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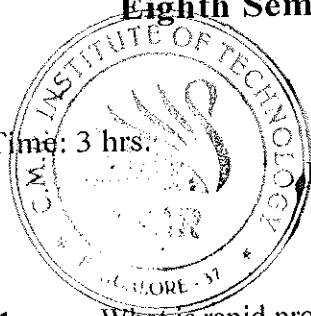
10ME837

Eighth Semester B.E. Degree Examination, June/July 2016

Rapid Prototyping

Time: 3 hrs.

Max. Marks: 100



Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART - A

- 1 a. What is rapid prototyping? Explain steps involved in rapid prototyping. (10 Marks)
b. With a neat sketch, explain stereolithography process. Write its advantages and disadvantages. (10 Marks)
- 2 a. Explain the process and principle of selective laser sintering. (10 Marks)
b. Sketch and explain FDM. (10 Marks)
- 3 a. Mentioning two cycles of operation, explain solid ground curing technique. (10 Marks)
b. With a suitable sketch, explain LOM process. Mention its advantage and disadvantage. (10 Marks)
- 4 With necessary sketches, explain the following:
a. Sander's model maker
b. Object quadra system
c. 3D printer
d. Thermo jet printer (20 Marks)

PART - B

- 5 a. With a neat sketch, explain spray metal tooling. (10 Marks)
b. Write a note on AIM. (10 Marks)
- 6 a. Explain copper polyamide tooling technique. (10 Marks)
b. Write note on the following:
i) Rapid tool process (10 Marks)
ii) Laminate tool process
- 7 a. Explain clearly the following concepts:
i) Errors due to tessellation (10 Marks)
ii) Part building errors in the SL process
b. Discuss the features and constraints considered in choosing candidate build orientations for the SLA process. (10 Marks)
- 8 Write note on following:
a. Classification of RP
b. Application of RP as medical models
c. STL files
d. Error due to slicing (20 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.