Mock Test

Additive Manufacturing- Design and Application Engineer
Version- 1.0
Level- 5.5

CSC/N0435. Design and produce 3D computer model for the prototype of metal parts

Q1. Why is selecting correct layer resolution critical when creating 3D computer models for metal prototypes? (5 Marks)

A. Enhances chip container
B. Reduces fixture wear
C. Ensures surface precision
D. Improves software aesthetics

Q2. How does incorporating support structures in the 3D model help during additive manufacturing of metal parts? (5 Marks)

A. Improves cabinet look
B. Reduces tool oxidation
C. Enhances table color
D. Prevents part deformation

Q3. Why should a designer check wall thickness in 3D metal models before starting prototype production? (9 Marks)

A. Reduces cable vibration
B. Ensures structural strength
C. Improves workspace aesthetics
D. Enhances chip bin

Q4. How does simulating metal part assembly in CAD software reduce errors during additive manufacturing processes? (11 Marks)

A. Enhances cabinet look
B. Improves table shine
C. Reduces fixture wear
D. Verifies component fit

CSC/N0436. Identify the Process & Select the additive material to be used

Q5. Why is selecting the correct additive manufacturing process crucial for producing a specific metal part? (5 Marks)

A. Improves cabinet shine
B. Reduces fixture wear

C. Ensures desired quality
D. Enhances software color

Q6. How does choosing appropriate additive material influence mechanical properties and performance of the prototype? (5 Marks)

A. Improves workspace aesthetics
B. Ensures part strength
C. Reduces tool oxidation
D. Enhances table cleanliness

Q7. Why must material compatibility be verified with selected AM process before starting metal prototype production? (9 Marks)

A. Reduces cable vibration
B. Improves fixture look
C. Prevents process failure
D. Enhances chip container

Q8. How does considering thermal properties of additive material affect final metal prototype dimensional accuracy? (11 Marks)

A. Enhances tool handles
B. Maintains shape stability
C. Improves cabinet aesthetics
D. Reduces table dust

CSC/N0437. Write Process Instructions and Collate Data for RCA - Root Cause Analysis

Q9. Why is writing clear process instructions essential before conducting root cause analysis on AM issues? (5 Marks)

A. Improves cabinet shine
B. Enhances software aesthetics
C. Reduces tool wear
D. Ensures accurate investigation

Q10. How does systematically collating data help identify the root cause of additive manufacturing failures? (5 Marks)

A. Reduces table vibration
B. Supports effective analysis
C. Enhances chip container
D. Improves fixture look

Q11. Why should engineers document deviations from standard processes while preparing for root cause analysis? (9 Marks)

A. Tracks potential problems
B. Improves tool handles

C. Enhances workspace aesthetics
D. Reduces cable wear

Q12. How does reviewing process data prior to RCA improve decision-making for corrective actions in AM production? (11 Marks)

A. Improves table cleanliness
B. Reduces tool oxidation
C. Enables informed actions
D. Enhances cabinet shine

CSC/N0438. Developing Prototypes of New Products Using 3D Printers or Other Computer-Controlled Equipment

Q13. Why is selecting the correct 3D printing technique essential when developing new product prototypes? (5 Marks)

A. Enhances cabinet shine
B. Ensures accurate fabrication
C. Reduces tool wear
D. Improves fixture look

Q14. How does preparing a detailed CAD model improve efficiency when producing prototypes on 3D printers? (5 Marks)

A. Guides accurate printing
B. Reduces table vibration
C. Improves chip container
D. Enhances workspace aesthetics

Q15. Why must material properties be considered before starting prototype production using computer-controlled additive equipment? (9 Marks)

A. Improves table cleanliness
B. Ensures functional prototypes
C. Reduces cable wear
D. Enhances tool handles

Q16. How does testing prototypes after printing help validate design before full-scale production in additive manufacturing? (11 Marks)

A. Improves chip bin
B. Enhances cabinet aesthetics
C. Confirms design accuracy
D. Reduces fixture wear

CSC/N0439. Implement Corrective Actions for Process and Quality Issues / Perform Quality Assurance and Testing

Q17. Why is performing quality assurance testing critical before releasing additive manufactured parts for production use? (5 Marks)

A. Enhances cabinet aesthetics
B. Improves chip container
C. Reduces table vibration
D. Ensures product reliability

Q18. How does implementing corrective actions for defects improve efficiency in additive manufacturing processes? (5 Marks)

A. Improves fixture durability
B. Prevents recurring issues
C. Reduces tool oxidation
D. Enhances workspace look

Q19. Why should engineers document results of testing and corrective actions for future reference in AM processes? (9 Marks)

A. Supports process improvement
B. Improves table cleanliness
C. Reduces cable wear
D. Enhances cabinet color

Q20. How does performing systematic testing help verify that corrective actions successfully resolve quality issues in prototypes? (11 Marks)

A. Enhances chip container
B. Confirms defect resolution
C. Improves tool handles
D. Reduces fixture damage

CSC/N0440. Interface with Design Engineers to Ensure Manufacturability of New Designs

Q21. Why is collaborating with design engineers important to ensure additive manufactured parts are manufacturable efficiently? (5 Marks)

A. Enhances cabinet aesthetics
B. Improves table shine
C. Reduces tool wear
D. Prevents production errors

Q22. How does providing feedback on CAD models improve manufacturability of new designs in additive manufacturing? (5 Marks)

A. Enhances workspace look
B. Improves chip container
C. Ensures design feasibility
D. Reduces cable vibration

Q23. Why should design engineers and AM engineers discuss material selection early in the development process? (9 Marks)

A. Optimizes part performance
B. Enhances cabinet shine
C. Reduces table dust
D. Improves fixture appearance

Q24. How does early interface with engineers help identify potential production issues before prototyping new metal parts? (11 Marks)

A. Improves chip bin
B. Enhances tool aesthetics
C. Prevents costly revisions
D. Reduces fixture wear

CSC/N1339. Collaboratively Coordinate with the Team

Q25. Why is effective communication with team members essential for successful additive manufacturing project execution? (5 Marks)

A. Ensures task alignment
B. Improves cabinet shine
C. Reduces tool wear
D. Enhances workspace aesthetics

Q26. How does sharing design updates among team members improve efficiency during additive manufacturing prototype development? (5 Marks)

A. Reduces fixture vibration
B. Maintains coordinated workflow
C. Improves chip container
D. Enhances table color

Q27. Why should team members regularly discuss process challenges to prevent errors during additive manufacturing operations? (9 Marks)

A. Improves cabinet aesthetics
B. Reduces cable wear
C. Enhances tool handles
D. Promotes problem solving

Q28. How does collaborative review of CAD models with the team improve quality and manufacturability of new designs? (11 Marks)

A. Enhances fixture look
B. Ensures design accuracy
C. Improves chip bin
D. Reduces table dust

CSC/N0505. Follow Health and Safety Practices at the Work

Q29. Why is wearing appropriate PPE critical when operating 3D printers or other additive manufacturing equipment? (3 Marks)

A. Improves cabinet shine
B. Enhances workspace aesthetics
C. Reduces tool wear
D. Protects against hazards

Q30. How does maintaining proper ventilation during additive manufacturing prevent health issues for engineers and staff? (3 Marks)

A. Enhances fixture look
B. Reduces cable wear
C. Reduces fume inhalation
D. Improves table cleanliness

Q31. Why should engineers follow machine safety protocols before starting any additive manufacturing process? (4 Marks)

A. Reduces tool oxidation
B. Prevents accidents effectively
C. Improves workspace aesthetics
D. Enhances chip container

Q32. How does regular inspection of 3D printers and related equipment support workplace health and safety practices? (5 Marks)

A. Detects potential hazards
B. Improves tool handles
C. Reduces fixture wear
D. Enhances cabinet appearance

DGT/VSQ/N0102. Employability Skills (60 Hours)

Q33. Why is effective communication essential for additive manufacturing engineers to collaborate successfully with team members? (6 Marks)

A. Enhances cabinet shine
B. Reduces tool wear
C. Ensures task clarity
D. Improves machine aesthetics

Q34. How does time management improve productivity and efficiency during additive manufacturing project development and prototyping? (6 Marks)

A. Enhances workspace aesthetics
B. Maximizes task completion
C. Reduces cable vibration
D. Improves chip container

Q35. Why is continuous learning important for additive manufacturing engineers to stay updated with evolving technologies? (8 Marks)

A. Reduces fixture wear
B. Enhances table cleanliness
C. Improves cabinet look
D. Develops technical competence