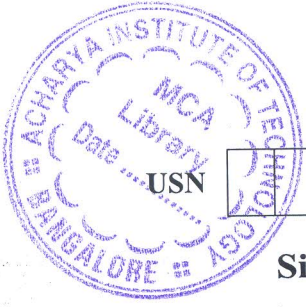


# CBCS SCHEME

18MT642



## Sixth Semester B.E. Degree Examination, Dec.2023/Jan.2024 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 compression in product development. (07 Marks)
- b. Explain applications of Rapid Prototyping (RP). (06 Marks)
- c. Classify RP processes in brief. (07 Marks)

OR

- 2 a. Discuss the principle behind the stereo lithography process. (12 Marks)
- b. Discuss parameters for stereo lithography process. (08 Marks)

### Module-2

- 3 a. Explain working of Fusion Deposition Modeling (FDM) using a suitable diagram. (10 Marks)
- b. Explain process parameters of FDM. (10 Marks)

OR

- 4 a. Explain the working operation of Solid Ground Curing (SGC). (10 Marks)
- b. Explain materials and applications of Laminated Object Manufacturing (LDM). (10 Marks)

### Module-3

- 5 a. Explain one operation principle 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 : i) Thermal jet printer ii) 3D printer. (12 Marks)

### Module-4

- 7 a. Describe briefly about silicon ruffer tooling. (10 Marks)
- b. Explain spray metal tooling with a suitable diagram. (10 Marks)

OR

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

### Module-5

- 9 a. Write a short note on STL files. (10 Marks)
- b. Briefly explain part building errors. (10 Marks)

OR

- 10 a. Write short notes on Magics and mimics. (10 Marks)
- b. Explain data preparation errors. (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.