

- N.B.: (1) All questions carry equal marks.  
(2) Question No.1 Compulsory.  
(3) Attempt any three from remaining five questions.  
(3) Figures to the right indicate full marks.  
(4) Draw neat sketches wherever necessary.

1. Write short notes on the following. (Any four)
  - (a) Morphology of Design (05)
  - (b) Value engineering (05)
  - (c) Quality Function Deployment (05)
  - (d) Patents & IP Acts (05)
  - (e) Reverse Engineering (05)
2. (a) Explain Modern product development process. (10)  
(b) What is significance of Industrial design process. (10)
3. (a) What is product architecture. Explain with suitable examples. (10)  
(b) Describe elements of Product Costing. (10)
4. (a) Explain methods of designing for manufacturing and assembly. (10)  
(b) With the help of example explain Failure Mode Effect Analysis approach. (10)
5. (a) Enlist creativity techniques and explain any one in detail. (10)  
(b) Describe Concurrent Engineering. (10)
6. (a) With the help of neat sketch explain any one Rapid Prototyping technique. (10)  
(b) Explain consideration of Ergonomics factors during product design. (10)

\*\*\*\*\*