Q.19 What are some advantages of material Jetting in 3D printing (CO4)

Q.20 Describe the principle of direct Energy Deposition in additive manufacturing. (CO4)

Q.21 What are the defects occurred during 3D printing ? Explain any two. (CO5)

Q.22 Explain the purpose of in-process testing during 3D printing. (CO5)

SECTION-D

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

Q.23 Describe the steps involved in Additive Manufacturing, from uploading CAD files to the final operation of the equipment. (CO3)

Q.24 Explain the concept of powder Bed Fusion, including its principle , parameters , and advantages and limitations. (CO4)

Q.25 Write short note on (CO5)

a) 3D printing software

b) Non-destructive testing

Roll No. .....

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 does WCS represent in AutoCAD ? (CO2)

a) World control system

b) World coordinate system

c) Window control system

d) Window coordinate system

Q.2 What is the purpose of Isometric views in 3D modeling? (CO1)

a) To create 2D sketches

b) To represent a 3D object in a 2D space

c) To view the object from all sides

d) To simplify complex shapes

Q.3 Which term describes the process of converting a digital 3D model into a physical object through additive manufacturing? (CO3)

a) Stereo lithography

b) 3D printing

c) Computer-aided Design (CAD)

d) Machining

Q.4 Which technology is commonly used in Vat Photo-polymerization? (CO4)

a) Fused Filament Fabrication (FFF)

b) Stereo-lithography (SLA)

c) Fused Filament Fabrication(FFF)

d) Electron Beam Melting(EBM)

Q.5 Which technology is commonly used in direct Energy Deposition? (CO4)

a) Material jetting

b) Stereo-lithography (SLA)

c) Fused Filament Fabrication (FFF)

d) Electron Beam Melting(EBM)

Q.6 What is the primary classification of Additive manufacturing based on ? (CO3)

a) Material Type b) Layer thickness

c) Machine speed d) Color options

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 In vat photo-polymerization,the liquid resin is solidified by exposing it to_____. (CO4)

Q.8 File extension used in STL is _____. (CO2)

Q.9 3D printing technology is expanding and is how able to print metal parts. (T/F) (CO2)

Q.10 In AutoCAD 2D Modelling which axis is not accessible for drafting? (CO1)

Q.11 Write any two 3D printing techniques. (CO4)

Q.12 Write full form of FFF technology. (CO4)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 What is the purpose of saving a file in AutoCAD, and what file extensions are commonly used? (CO1)

Q.14 Name the applications where CAD software is commonly used. (CO1)

Q.15 Explain Revolve and Fillet commands used in 3D printing. (CO4)

Q.16 Explain two any one technology utilized in 3D printing. (CO4)

Q.17 Explain the purpose of 3D printing simulation in software. (CO3)

Q.18 Explain the AM process chain. (CO3)