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Eighth Semester B.E. Degree Examination, Dec.2018/Jan.2019

Rapid Prototype

Time: 3 hrs.

Max. Marks: 100

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

PART – A

- 1 a. Explain with a neat sketch principle operation of stereolithography system. (08 Marks)
- b. Describe the history of RP system. (06 Marks)
- c. Compare RP technology with CNC technology. (06 Marks)
- 2 a. Explain with a neat sketch principle operation of selective laser sintering. (08 Marks)
- b. Write the advantages and disadvantages of selective laser sintering. (06 Marks)
- c. Write the advantages and disadvantages of FDM. (06 Marks)
- 3 a. With a neat sketch, explain the construction and operation of SGC technique. (10 Marks)
- b. With a neat sketch, explain the principle operation of laminated object manufacturing. (10 Marks)
- 4 a. What is concept modeling? Explain the application of RP component from concept modeling. (10 Marks)
- b. With a neat sketch, explain following concept modeling technique:
 - i) Sander's model maker
 - ii) 3D printer
 (10 Marks)

PART – B

- 5 a. What is rapid tooling? Compare rapid tooling with conventional tooling. (08 Marks)
- b. Explain with a neat sketch the following indirect tooling technique:
 - i) Aluminium filled epoxy tooling
 - ii) Spray metal tooling
 (12 Marks)
- 6 a. With a neat sketch, explain the following method of tooling techniques:
 - i) Sand casting tooling
 - ii) Copper polymade
 (10 Marks)
- b. List the difference between following tooling type with example of each:
 - i) Direct tooling versus indirect tooling
 - ii) Soft tooling versus hard tooling
 (10 Marks)
- 7 a. Write notes on:
 - i) Collaboration tools
 - ii) Magic communicator
 (10 Marks)
- b. Explain overview of solid view. (10 Marks)
- 8 Write short notes on the following:
 - a. Data preparation error
 - b. Part building error
 - c. Error in finishing
 - d. File exchange error
 (20 Marks)

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