

Code No: **R4103A****R10****Set No. 1****IV B.Tech I Semester Supplementary Examinations, February/March - 2018****RAPID PROTOTYPING****(Mechanical Engineering)****Time: 3 hours****Max. Marks: 75****Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Describe the various stages in the development of rapid prototyping systems with highlighting the advantages and limitations. [8]
b) Explain rapid prototyping process chain. [7]
- 2 a) Write the few applications of stereo lithography system? [8]
b) List advantages and disadvantages when rapid prototyping concept is applied to solid ground curing (SGC)? [7]
- 3 a) List out the applications, advantages and disadvantages of laminated object manufacturing (LOM)? [8]
b) Explain the path generation in fusion decomposition modeling (FDM) [7]
- 4 a) Describe the working principle of three dimensional printing along with its advantages. [8]
b) In detail explain about process details and machine details of 3-D printing. [7]
- 5 a) Explain laser generation process with neat sketch & also its applications? [8]
b) Write the functional differences between conventional tooling and rapid prototyping tooling? [7]
- 6 a) List various Rapid Prototyping Data Formats? Explain about the significance of STL format? [8]
b) Explain how RPT can be used for the production of rapid tooling for aerospace and electronic industries? [7]
- 7 a) Describe the importance of magics, mimics, solid view, view expert operations in rapid prototyping software. [8]
b) Write a short note on 'Rhino'. [7]
- 8 a) Identify the important RP applications in field of medical and bioengineering. [8]
b) What is the significant role of RP in design and production of medical devices? [7]