

Total No. of Questions : 10]

SEAT No. :

P2143

[Total No. of Pages : 2

[5254]-539

B. E. (Mechanical)

PRODUCT DESIGN & DEVELOPMENT (Theory)

(2012 Pattern) (Semester - I)

Time : 2½ Hours]

[Max. Marks : 70

nstructions to the candidates:

- 1) All questions are compulsory.
- 2) Figure to the right indicate full marks.
- 1) Attempt Q.1 or Q.2 Q.3 or Q.4 Q.5 or Q.6 Q.7 or Q.8, and Q.9 or Q.10.
- 2) Figures to the right indicate full marks.
- Q1) Discuss various factors that affect concept selection. Explain puzh's chart with suitable example. **[10]**
- 3) Draw neat figures wherever necessary.
- 4) Assume Suitable data if necessary.
- 5) Use of scientific calculators is allowed.
- Q2) a) Explain difference between product design & development. **[4]**
- b) Explain different types of customer needs. **[6]**
- Q3) Discuss product verification & product validation with suitable example. **[10]**
- OR
- Q4) Discuss How mission statement & technical questioning helps to design better products. Elaborate in detail. **[10]**
- Q5) a) Explain various concerns in measurement phase during? tear down. **[8]**
- b) What is cost control? Explain systematic procedure for calculation of cost. **[8]**
- OR
- Q6) a) Explain detailed procedure of Benchmarking. **[8]**
- b) Explain any two types of product portfolio architectures in detail with suitable example. **[8]**

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- Q7) a)** Explain Guidelines of Design for manufacture. **[8]**
b) Discuss Guidelines of Design for welding. **[8]**

OR

- Q8) a)** Elaborate guidelines for Design for environment. **[8]**
b) What is life cycle assessment? Explain any one method in detail. **[8]**

- Q9) a)** Explain different phases of product life cycle with suitable example. **[9]**
b) Discuss elements of product life cycle management. **[9]**

OR

- Q10)a)** Explain different phases with corresponding technologies utilized in detail.**[9]**
b) Explain the importance of product data & product workflow in product life cycle management. **[9]**

