programming 10
 - ii) Johnson's method of optimum design
6. a. Explain the 10 aspects of manufacturing operations that with lower the cost of product. 10
- b. Discuss the two approaches in break-even analysis:
 - i) Conventional break-even chart. 10
 - ii) Profit volume chart.
7. a. Describe the various types of displays with an examples 9
- b. Explain the following:
 - i) Q.F.D 11
 - ii) RAPID PROTOTYPING
8. a. Explain any FIVE creative techniques. 10
- b. List the various types of blocks to creativity. 10