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10MT81

Eighth Semester B.E. Degree Examination, June/July 2019
Rapid Prototyping

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Explain the application of rapid prototyping technology in manufacturing industries. (10 Marks)
- b. With a neat sketch, explain Stereo Lithography System (SLS) system. (10 Marks)
- 2 a. Explain with a neat sketch principle of operation of Selective Laser Sintering (SLS) process. (10 Marks)
- b. List the specification and application of FDM Machine. (10 Marks)
- 3 a. Write a short note on laminated object manufacturing with a neat sketch mention advantages and disadvantages of process. (12 Marks)
- b. Explain LOM materials. (08 Marks)
- 4 a. Explain with a neat sketch Sander's model market. (10 Marks)
- b. Explain with a neat sketch thermal Jet printer. (10 Marks)

PART – B

- 5 a. Explain spray metal tooling and 3Q Kel tool. (12 Marks)
- b. Explain silicone rubber tooling process. (08 Marks)
- 6 a. Explain:
 - i) Quick Cost Process
 - ii) Copper Polyamide
 - iii) Sand Casting Tooling.(15 Marks)
- b. Compare soft tooling vs Hard tooling. (05 Marks)
- 7 a. Explain the internet based software for RP. (10 Marks)
- b. Write short note on:
 - i) STL files
 - ii) Magic communicator. (10 Marks)
- 8 a. Explain the factors influencing on accuracy. (08 Marks)
- b. Explain:
 - i) Part building errors
 - ii) Data preparation errors. (12 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.