



KINGS

COLLEGE OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

QUESTION BANK



**Subject code/Name: ME1403 COMPUTER
INTEGRATED MANUFACTURING**

Year/Sem: IV/VII

**UNIT-I (INTRODUCTION)
PART-A (2 MARKS)**

1. Explain CIM.
2. What are the components of CIM?
3. What are the steps involved in designing and manufacturing a product?
4. What is the role of CIM in manufacturing?
5. What are important applications of CIM in manufacturing planning?
6. What are the important applications of CIM in manufacturing control?
7. What is management?
8. List out the tasks for the managers in effective management.
9. What are the major communications used in manufacturing industry?
10. What is videoconferencing?
11. Define automation.
12. What are the goals of automation in manufacturing industry?
13. What are the functions of automated manufacturing system?
14. Give the classification of automation.
15. What are the benefits of automation?

PART-B (16 MARKS)

1. Briefly explain the nature and role of the elements of CIM system.
2. Describe the basic activities that must be carried out in a factory to convert raw materials into finished product.
3. Describe the changing manufacturing and management scenario after the development of CIM.

ME 1403 COMPUTER INTERGRATED MANUFACTURING

4. What do you understand by term islands of automation? List and explain any six islands of automation.
5. List some CIM hardware and CIM software and bring out the various benefits of implementing a CIM system.

UNIT-II (GROUP TECHNOLOGY AND COMPUTER AIDED PROCESS PLANNING) PART-A (2MARKS)

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 are the applications of GT?
10. What is Process planning?
11. What are the results of Process Planning?

PART-B (16 MARKS)

1. Explain about Optiz classification and coding system.
2. Define variant CAPP systems. Explain the general procedure for using one of the variant CAPP systems.
3. Discuss about MICLASS and DCLASS classification and coding system.
4. Briefly discuss the various benefits of implementing a GT in a firm. Also bring out the advantages and limitations of using GT.
5. Explain in detail the process planning activities.

**UNIT-III (SHOP FLOOR CONTROL AND FMS)
PART-A (2MARKS)**

1. Gives the major objectives of a Production Management Systems (PMS).
2. Define SFC.
3. What are the primary function of SFC?
4. What are the phases of SFC?
5. What is the purpose of FDS?
6. What is an Automatic Data Capture (ADC) method?
7. What are the technologies used in ADC?
8. What Bar code consists?
9. What are the types of Bar code?
10. What is DAS?
11. List out the application of ADC technology.
12. What are the types of SFC?
13. Define FMS.
14. What arc the Objectives of FMS?

PART B (16 MARKS)

1. Explain the component of FMS and FMS layout configuration
2. Explain three phases of shop floor control.
3. Write an engineering brief about the various types of automatic identification technologies.
4. Write short notes on various materials handling equipment that are commonly found in a FMS.
5. What is MRP? Explain the inputs to MRP and various MRP outputs. Also list the various benefits of MRP.

**UNIT-IV (CIM IMPLEMENTATION AND DATA
COMMUNICATION)
PART-A (2MARKS)**

1. Which is ideal state in computer based manufacturing applications?
2. Write about CIMOSA.

ME 1403 COMPUTER INTERGRATED MANUFACTURING

3. How CIMOSA separates functions?
4. Explain about MRR
5. What is the role of process planning in CIM architecture?
6. What is dispatching?
7. What about shop-floor information?
8. Explain PDM.
9. Draw simple E-R diagram.
10. What are the types of IDEF models?

PART-B (16 MARKS)

1. Explain the components of a Local Area Network and network topologies.
2. a) Explain the CIMOSA model with a neat diagram (8)
b) Describe product data management and its advantages. (8)
3. What is data communication? Identify and briefly explain the five components of a data Communication system.
4. Compare the two methods of serial transmission. Discuss the advantages and disadvantages of each.
5. Writes short notes on: Ethernet, token ring, and FDDI.
6. What is network management? Discuss the various functions of it.

UNIT-V (OPEN SYSTEM AND DATABASE FOR CIM) PART-A (2 MARKS)

1. What are the two types of channel?
2. List the characteristics of channel.
3. What is channel bandwidth?
4. What are two types of transmission mode?
5. What is modulation?
6. What is demodulation?
7. What are the reasons for using LAN?
8. What are the features of LAN?
9. Define topology and explain its classification.
10. What are the Advantages of LAN?

ME 1403 COMPUTER INTERGRATED MANUFACTURING

11. Define OSI.
12. List out the layers of OSI model.
13. What is the functions of physical layers?
14. What is the function of data link layer?

PART-B (16 MARKS)

1. Explain about MAP/TOP.
2. a) Explain manufacturing Automation Protocol. **(8)**
b) Explain Technical Office protocol. **(8)**
3. Explain the features of a database management system and database model
4. Describe about the following
 - a) Database operators.
 - b) Relational databases
5. What are the three levels of architecture of a database system? Describe them.