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Total No. of Pages : 02

Total No. of Questions : 08

M.Tech (Mechanical Engineering) (2017 Batch) (Sem.-2)

**RAPID PROTOTYPING**

Subject Code : MTME-208

M.Code : 74984

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1.
  - a) What do you mean by rapid prototyping? What are the various roles of prototype in product development process?
  - b) Explain in detail the common information workflow indicating the main stages of Rapid prototyping workflow.
2.
  - a) Specify and explain the different process, parameters of SLA technique, the different material which may be used in manufacturing of products in SLA technique.
  - b) Explain with a neat sketch, principle and working of Selective Laser Sintering Process.
3.
  - a) Narrate Laminated Object Manufacturing with the help of a neat sketch.
  - b) Explain Stereo lithography process with a neat sketch.
4.
  - a) Which Rapid Prototyping process is best suited for production of Ceramic parts? Justify your statement.
  - b) What are the limitations and advantages of fused deposition modeling process?
5.
  - a) What do you mean by investment casting? Explain how it is used for rapid tool production.
  - b) How FDM is used in Rapid Prototyping? What are its applications and limitations?





6.
  - a) What is Rapid Tooling? Explain about sand casting process with its advantages and disadvantages.
  - b) What are the merits and demerits of LOM?
7.
  - a) Discuss a case study, describe how reverse engineering process will be applied to rapid prototyping technique.
  - b) Categorize how the material relationship will contribute in rapid prototyping technique.
8.
  - a) Describe the principle and operation of three dimensional printing with neat diagram. Lists its merits and demerits.
  - b) Explain the application of Rapid Prototyping in medical field with examples.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**

