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M.Tech.(PE) (E-IV) (Sem.-3)
PRODUCT DESIGN & DEVELOPMENT
Subject Code : PE-524
Paper ID : [E0459]

Max. Marks : 100

Q1 a) What are the essential factors of Product Design?

b) Differentiate between “*Design by Evolution*” and “*Design by Innovation*”?

c) Explain in detail “*Production Consumption Cycle*”.

Q2 a) Write a note on “*Role of Ergonomics and Aesthetics in Product Development*”. How the two differ?

b) Illustrate in detail “*Visual Design*”?

Q3 a) Differentiate between producibility requirements in :

i) Design of Machine Components.

ii) Pressed Component Design.

iii) Design for Machining.

iv) Design for Powder Metallurgical parts.

b) Describe “*Ease of Location and Clamping*” with respect to manufacturing considerations.

Q4 Explain :

a) Break Even Analysis.

b) Reverse Engineering.

Q5 Explain :

- a) Value Analysis Job Plan.
- b) Creativity.
- c) Idea Generation Check List.
- d) Material and Process selection in Value Engineering.

Q6 Write a detailed note on :

- a) Role of designer in Product Development.
- b) Manufacturing and Economic aspects of Product Development.

Q7 a) Write a detailed note on “*Functional Design Practice*”.

- b) Explain in detail Product Promotion and Development.

Q8 Explain in detail :

- a) Quality function Deployment.
- b) Concurrent Engineering.