

- Q.20 Describe the principle of material Jetting in additive manufacturing. (CO4)
- Q.21 Discuss Visual Inspection technique used in 3D printing. (CO5)
- Q.22 Explain defects with cause in 3D printing technique. (CO5)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Discuss the applications of additive manufacturing in the toy and automotive industries. (CO3)
- Q.24 Explain the concept of VAT Photo-polymerization including its principle, parameters, and advantages and limitations. (CO4)
- Q.25 Write short notes on (CO5)
- a) Surface Roughness measurement
 - b) Industrial ovens

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3rd Sem / Automation & Robotics

Subject : AutoCAD and 3D Printing

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 What is the use of the 'Union' command'? (CO1)
- a) Cuts an object
 - b) Measure the area
 - c) Joins solid objects
 - d) Creates 2D lines
- Q.2 Which of the following is NOT a 3D printing technology? (CO4)
- a) Material Jetting
 - b) Powder Bed Fusion
 - c) Lathe Machining
 - d) Direct Energy Deposition
- Q.3 Origin of the AutoCAD drawing space is (CO1)
- a) 0,0
 - b) 1,0
 - c) 0,1
 - d) 1,1

- Q.4 Hatching command is used in AutoCAD for: (Co2)
- Drawing a circle
 - Applying section view
 - Removing layers
 - Editing text
- Q.5 Which of the following is an advantage of 3D printing technology. (CO5)
- Create objects with much strength
 - Increase productivity
 - Can print in an array of materials
 - All of the above
- Q.6 Which file type is most commonly exported from CAD software? (CO2)
- | | |
|----------|--------|
| a) SLDRT | b) JPG |
| c) STL | d) X3G |

SECTION-B

- Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)
- Q.7 Write the shortcut command for making polylines. (CO2)
- Q.8 Full form of UCS is _____. (CO1)

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- Q.9 3D printing technology is expanding and is now able to print metal parts. (T/F) (CO3)
- Q.10 Define porosity. (CO4)
- Q.11 Write any two limitations of conventional Manufacturing. (CO4)
- Q.12 Write name of open source 3D printing software. (CO4)

SECTION-C

- Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)
- Q.13 Explain polar and relative coordinates in AutoCAD. (CO1)
- Q.14 Write any four difference between UCS and WCS coordinates. (CO2)
- Q.15 What are the advantages of additive manufacturing over conventional manufacturing? (CO2)
- Q.16 Explain in brief about 3D printing simulation? (CO3)
- Q.17 What are the applications of 3D printing? (CO3)
- Q.18 Explain key parameters involved in Direct Energy Deposition technique. (CO4)
- Q.19 What are the advantages of Powder Bed Fusion technique in 3D printing? (CO4)

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