

Exam.Code:1014
Sub. Code: 7428

2123
M.E. (Mechanical Engineering)
First Semester
MME-104: Rapid Manufacturing

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, selecting atleast two questions from each Part. All questions carry equal marks.

x-x-x

Part-A

1. Explain the principle and process of Additive Manufacturing. Discuss the two application levels of Additive manufacturing technology with examples.
2. What is functional prototyping? Explain its applications in tooling and manufacturing with examples.
3. What do you mean by product design? Discuss the five major product characteristics.
4. What do you mean by modular design? Discuss the five elements of modular design.

Part-B

5. Explain the principle and process of photopolymerisation. Explain laser scan vat photopolymerisation.
6. Discuss the operating mechanism of multi-head powder-based fusion processes with suitable examples.
7. Discuss various approaches to rapid manufacturing of metals and ceramics. Explain selective laser melting process with diagram.
8. Write notes on the following:
 - (i) Reverse Engineering
 - (ii) Computer integrated manufacturing

x-x-x