18MT642

Sixth Semester B.E. Degree Examination, Jan./Feb. 2023
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 growth of Rapid Prototyping in the industry.   (10 Marks)
    b.   List the advantages and applications of Rapid Prototyping.   (10 Marks)

OR

2   a.   Classify Rapid Prototyping System and explain any one class.   (10 Marks)
    b.   Explain with a neat sketch, Stereo Lithography System.   (10 Marks)

Module-2

3   a.   Illustrate with a neat sketch, Fusion Deposition Modelling.   (10 Marks)
    b.   Briefly explain solid ground cutting and process parameter of FDM.   (10 Marks)

OR

4   a.   With a neat block diagram, explain Laminated Object Manufacturing.   (10 Marks)
    b.   Explain the applications of FDM and LOM.   (10 Marks)

Module-3

5   a.   With a neat sketch, explain Selective Laser Sintering Technology.   (12 Marks)
    b.   Explain the raw material used for selective laser sintering technology.   (08 Marks)

OR

6   a.   State the advantages and disadvantages of the SLS process.   (10 Marks)
    b.   Explain the process of SLS.   (10 Marks)

Module-4

7   a.   Explain the classification of Rapid Tooling.   (10 Marks)
    b.   With a neat sketch, explain the direct ACES injection molding setup.   (10 Marks)

OR

8   a.   With a neat sketch, explain layout of laminated tooling.   (10 Marks)
    b.   Compare the rapid tooling with conventional tooling and also explain the use of RP models
         in investment costing.   (10 Marks)

Module-5

9   a.   Explain Magic's and Mimic's software which are used for 3D printouts of RP machine.
                                                                                            (10 Marks)
    b.   List the internet based software for RP and explain how the solid view helps in development
         of 3D model.   (10 Marks)

OR

10 a.   Briefly explain Data Preparation Errors.   (10 Marks)
    b.   Briefly explain the factors influencing on the accuracy.   (10 Marks)

* * * * *