

Total No. of Questions : 12]

SEAT No. :

P-1696

[4859]-36

[Total No. of Pages : 2

B. E.(Mechanical Engineering)
b-PRODUCT DESIGN AND DEVELOPMENT
(New 2008 Pattern) (Elective I) (Semester-I)

Time : 3Hours]

[Max. Marks : 100]

Instructions to the candidates:

- 1) *Answer any 3 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) *Use of logarithmic tables, slide rule , Mollier charts, electronic pocket calculator is allowed.*
- 6) *Assume suitable data, if necessary.*

SECTION-I

- Q1)** a) Explain product design evolution and innovation? [10]
b) What are the factors in product design? [8]

OR

- Q2)** a) Write product development planning with reference to ISO standard?[10]
b) What is need of Rapid prototyping? [8]

- Q3)** a) What is Mission Statement ? Write in detail Economic analysis of product? [8]
b) Explain in detail gathering customer needs information? [8]

OR

- Q4)** a) What is product function? Explain in detail brainstorming? [8]
b) Why there is need of Morphological analysis? [8]

P.T.O.

- Q5) a)** Distinguish between product development and process development? [8]
b) Write in detail Benchmarking approach and detailed procedure? [8]

OR

- Q6) a)** What is FMEA? Explain steps involved in it? [8]
b) Explain in detail Pugh's concept? [8]

SECTION-II

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

OR

- Q8) a)** Write in detail Measurement and experimentation? [10]
b) Explain the need of product portfolio and architecture? [8]

- Q9) a)** What is design for assembly? Write its concept in detail? [8]
b) Explain in detail DFX method and its application. [8]

OR

- Q10) a)** Explain in detail manufacturing cost analysis? [8]
b) Explain need and importance of design for environment? [8]

- Q11) a)** Write short notes on: [8]
i) Phases of Product life cycle.
ii) Elements of PLM.

- b)** Write in detail need and benefits of product life cycle. [8]

OR

- Q12) a)** Explain in details customers need from product point of view. [8]
b) What is role of design department in industry? [8]

