

Code: MEMD1T5C

**I M.Tech - I Semester – Regular/Supplementary Examinations –
January - 2017**

**RAPID PROTOTYPING
(MACHINE DESIGN)**

Duration: 3 hours

Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

1. a) What are the advantages of rapid prototyping? 5 M

b) Briefly explain the categorization of rapid prototyping systems. 9 M

2. Explain the following terms of process chain: 14 M
 - a) 3D modeling
 - b) Data conversion & transmission
 - c) Checking and preparing
 - d) Building
 - e) Post processing

3. Write the principle and process flow of the 3D system stereolithography apparatus. 14 M

4. With a neat sketch explain Cubital's solid ground curing (SGC). 14 M

5. How FDM is used in RPT? What are the applications of FDM models? 14 M
6. Explain the principle and process of Multi-jet Modeling system (MJM). Also write the applications. 14 M
7. a) Differentiate SLA and SLS in Rapid prototyping. 7 M
- b) With a neat sketch explain selective laser sintering. 7 M
8. Explain in detail the LENS process with a neat diagram. Also write the applications. 14 M