

32062 – COMPUTER AIDED DESIGN & MANUFACTURING

1. COMPUTER AIDED DESIGN

Part – A & Part - B

1. Define CAD?
2. Write the benefits of CAD?
3. Write a note on 2D& 3D transformations?
4. Write a note on 2D& 3D translation?
5. Write a note on 2D& 3D scaling?
6. Write a note on 2D &3D rotation?
7. What are the types of geometric modeling?
8. Define boolean operation?
9. Define boundary representation?
10. Compare B/W constructive solid geometry &boundary representation?
11. Compare B/W wire frame model, surface model, & solid model?
12. Definition of graphics standard?
13. Write need (or) benefits of graphics standard?
14. Define finite element analysis?
15. What are the steps involved in FEA?
16. Write the advantages of FEA?

Part –C

1. Write briefly explain about the SHIGLEY'S DESIGN PROCESS?
2. Write briefly explain about the OHSUGA MODEL?
3. Write briefly explain about the wire frame modeling?
4. Write briefly explain about the surface modeling?
5. Write briefly explain about the solid modeling?
6. Write briefly explain about the boundary representation?
7. Write briefly explain about the GKS?
8. Write briefly explain about the OPEN GL?
9. Write briefly explain about the IGES?
10. Write briefly explain about the DXF?
11. Write briefly explain about the basic steps in FEA?

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2. COMPUTER AIDED MANUFACTURING

Part – A & Part - B

1. Define CAM?
2. What are the functions of CAM?
3. Write the benefits of CAM?
4. Define group technology?
5. Define part families?
6. Define CAPP?
7. What are the types of CAPP?
8. Advantages of CAPP?
9. Define process planning control?
10. Write the objectives of PPC?
11. Define master production control?
12. Define capacity planning?
13. Define JIT?

Part –C

1. Write briefly explain about the OPTIZ classification system?
2. Write briefly explain about the MICLASS coding system?
3. Write briefly explain about the CODE coding system?
4. Write briefly explain about the basic structure of a CAPP system?
5. Write briefly explain about the variant type of CAPP?
6. Write briefly explain about the generative type of CAPP?
7. Write briefly explain about the computer integrated production management system?
8. Write briefly explain about the master production schedule?
9. Write briefly explain about the materials requirement planning?
10. Write briefly explain about the manufacturing resource planning?
11. Write briefly explain about the shop floor control?
12. Write briefly explain about the just in the manufacturing philosophy?
13. Write briefly explain about the enterprise resources planning?

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3. CNC PROGRAMMING, RAOID PROTOTYPING

Part – A & Part – B

1. Define manual part programming?
2. Define coordinate system?
3. What is the datum point?
4. Write a note on G & M codes?
5. Explain about the G01, G02 & G03?
6. Define canned cycle?
7. Define rapid prototyping?
8. Define subtractive?
9. Define additive?

Part – C

1. Write briefly explain about the coordinate system?
2. Write briefly explain about the various types of datum points?
3. Write briefly explain about the CNC programming procedure?
4. Write briefly explain about the subprogram?
5. Write briefly explain about the stereo lithography?
6. Write briefly explain about the fused deposition modeling?
7. Write briefly explain about the selective laser sintering?
8. Write briefly explain about the 3D printing?
9. Write briefly explain about the rapid tooling?

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4. COMPUTER INTEGRATED MANUFACTURING, FLEXIBLE MANUFACTURING SYSTEMS, AUTOMATIC GUIDED

VEHICLE, ROBOT

Part – A & Part – B

1. Define CIM?
2. Concept of CIM?
3. Benefits of CIM?
4. Write objectives of FMS?
5. Write the types of FMS?
6. Concept of FMS?
7. What is the flexible turning cell?
8. What is the flexible transfer lines?
9. Write the benefits of FMS
10. What are the types of AGV?
11. Benefits of AGV?
12. Define robots?
13. What are the deferent configurations used in robot?
14. What are the end effectors?
15. Write the industrial application of robots?

Part – C

1. Draw and explain the CIM wheel?
2. Draw and explain the CAD/CAM organization?
3. Write briefly explain about the components of FMS?
4. Write briefly explain about the FMS layout?
5. Write briefly explain about the automated guided vehicle systems?
6. Write briefly explain about the types of AGV'S
7. Write briefly explain about the ROBOT anatomy working conditions?
8. What are the types of robot configurations & explain at any three?
9. Write briefly explain about the basic robot motions?
10. Write briefly explain about the mechanical grippers?
11. What are the types of robot sensors & its explain?
12. Write briefly explain about the vacuum grippers?
13. Write briefly explain about the industrial applications of machine loading & unloading?
14. Explain the working condition of welding & spray painting?

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5. CONCURRENT ENGINEERING, QUALITY FUNCTION DEPLOYMENT, PRODUCT DEVELOPMENT CYCLE, AUGMENTED REALITY

Part – A & Part - B

1. Define concurrent engineering?
2. What are the need of concurrent engineering?
3. Benefits of concurrent engineering?
4. Compare B/W sequential engineering & concurrent engineering?
5. Define quality function deployment?
6. Define value engineering?
7. Advantages and disadvantages of quality function deployment?
8. What are types of valves?
9. Define value analysis techniques?
10. What are the benefits of value engineering?
11. Define product development cycle?
12. What is the product life cycle?
13. Define augmented reality?
14. Write the concept of augmented reality?
15. Write the application of augmented reality?
16. Write any three guidelines of DFMA?

Part – C

1. Write briefly explain about the concurrent engineering & sequential engineering?
2. Write briefly explain about the basic structure of house of quality?
3. Write briefly explain about the new product development process?
4. Write briefly explain about the various steps in failure mode & effect analysis?
5. Write briefly explain about the working of augmented reality devices?