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Total No. of Questions: 08

## M.Tech.(CAD/CAM) (E-V) (Sem.-3) PRODUCT DESIGN & DEVELOPMENT

Subject Code: ME-521 M.Code: 23518

Time: 3 Hrs. Max. Marks: 100

## **INSTRUCTION TO CANDIDATES:**

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carries TWENTY marks.
- 1. Explain the production consumption cycle. Also explain how value in production consumption cycle is attained.
- 2. a) What are basic design considerations in product design? Explain.
  - b) Explain the role of aesthetics in product design.
- 3. a) What do you understand by the concept of design for manufacturing (DFM)? Also explain the design considerations for powder metallurgy parts.
  - b) Explain the producibility requirements in the design of machine elements.
- 4. a) How safety considerations are accounted in the product design? Explain.
  - b) Explain economic analysis, profit and competitiveness in the product design.
- 5. a) Explain value analysis job plan.
  - b) Explain value engineering idea generation checklist.
- 6. Explain the concept of quality function deployment (QFD) with the help of a suitable example. Also explain the house of quality.
- 7. a) Explain selective laser sintering process and its applications.
  - b) What is the process of data transfer to RPT? Explain.
- 8. Write short notes on **Any Two** of the following:
  - a) Value engineering data generation
  - b) Laminated object manufacturing
  - c) Primary design phases and flowcharting

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

**1** M-23518 (S9)-1362