

CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

18MCM15

First 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. Define prototype, explain the classification of rapid prototyping methods. (10 Marks)
b. Explain in detail, the need for compression in product development highlighting the role of rapid prototyping. (10 Marks)

OR

- 2 a. With a neat sketch, explain stereo lithography systems, mention its process parameter. (10 Marks)
b. Explain the applications, advantages and disadvantages of stereo lithography systems. (10 Marks)

Module-2

- 3 a. With neat sketch, explain the working of selective laser sintering process. (10 Marks)
b. Explain data preparation for selective laser sintering process and mention its applications. (10 Marks)

OR

- 4 a. Explain with neat sketch fusion deposition modeling. (10 Marks)
b. Briefly explain, past generation and applications of fusion deposition modeling. (10 Marks)

Module-3

- 5 a. Explain solid ground casting with neat sketch and mention its advantages. (10 Marks)
b. With neat sketch explain the principle of working of laminated object manufacturing. (10 Marks)

OR

- 6 a. Write a short note on:
i) Thermal jet-printers
ii) 3-D printer. (10 Marks)
b. What are concept modelers? Briefly explain object quadra systems. (10 Marks)

Module-4

- 7 a. Explain:
i) Aluminium filled epoxy tool
ii) Spray metal tooling. (10 Marks)
b. Briefly explain the role of indirect methods in tool production and explain silicon rubber tooling. (10 Marks)

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.

OR

- 8 a. Explain : i) Cast kirksite ii) 3D keltool. (10 Marks)
b. Explain : i) Quick cast process ii) Copper polyamide. (10 Marks)

Module-5

- 9 a. Explain Magics software and Minics software. (10 Marks)
b. Explain magic communicator and internet based software. (10 Marks)

OR

- 10 a. Explain the applications in patterns for investment and vaccum casting. (10 Marks)
b. Write the applications in medical models and art models. (10 Marks)
