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B. E. (Eighth Semester) Examination, 2020
APR-MAY
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(New Scheme)

(Production Engg. Branch)

RAPID PROTOTYPING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) & (d).

Unit-I

1. (a) Explain survey of application. 2
- (b) Explain definition of prototype, types of prototype. 7

- (c) Explain data preparation, data files and machine details. 7
- (d) Explain stereolithography system, principle process parameter and process details. 7

Unit-II

- 2. (a) Explain path generation. 2
- (b) Explain fusion deposition modeling, principle and process parameters. 7
- (c) Explain solid ground curing, principle of operation and machine details. 7
- (d) Explain data preparation for SLS and its application. 7

Unit-III

- 3. (a) Explain 3-D printer. 2
- (b) Explain Sander's model market-thermal jet printer. 7
- (c) Explain object quadra system in brief. 7
- (d) Describe laser engineering net shaping. 7

Unit-IV

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4. (a) What is Laminate tooling? 2
- (b) Difference between the soft tooling Vs hard tooling. 7
- (c) Explain silicon rubber tooling and indirect rapid tooling. 7
- (d) Explain quick cast process and copper polyamide. 7

Unit-V

5. (a) What is STL files? 2
- (b) What is rapid manufacturing process optimization and its factor influencing accuracy? 7
- (c) Explain surface digitizing and surface generation from point cloud. 7
- (d) Explain surface modification, data transfer to solid models. 7