

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

## PART A (10 x 1 = 10 Marks)

1. \_\_\_\_\_ automation do not have integration with other manufacturing technologies
  - a) Island of Automation
  - b) Computer Integrated manufacturing
  - c) CIMOSA
  - d) Paper less Automation
2. CAD/CAM Functions integrated with Business functions can be called as
  - a) Manufacturing
  - b) Planning
  - c) CIM
  - d) CAPP
3. Basic external shape is coming underp
  - a) Manufacturing Attribute
  - b) Design and Manufacturing attribute
  - c) Production Planning
  - d) Part Design Attribute
4. Production flow Analysis is using
  - a) Manufacturing data
  - b) Design Data
  - c) Part drawing
  - d) Travel plan
5. 12345 6789 ABCD sequence is followed for the following coding system
  - a) Optiz
  - b) MICLASS
  - c) RNC
  - d) DCLASS
6. Retrieval CAPP is also called as
  - a) Variant CAPP
  - b) CAPP
  - c) Generative CAPP
  - d) Standard CAPP
7. In CIMOSA the functional view describes
  - a) input and output
  - b) resources
  - c) outline
  - d) workflow
8. A data communication system covering a geographic area of the city is
  - a) LAN
  - b) WAN
  - c) MAN
  - d) VAN
9. A data model that uses the tree concept to represent data and the relationship among them is
  - a) Hierarchical data model
  - b) Relational data model

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- c) object oriented data model
  - d) Network data model
10. The relationship between the attributes of an entity is called
    - a) Data associations
    - b) data model
    - c) object oriented data model
    - d) Network data model

## PART B (10 x 2 = 20 Marks)

11. Explain CIM.
12. What are the goals of automation in manufacturing industry?
13. List out the stages in Group Technology.
14. Define Part families.
15. What are the phases of SFC?
16. List the applications of FMS.
17. What is dispatching?
18. What is the role of process planning in CIM architecture?
19. What are two types of transmission mode?
20. What are the functions of physical layer?

## PART C (5 x 14 = 70 Marks)

21. a) (i) Explain the fundamental concepts of Manufacturing System and classify (7) manufacturing systems.
  - (ii) Define Industrial Robot and list its applications with explanation. (7)
- (OR)**
- b) (i) Explain the basic elements in Automation. (8)
  - (ii) Explain the steps involved in designing and manufacturing a product? (6)
22. a) Explain in detail about MICLASS AND OPITZ coding system with neat pictorial representation

**(OR)**

- b) Explain in detail the generative and variant approaches in process planning
23. a) (i) Explain in detail about the phases of Shop floor control (8)
  - (ii) Explain the functions of Bar code technology? (6)

**(OR)**

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- b) Explain about components of FMS and also explain the types of FMS layout.

24. a) Explain CIM open system architecture (CIMOSA).

**(OR)**

- b) Discuss the functions of LAN in communication system..

25. a) List out the layers of OSI model in brief.

**(OR)**

- b) (i) Explain in detail about MAP/TOP. (8)
- (ii) What are the database system requirements for CIM? (6)

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