

Total No. of Questions : 12]

SEAT No. :

P1659**[4458] - 435**

[Total No. of Pages : 2

B.E. (Mechanical) (Semester - I)
PRODUCT DESIGN & DEVELOPMENT
(2008 Course) (Elective - I (b))

*Time : 3 Hours]**[Max. Marks : 100**Instructions to the candidates:*

- 1) *Answer three questions from each section.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Assume suitable data, if necessary.*

SECTION - I**UNIT - I**

- Q1)** a) Discuss the various factors affecting the product design. [9]
 b) Explain the concept of concurrent product design. State limitations of traditional approach. [9]

OR

- Q2)** a) Explain the seven step morphology of product design. [9]
 b) Discuss the types of designs with suitable examples. [9]

UNIT - II

- Q3)** a) Discuss mission statement & technical questioning in detail. [8]
 b) What is economic analysis of product? Discuss its importance. [8]

OR

- Q4)** Discuss various types of customer needs. State various need gathering methods. Explain any three in detail. [16]

UNIT - III

- Q5)** a) What is establishing technical feasibility? Discuss the concept. [8]
 b) Explain Pugh's concept selection charts in details. [8]

OR

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- Q6)** a) Discuss Failure Methods & Effects Analysis in detail. [8]
 b) Discuss subtract & operate procedure in detail with suitable example. [8]

SECTION - II

UNIT - IV

- Q7)** a) Discuss measurement & experimentation in product design. [9]
 b) Explain the technique of intended assembly cost analysis. [9]

OR

- Q8)** Explain the step wise procedure of Bench Marking in detail. State the objectives of bench marking. Explain function form diagrams with suitable example. [18]

UNIT - V

- Q9)** a) Discuss the guidelines of design for casting process. [8]
 b) Discuss the guidelines of design for manufacture. [8]

OR

- Q10)** What are regional & global problems of environment pollution, discuss in detail. Explain the guidelines for design for environment in detail. [16]

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UNIT - VI

- Q11)** What is product life cycle? Explain various phases of it with suitable example. Discuss the concept of product life cycle management in detail. [16]

OR

- Q12)** a) Explain the role of customers in product life cycle management implementation. [8]
 b) Discuss product data & product workflow in detail. [8]

