

# CBCS Scheme

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16/17MPD24

## Second Semester M.Tech. Degree Examination, June/July 2018 Rapid Prototyping

Time: 3 hrs.

Max. Marks: 80

**Note:** Answer any FIVE full questions, choosing one full question from each module.

### Module-1

- 1 a. Explain the concept of Time – Compression Engineering (TCE), with the help of block diagram. (07 Marks)  
b. Briefly explain the Geometric Modelling Techniques. (09 Marks)

OR

- 2 a. Explain the classification of RP systems. (08 Marks)  
b. Give a brief note on Stereo lithography. (08 Marks)

### Module-2

- 3 a. With neat sketch, explain the working of Selective Laser Sintering process. (08 Marks)  
b. Give process details and Machine details for Selective Laser Sintering method. (08 Marks)

OR

- 4 a. Explain Fused Deposition Modelling process. (08 Marks)  
b. Give a brief note on Technical characteristics of Fused Deposition Modelling Process. (08 Marks)

### Module-3

- 5 a. Explain the Solid Ground Curing Systems, with neat sketch. (08 Marks)  
b. Give a brief note on Specification of Solid Ground curing system. (08 Marks)

OR

- 6 a. Explain with a neat sketch, the principle of working of Laminated Object Manufacturing. (08 Marks)  
b. Give a brief note on Laminated Object Manufacturing Specifications and Process details. (08 Marks)

### Module-4

- 7 a. Briefly explain the Metal Deposition tools, with relevant sketches. (08 Marks)  
b. What are Epoxy tools? What is the importance of epoxy tools? Give a brief note on epoxy mould and its limitations. (08 Marks)

OR

- 8 a. Differentiate between Soft tooling and Hard tooling. (04 Marks)  
b. Give a brief classification of Direct Rapid Tool production. (06 Marks)  
c. Explain the Laminated Object Manufacturing Tools. (06 Marks)

### Module-5

- 9 a. What are the factors influencing Accuracy of RP process? Explain. (06 Marks)  
b. Give a brief note on Data Preparation Errors. (10 Marks)

OR

- 10 a. What are Part Building? Explain part building errors in the SL process. (06 Marks)  
b. What are Part Finishing? Explain the factors that influence the model accuracy after part finishing. (06 Marks)  
c. Name the constraints to be considered in choosing candidate build orientation. (04 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.