SHRI ANGALAMMAN COLLEGE OF
ENGINEERING AND TECHNOLOGY
(An ISO 9001:2008 Certified Institution)
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FS 81504

Department of Mechanical Engineering

ME1403 – COMPUTER INTEGRATED MANUFACTURING QUESTION BANK

UNIT-I (INTRODUCTION)

PART-A (2 MARKS)

1. What is CIM?
2. What are the main elements of a CIM system?
3. Name any four activities of a manufacturing plant which can be carried out through computer control.
4. What is the role of CIM in manufacturing?
5. Define Islands of automation.
6. How the manufacturing industries can be grouped?
7. Define: Product development cycle.
8. Define electronic data interchange.
9. What is manufacturing automation protocol?
10. What is production planning?
11. What is meant by physical distribution?
12. What are plant operations?

PART-B

1. Briefly explain the nature and role of the elements of CIM system. (16)
2. Describe the basic activities that must be carried out in a factory to convert raw materials into finished product. (16)
3. Describe the need for CIM and issues addressed by CIM. (16)
4. Discuss the stages in the product development cycle and the importance of each stage. (16)
5. What do you understand by term islands of automation? List and explain any six islands of automation.

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

1. Explain about Optiz classification and coding system. (16)
2. Explain retrieval and generative CAPP systems. (16)
3. Discuss about MICLASS and DCLASS classification and coding system.(16)
4. Briefly discuss the various benefits of implementing a GT in a firm. Also bring out the advantages and limitations of using GT. (16)
5. (a)Describe the composite part concept in cellular manufacturing. (8)
   (b)Discuss the importance of process planning in product development (8)

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

1. Define SFC.
2. What are the primary functions of SFC?
3. What are the phases 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 arc the Objectives of FMS?
10. What are the types of layout configuration in FMS?

PART B

1. Explain the component of FMS and FMS layout configuration. (16)
2. Explain three phases of shop floor control. (16)
3. Write an engineering brief about the various types of automatic identification technologies. (16)
4. Write short notes on various materials handling equipment that are commonly used in a FMS. (16)
5. Discuss the applications, advantages and disadvantages of a FMS. (16)

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

1. Define CIMOSA.
2. What is the function of CIM open system architecture?
3. What are all the components of a LAN?
4. What is activity cycle diagram?
5. What is network?
6. What are the types of Networks?
7. What is network topology?
8. What are the types of transmission mode?
9. What is meant by multiplexing?
10. What is network management?
11. What are the functions of network management?

PART-B

1. Explain the components of a Local Area Network and network topologies.(16)
2. a) Explain the CIMOSA model with a neat diagram. (8)
   b) Describe product data management and its advantages. (8)
3. Write short notes on LAN, MAN and WAN . (16)
4. What is data communication? Identify and briefly explain the five components of a data communication system. (16)
4. Explain the types of transmission based on the presentation of data. (16)
5. What is network management? Discuss the various functions of it. (16)

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

1. What is meant by open system interconnection?
2. What is the purpose of open system interconnection?
3. What is a database?
4. State some application of technical office protocol?
5. Define relational database.
6. What is a database system?
7. What are data models?
8. What are types of data associations?
9. List out the layers of OSI model.
10. What are the eight database operators?

PART-B

1. What is meant by open system interconnection? Explain briefly seven layers of the ISO/OSI reference model. (16)
2. a) Explain manufacturing Automation Protocol. (8)
   b) Explain Technical Office protocol. (8)
3. a) Write short notes on architecture of DBMS. (8)
   b) Write the advantages and disadvantages of DBMS (8)
4. a) Describe Database operators. (8)
   b) Describe Relational database. (8)
5. a) Describe the three database models. (8)
   b) Describe the architecture of a database management system. (8)