QUESTION BANK

UNIT - I (COMPUTER AIDED DESIGN)
PART- A (2 MARKS)

1. Define CAD/CAM.
2. List the fundamental reason for implementing a CAD system.
3. List the various desirable features of a CAD package.
4. List the benefits of CAD
5. What is shearing transformation?
6. Classify geometric modeling.
7. What are wireframe modelings?
8. What is sculptured surface?
9. What are the basic approaches followed in solid modeling?
10. Mention the basic types of geometric transformation.
11. What is computer graphics?
12. Mention the six phases of shigley's design process.
13. What are system software and application software's?
14. List some popular software packages used for modeling.
15. Write the 3D rotational transformation matrix in the homogeneous coordinates about z-axis.
16. Name the display control features.
17. Name any four drawing commands used in a CAD packages.
18. Name any four editing commands used in a CAD packages.
19. Name any four utility commands used in a CAD packages.

PART –B (16 MARKS)

1. List and discuss the various desirable features of a CAD package.
2. Explain with a suitable example how a solid model is generated using Boolean Operation.
3. Explain any four 2D geometric transformations with suitable illustration.
4. Explain 3D geometric transformation.
5. Explain the terms
   i. Wire frame modeling.
   ii. Surface modeling.
6. Explain the design process proposed by shigley and the application of computer to the design process.
7. Differenciate between surfaces modeling solid modeling by bringing out their application, advantage and limitations.
8. What are the various schemes for representing solid objects? Discuss boundary representation (B-rep) Technique.
9. List out and explain various application and benefits of CAD system.

UNIT II (COMPONENTS OF CIM)
PART –A (2 MARKS)

1. Define CIM open system architecture.
2. What is the function of CIMOSA?

QUESTION BANK

3. What are all the components of a LAN?
4. Define network.
5. What are the types of Networks?
6. What is network Topology?
7. What are the types of transformation mode?
8. What is meant by multiplexing?
9. What is network management?
10. What are the functions of network management?
11. Define automation.
12. Name the seven layers of OSI model in the number sequence.
13. What are the components of CIM?
14. What is the difference between automation & CIM?
15. Mention the benefits of a CIM.
16. What is MAP?
17. What is main objective of a CIM?
18. What is meant by island of automation?
19. Distinguish analog transmission with digital transmission.
20. Mention the different types of transmission media used.
21. What is TOP?

PART –B (16 MARKS)

1. What is CIM wheel? Explain its different segment in relation to CIM's scope.
2. Explain and compare the different type of network topology.
3. Discuss the various Data transmission method adopted in CIM
4. Explain about the following terms i) Simplex ii) Duplex iii) OSI model.
5. Explain MAP model?
6. Write short notes on LAN, WAN & MAN.
7. Explain about communication matrix.
8. Explain the information flow through the seven layers of OSI model.

UNIT III
(GROUP TECHNOLOGY AND COMPUTER AIDED PROCESSES PLANNING)
PART –A (2 MARKS)

1. Define Group Technology (GT).
2. List out the stages in group technology.
3. Define part families.
4. What are the methods available for solving problems in GT?
5. Explain the two categories of attributes of parts.
6. List out the premises for the developed of DCLASS code.
7. What is PFA?
8. What is the weakness of PFA?
9. What is the application of GT.
10. What is cellular manufacturing?
11. What is the process planning?
12. What are the results of processes planning?

13. What is CMPP?
14. List the various components of generative CAPP systems.
15. Differentiate the underlying concept of variant and generative CAPP systems

PART –B (16 MARKS)

1. Briefly discuss the various benefits of implementing a GT in a firm. Also bring out the advantages and limitations of using GT
2. Explain about Optiz classification and coding system.
3. Explain retrieval and generative CAPP systems.
4. Discuss about MICLASS and DCLASS classification and coding system.
5. (a) Describe the composite part concept in cellular manufacturing.   (8)
   (b) Discuss the importance of process planning in product development.
6. What is production follow analysis? Explain the various steps of it.

UNIT IV
(SHOP FLOOR CONTROL AND FMS)
PART –A (2 MARKS)

1. What is Shop Floor Control?
2. List the phases of SFC.
3. Give the primary functions of SFC?
4. What is meant by factory data collection system?
5. What are the different types of automatic identification technologies?
6. What is bar code concept?
7. Define FMS.
8. What are the components of FMS?
9. What are the objectives of FMS?
10. What are the types of layout configuration in FMS?
11. What is random order FMS?
12. What is scheduling?
13. What is dispatching?
14. What is the philosophy of Just In Time?
15. Define the terms machine loading and job sequencing
16. What is meant by computer process monitoring?
17. List types of material handling equipment that commonly employed in FMS.
18. List some of the function of a FMS computer control system.
19. Discriminate between FMS and FMC.
20. List some important advantages of implementing FMS.

PART –B (16 MARKS)

1. Briefly explain bar code technology.
2. Explain three phases of shop floor control.
3. Write an engineering brief about the various types of automatic identification technologies.
4. Explain the components of FMS and FMS layout configuration.
5. Write short notes on various materials handling equipment that are commonly used in a FMS.
6. Discuss the applications, advantages and disadvantages of a FMS.

<u>**QUESTION BANK**</u>

UNIT V
(COMPUTER AIDED PLANNING AND CONTROL AND COMPUTER MONITORING)
PART –A (2 MARKS)

1. What is production planning and control.
2. What are activities of production planning?
3. What is production control?
4. What are the important functions of PPC?
5. What is MRP?
6. What is master production schedule (MPS)?
7. List the purpose of MPS.
8. What is BOM?
9. List the benefits of MRP.
10. List the sources of input data to MRP and outputs of MRP.
11. What is cost planning and control?
12. What is inventory control and management/
13. What is lean production?
14. What is MRP II?
15. What is agile manufacturing?
16. What is adaptive control?
17. What is direct digital control?

PART –B (16 MARKS)

1. Define production planning and control? Describe the various activities of a PPC system
2. Write short notes on the following
   - (i)   aggregate production planning,
   - (ii)   master production planning,
   - (iii)   (ii) capacity planning.
3. What is MRP? the inputs to MRP and various MRP outputs. Also list the various benefits of MRP.
4. Write an engineering brief about (i) MRP – II and (ii) JIT production system.
5. What is agile manufacturing? Describe in detail the principles characteristics and concept of agile manufacturing.
6. Define lean production. Explain in detail.
7. What is adaptive control? Explain the configuration and function of adaptive control.
8. What is direct digital control? Explain the components and their arrangement of a direct digital control.