

Total No. of Questions : 12]

SEAT No. :

P735

[Total No. of Pages : 2

[4659] - 36

B.E. (Mechanical) (Semester - I)

PRODUCT DESIGN AND DEVELOPMENT (Elective - I (b))

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates :

- 1) *Answer any three questions from each section.*
- 2) *Answers to the two sections should be written in separate books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of logarithmic tables slide, rule, mollier charts, electronic pocket calculator is allowed.*
- 6) *Assume suitable data, if necessary.*

SECTION - I

- Q1)** a) Explain morphology of product design? [10]
b) Discuss the various factors in product design? [8]

OR

- Q2)** a) What is product design? Write its evolution and innovation? [10]
b) Distinguish between product verification and product validation?[8]

- Q3)** a) What is Technology forecasting? Write in detail technology S curve?[8]
b) Explain in detail customers needs and satisfaction? [8]

OR

- Q4)** a) What is product design? Explain in detail steps involved in it? [8]
b) Why there is need of market analysis? [8]

P.T.O.

- Q5) a)** Distinguish between product development and process development?[8]
b) Write in detail product development with suitable example? [8]

OR

- Q6) a)** What is product benchmarking? Explain steps involved in product benchmarking? [8]
b) Explain in detail functional modeling and decomposition? [8]

SECTION - II

- Q7) a)** What is Reverse Engineering? Write its advantages and limitations? [10]
b) Explain in detail step involved in product teardown process? [8]

OR

- Q8) a)** Write in detail benchmarking approach and tools used in benchmarking? [10]
b) Explain the need of product portfolio and architecture? [8]

- Q9) a)** What is design for manufacturing? Write its steps in detail? [8]
b) Explain in detail DFE method and its application [8]

OR

- Q10) a)** What is concept of life cycle assessment? Explain its types in detail?[8]
b) Explain various methods to reduce environmental impact? [8]

- Q11) a)** Write short notes on [8]
i) Concept of Product life cycle
ii) Concept of PLM
b) Write in detail different phases of product life cycle [8]

OR

- Q12) a)** Distinguish between product data and product workflow [8]
b) What is importance of product data management in industry? [8]

