

**SECOND SEMESTER M.Tech DEGREE EXAMINATION**

**M.Tech MECHANICAL ENGINEERING**

**SPECIALIZATION: COMPUTER INTEGRATED MANUFACTURING**

**STREAM ELECTIVE II**

**MCE 2007: RAPID PROTOTYPING, TOOLING AND MANUFACTURE**

Answer any two questions from each module. Each question carries 10 marks.

**Time: 3hrs**

**Max Marks: 60mks.**

**MODULE I**

1. a. Define the term Virtual Prototyping.
1. b. What do you mean by Rapid prototyping. Explain the methodology used in Rapid Prototyping.
2. Explain the different types of data exchange format used in CAD. Describe the STL format.
3. a. Explain Reverse engineering
3. b. Explain the Geometric modeling techniques used in CAD.

**MODULE II**

4. a. Describe the working principle of SLA technique.
4. b. Explain the advantages, limitations and applications of SLA technique.
5. Describe the working principle and apparatus used in Solid Ground Curing.
6. Describe the details of processes of Fused deposition modeling.

**MODULE III**

7. Describe the working principle of "Shape deposition manufacturing"
8. Explain the principle and basic process of 3D printing.
9. Explain Laser engineered net shaping.