

Total No. of Questions : 8]

SEAT No. :

PE2316

[Total No. of Pages : 2

[6584]-225

B.E. (Mechanical Engineering)

PRODUCT DESIGN AND DEVELOPMENT

(2019 Pattern) (Semester - VII) (Elective - IV) (402045A)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicates full marks.*
- 4) *Use of electronic pocket calculator is allowed.*
- 5) *Assume suitable data if necessary.*

Q1) a) Explain Idea Generation and Idea Generation Approaches. [7]

b) Write a short note on SWOT analysis for a selection of profitable product. [6]

c) Explain in detail 'Product Architecture'. [4]

OR

Q2) a) Explain Pugh's chart with example. [7]

b) Describe in detail Concept Selection Process. [6]

c) Write a short note on 'Economic Analysis'. [4]

Q3) a) Explain BOM with example. [7]

b) Describe in detail Design review/part Print Analysis. [6]

c) What are the various elements of Production Drawing? [4]

OR

Q4) a) What is the need for Engineering Drawing? Classify Engineering Drawing. [7]

b) Explain Design for Assembly and Design for Manufacturing. [6]

c) Write a short note on Tolerance. [4]

P.T.O.

- Q5)** a) Explain Production Part Approval Process Tools in detail. [8]
b) Explain Product Testing and its Validation. [6]
c) Describe Organization Structure in detail. [4]

OR

- Q6)** a) Describe in detail Legal Product of Design Patents. [8]
b) Define Purchase Order and Product Costing in vendor development. [6]
c) Explain Drawing Office procedure in detail. [4]

- Q7)** a) List down types of FMEA and explain steps of FMEA. [8]
b) What is the importance of PLM and PDM for a Designer? [6]
c) Enlist Industrial Safety to be consider in product design. [4]

OR

- Q8)** a) Write a short note on Advance Product Quality Planning. [8]
b) Explain Aesthetic and Aesthetics Consideration in product design. [6]
c) What are guidelines for Design for Robustness? Discuss. [4]

