

Time: 3 hours

Max.Marks:80

- NB: 1. Q.1 is compulsory.
2. Solve any **three** from the remaining questions.
3. All questions carry equal marks
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- Q.1 (A) What is Rapid Prototyping? How are the RP systems classified? (10)
(B) What are the various applications of Rapid Prototyping technology? (10)
- Q.2 (A) Discuss the construction of an RP machine. (10)
(B) What is SLS? What are its applications? (10)
- Q.3 (A) What are the 3D modelling softwares used in RP Technology? (10)
(B) Describe any solid based RP method. Discuss its advantages and limitations. (10)
- Q.4 (A) What is photopolymerisation? Describe an RP process which is based on photopolymerisation. (10)
(B) Describe the process chain of Rapid Prototyping? (10)
- Q.5 (A) Which is the most commonly used method of RP? Discuss with a neat sketch its principle of working. (10)
(B) How has RP technology helped in making of parts through Investment casting? (10)
- Q.6 Write short notes on (Any FOUR): (20)
(a) RP vs. traditional manufacturing methods
(b) RP models for wind tunnel testing
(c) Resolution and accuracy issues of RP
(d) Bioprinting
(e) Reverse engineering and RP
(f) Electron Beam melting
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