

CBCS SCHEME

18MPD322

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Third Semester M.Tech. Degree Examination, Dec.2019/Jan.2020

Rapid Prototyping

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Briefly explain the applications of rapid prototyping. (10 Marks)
- b. Explain the need for time-compression engineering in product development highlighting the role of rapid prototyping. (10 Marks)

OR

- 2 a. With neat sketch explain the working of stereo-lithography. (10 Marks)
- b. With block diagram explain the classification of rapid prototyping system. (10 Marks)

Module-2

- 3 a. With a neat sketch, explain the process of selective laser sintering. (10 Marks)
- b. List and explain the material used in selective laser sintering. (10 Marks)

OR

- 4 a. With neat sketch, explain fused deposition modeling process. (10 Marks)
- b. List and explain advantages disadvantages and applications of using FDM technology. (10 Marks)

Module-3

- 5 a. With neat sketch, explain the process of solid ground curing. (10 Marks)
- b. Explain advantages disadvantages and applications of using solid ground curing technology. (10 Marks)

OR

- 6 a. With neat sketch, explain the working of laminated object manufacturing. (10 Marks)
- b. Explain advantages, disadvantages and applications of using laminated object manufacturing process. (10 Marks)

Module-4

- 7 a. Briefly enumerate the manufacture process used in indirect tooling. (10 Marks)
- b. Briefly explain : (10 Marks)
 - i) 3Q Keltool process
 - ii) Silicon rubber tooling.

OR

- 8 a. With neat sketch explain DMILS. (10 Marks)
- b. Write a note on : (10 Marks)
 - i) Spray metal tooling
 - ii) Kirksite tooling.

Module-5

- 9 a. Explain the factors influencing accuracy during RP process. (10 Marks)
- b. Explain the methods of controlling STL generation process. (10 Marks)

OR

- 10 a. Explain briefly : (10 Marks)
 - i) Errors due to tessellation
 - ii) Errors due to slicing.
- b. Explain briefly the selection of part build orientation. (10 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.

