


FACULTY OF ENGINEERING

B.E. 4/4 (Mech./Prod.) II – Semester (Main) Examination, May / June 2012

Subject : **Rapid Prototyping Technologies (Elective – III)**

Time : 3 hours

Max. Marks : 75

Note: Answer all questions from Part–A and answer any **FIVE** questions from Part–B.

PART – A (25 Marks)

1. What are the advantages of rapid prototyping.
2. Draw the rapid prototyping wheel depicting four major aspects.
3. What are the disadvantages of SLA process?
4. Give the principle of solid ground curing (SGC).
5. What are the applications of 20M process?
6. What are the applications of FDM process?
7. What factors influence the accuracy of prototype?
8. Give four advantages of SLS process.
9. List RP applications in automobile engineering.
10. What are various materials used for RP processes?

PART – B (50 Marks)

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| 11.a) | Explain various steps in data conversion. | 5 |
| | b) Classify RP systems and give its basic principle. | 5 |
| 12. | Explain stereo lithography (SLA) process with schematic sketch. | 10 |
| 13. | Explain with neat sketch the working principle of FDM process. | 10 |
| 14.a) | What are the advantages of power based RP over liquid based RP? | 5 |
| | b) Explain the working principle of SLS RP process. | 5 |
| 15.a) | List various applications of RP in medical and consumer goods. | 5 |
| | b) What are the limitations of RP? | 5 |
| 16. | Explain Laminated Object Manufacturing (LOM) process and applications. | 10 |
| 17. | Write short notes on any two of the following : | |
| | a) 3D printing | |
| | b) RP process chain | |
| | c) Virtual prototyping | |
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