



**CBCS SCHEME**

21AU383

Question Paper Version : D

Third Semester B.E. Degree Examination, Jan./Feb. 2023

**Additive Manufacturing**

Time: 1 hr.]

[Max. Marks: 50

**INSTRUCTIONS TO THE CANDIDATES**

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

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1. Which of the processes is not using a laser?  
a) LOM  
b) SLA  
c) SLS  
d) FDM
  2. Full form of FDM is  
a) Fixed development modelling  
b) Fused deposition modelling  
c) Fusion development modelling  
d) Focused deposition modelling
  3. Which of the following is typically the cheapest type of 3D printer?  
a) FDM  
b) SLA  
c) Powder - based  
d) SLM
  4. Which of the following RP system is not developed by 3D systems?  
a) Selective laser sintering  
b) Multijet modeling system  
c) Paper lamination technology  
d) Stereolithography apparatus
  5. FDM build plates are prepared by  
a) Putting hair spray on it  
b) Putting a layer of printer tapes on it  
c) Putting a glue stick layer on it  
d) All of these
  6. In fused deposition modelling, the raw material is used in the form of  
a) Wax  
b) Wine  
c) Powder  
d) All of these
  7. Which one of the following RP technologies uses solid sheet stock as the starting material?  
a) Droplet deposition manufacturing  
b) Fused deposition modelling  
c) Laminated object manufacturing  
d) Selective laser sintering

8. Which of the process is using the extrusion concept?  
a) SLA  
b) SLS  
c) FDM  
d) MJM
9. What printer melts metal?  
a) SLS  
b) SLM  
c) SLA  
d) FDM
10. From the following, in which process, the input material is in solid form?  
a) SLA  
b) SLS  
c) FDM  
d) MJM
11. Which of the following is not an example of additive manufacturing?  
a) Fused-Deposition modeling  
b) SLS  
c) Electron beam machining  
d) Injection molding
12. The process of obtaining a geometric CAD model from 3D points acquired by scanning/digitizing existing parts/products is best known as  
a) Forward engineering  
b) Backward engineering  
c) Reverse engineering  
d) Product engineering
13. A computer model of a part design on a CAD system is called which of the following?  
a) Computer prototype  
b) Geometric prototype  
c) Solid prototype  
d) Virtual prototype
14. Which file type is most commonly exported from CAD software?  
a) SLDRT  
b) JPG  
c) STL  
d) X3G
15. Which of the following is least important in design during rapid prototyping?  
a) Machine size  
b) Tolerance  
c) Material  
d) CAD software
16. In the entire reverse engineering process for product design, which one is the first step?  
a) CAD model updating  
b) CAD Modeling  
c) Data pre-processing  
d) Data capturing
17. Which CAD software cannot be used to create data for the prototyping machine?  
a) CREO  
b) CATIA  
c) NX Unigraphics  
d) Adobe Illustrator
18. The STL files translate the part geometry from a CAD system to  
a) CNC Machine  
b) CMM Machine  
c) RP Machine  
d) CAPP Machine
19. Full form of STL is  
a) Straight - Lithography  
b) Stereoto - Lithography  
c) Stereo - Lithography  
d) Straight - Lithography
20. Which one is not related to rapid prototyping definition?  
a) Layer by layer  
b) Physical model  
c) From 3D CAD data  
d) Production line

21. The process suitable for the production of parts molds and dies that are made out of tool steel is \_\_\_\_\_
- a) Selective laser sintering
  - b) Fused deposition modelling
  - c) Direct metal deposition
  - d) Laminated object manufacturing
22. Direct metal deposition process uses
- a) Metallic powders
  - b) Metal wires
  - c) Either a or b
  - d) Neither a nor b
23. Direct metal deposition uses
- a) Lasers
  - b) Sensors
  - c) Powder Metallurgy
  - d) All of these
24. Direct metal deposition uses software developed by
- a) Chalmers University of Technology
  - b) Optomec Inc.
  - c) Arcam AB, Sweden
  - d) University of Texas, Austin
25. Direct metal deposition is
- a) Laser – assisted direct metal manufacturing process
  - b) An X-ray assisted direct metal manufacturing process
  - c) A microwave assisted direct metal manufacturing process
  - d) An electromagnetic direct metal manufacturing process
26. Electron Beam melting was developed by
- a) Chalmers University of Technology, Sweden
  - b) Optomec Inc.
  - c) University of Texas, Austin
  - d) None of these
27. Direct metal deposition uses
- a) Two axis tables
  - b) Three axis tables
  - c) Four axis tables
  - d) Five axis tables
28. Ballistic particle manufacturing is another name for which one of the following RP technologies?
- a) Droplet deposition manufacturing
  - b) Fused deposition modelling
  - c) Laminated object manufacturing
  - d) Selective laser sintering
29. Which one of the following is not Extrusion-based RP system?
- a) Fused deposition modelling
  - b) 3D printing
  - c) Sheet lamination
  - d) Electron beam melting
30. Which one of the following is used as base material in Electron Beam Melting (EBM) process?
- a) Titanium alloys
  - b) Photopolymer
  - c) Various materials
  - d) Paper
31. Which type of printer uses an enclosed build area?
- a) SLA
  - b) SLS
  - c) MDS
  - d) FDM



32. Which of the following is used as base material in stereolithography process?  
 a) Thermoplastics, Metal powders                      b) Photopolymer  
 c) Thermoplastics, Eutectic metals                    d) Titanium alloys
33. Which type of 3D printer uses a pool of resin to create the solid part?  
 a) FDM    b) SLA  
 c) SNL    d) None of these
34. SLA printer's package material is in a  
 a) Chain    b) Spool  
 c) Cartridge    d) None of these
35. Which of the process is available in colors?  
 a) SLM    b) FDM  
 c) MJM    d) 3D printer
36. Which of the process, the input material is in powder form?  
 a) LOM    b) SLS  
 c) FDM    d) MJM
37. Of all of the current material addition rapid prototyping technologies, which one is widely used?  
 a) Ballistic particle manufacturing                      b) Stereolithography  
 c) Selective laser sintering                                d) Solid ground curing
38. Which of the following RP technologies uses powders as the starting material?  
 a) Droplet deposition manufacturing                    b) Fused – deposition modeling  
 c) Selective laser sintering                                d) Stereolithography
39. Which of the following RP technologies uses molten material as the starting material?  
 a) Three – dimensional printing                        b) Fused deposition modelling  
 c) Stereolithography                                        d) Selective laser sintering
40. Which of the following rapid prototyping processes uses a photosensitive liquid polymer as starting material?  
 a) Droplet deposition manufacturing                    b) Used deposition modelling  
 c) Laminated Object Manufacturing                    d) Stereolithography
41. STL files contains  
 a) Mass properties of the model                        b) Geometrical data  
 c) Drawing data    d) All of these
42. STL file format is represented by interaction of  
 a) Lines and hexagons                                    b) Lines and rectangles  
 c) Lines and triangles                                      d) Lines and circles
43. Which of the following is not liquid-based RP system?  
 a) Stereolithography apparatus                        b) Laminated Object Manufacturing  
 c) Solid Ground Curing (SGC)                         d) Solid object ultraviolet-laser printer
44. Which of the following is the last step of the rapid prototyping process?  
 a) 3D Modelling    b) Data conversion  
 c) Building    d) Post processing

