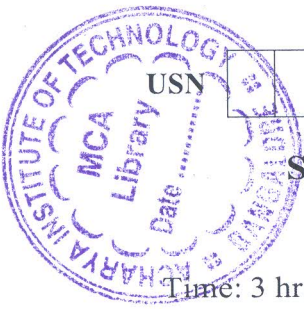


CBCS SCHEME

18MT642



Sixth Semester B.E. Degree Examination, July/August 2022 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. Explain the need for rapid prototyping (RP) development. (07 Marks)
b. Discuss the principle behind the Stereo Lithography process. (07 Marks)
c. Discuss growth of the RP industry. (06 Marks)

OR

- 2 a. Classify rapid prototyping techniques. (08 Marks)
b. Explain applications of rapid prototyping. (08 Marks)
c. Summarize the parameters for stereolithic processes. (04 Marks)

Module-2

- 3 a. With suitable diagram explain working of fusion deposition modeling. (10 Marks)
b. Explain applications of fusion deposition modeling. (10 Marks)

OR

- 4 a. Explain the working operation of solid ground curing (SGC). (08 Marks)
b. Describe SGC machine details. (08 Marks)
c. Discuss about the materials used in laminated object manufacturing. (04 Marks)

Module-3

- 5 a. Explain principle of operation of Selective Laser Sintering (SLS). (10 Marks)
b. Describe process parameters of (SLS). (10 Marks)

OR

- 6 a. Explain the applications of SLS. (08 Marks)
b. Write a short note on the following : i) Thermal jet printer ii) 3D printer. (12 Marks)

Module-4

- 7 a. Describe briefly about silicon rubber tooling. (10 Marks)
b. Explain spray metal tooling. (10 Marks)

OR

- 8 a. Explain the quick cast process in brief. (08 Marks)
b. Write short notes on : i) Sand casting tooling ii) Laminate tooling. (12 Marks)

Module-5

- 9 a. Describe STL files in detail. (10 Marks)
b. Write a short note on Magic's and Mimics. (10 Marks)

OR

- 10 a. Explain data preparation error. (10 Marks)
b. Explain part building errors in the SLS process. (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.