

Code: 17D04208

M.Tech I Semester Regular &amp; Supplementary Examinations January/February 2019

**RAPID PROTOTYPING**

(Common to PE&amp;ED and PE)

(For students admitted in 2017 &amp; 2018 only)

Time: 3 hours

Max. Marks: 60

Answer all the questions

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- 1 (a) What is rapid prototyping and explain about different steps involved in rapid prototyping technology.  
(b) Describe the benefits and limitations of rapid prototyping.

**OR**

- 2 Briefly explain the stereo lithography process with neat sketch. What are the process parameters of SLA system that influence the part quality?

- 3 (a) Explain the path generation in fusion decomposition modeling.  
(b) What are the advantages and limitations of FDM process?

**OR**

- 4 Briefly explain the solid ground curing (SGC) with neat sketch.

- 5 (a) Write the models and specifications of different LOM machines used.  
(b) What are the various LOM materials and their typical applications?

**OR**

- 6 Briefly explain the working principle of thermal jet printer with neat sketch.

- 7 Which rapid tooling techniques are best suited for production of ceramic parts? Explain anyone.

**OR**

- 8 Explain about STL file problems in detail with examples.

- 9 (a) Explain part building errors in the SLS process.  
(b) List the errors due to slicing.

**OR**

- 10 Briefly explain the selection of the part build orientation.

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