

Total No. of Questions : 10]

SEAT No. :

P3774

[5059]-539

[Total No. of Pages : 2

B.E. (Mechanical)

PRODUCT DESIGN & DEVELOPMENT

(2012 Pattern) (Semester - I) (Elective - II) (402045 B)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Neat diagrams must be drawn wherever necessary.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Assume Suitable data if necessary.*

Q1) What is Product Design Team? Explain any Six Roles in Team in detail. **[10]**

OR

Q2) What are disadvantages of Traditional Design Process? Explain systematic procedure of Modern Product Development. **[10]**

Q3) a) Explain Product verification and validation in detail. **[6]**

b) What is necessity of Economic Analysis of Product? Elaborate. **[4]**

OR

Q4) a) Explain Pugh's concept selection chart with suitable example. **[6]**

b) What is necessity of Technology Forecasting? Explain. **[4]**

Q5) What is Forward and Reverse Engineering? Discuss the necessity and procedure of Product Tear Down. Explain Force Flow Diagram for Paper Punching Machine. **[18]**

OR

Q6) a) Explain the procedure for setting Product Specification. Describe Specification Sheet for suitable example with Functional Requirement and Constraints. **[10]**

b) Explain any Two Product Architectures. **[8]**

P.T.O.

- Q7)** a) Explain the guidelines for Design for Assembly. [6]
b) What are guidelines for Design for Robustness? Discuss. [5]
c) Explain the guidelines for Design for Welding. [5]

OR

- Q8)** a) Discuss in detail Function Form Diagram with suitable example. [8]
b) Discuss various Regional and Global issues of Environmental Pollution. [8]

- Q9)** a) Elaborate the concept of Product Life Cycle Management. Explain the role of People, Tools, Processes, Methods and Data in PLM. [10]
b) Discuss various phases of lifecycle and corresponding technologies applied in. [6]

OR

- Q10)** a) Discuss the Essential characteristics of PLM system. [8]
b) Discuss the concept of Product Data and Product Workflow. [8]

