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 **Reg. No. :**

**Question Paper Code: 47074**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Seventh Semester

Mechanical Engineering

 14UME704- COMPUTER INTEGRATED MANUFACTURING

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Scaling objects makes them

 (a) Bigger (b) Smaller (c) It only stretches them (d) Both Bigger and Smaller

2. The basic geometric building blocks provided in a CAD/CAM package are

(a) Points, lines, and circles (b) Rectangles and squares

(c) Semi circles and squares (d) Rectangles and semi circles

3. By using CIM to control all phases of manufacturing, firms hope to reap what benefits?

 (a) Lower productivity and quality (b) Improved quality and increased productivity

 (c) Medium productivity and quality (d) All of the above

4. In ring network communication the individual stations are connected in a

 (a) Discontinuous ring (b) Copper ring

 (c) Continuous ring (d) Polymer ring

5. The part has dissimilar in geometric shape & size but similar machining operation is

 known as

 (a) Group Technology (b) Manufacturing Attributes

 (c) Machine Cell Design (d) Part Family

6. CAPP integrates and optimizes system performance into

 (a) The inter-organizational flow (b) The work flow

 (c) The process flow (d) The inter-material flow

7. The systems that accomplish the production planning, development of master schedule,

 capacity planning and materials requirement planning is called

 (a) Material flow control (b) Shop floor control

 (c) Control of process flow (d) Machine control

8. Which one is type of FMS?

 (a) Flexible machining group (b) Flexible material group

 (c) Flexible manufacturing group (d) Flexible process group

9. The correct sequence of operations in production planning and control is

 (a) Routing-Scheduling-Dispatching-Follow up

 (b) Scheduling-Routing- Dispatching-Follow up

 (c) Dispatching-Routing-Scheduling- Follow up

 (d) Routing-Scheduling-Follow up-Dispatching

10. Lean manufacturing is a (n):

 (a) Fad (b) Method for reducing labour

 (c) Way to improve customer value (d) Efficiency improvement technique

PART - B (5 x 2 = 10 Marks)

11. Differentiate clockwise and counter clockwise rotation matrix.

12. Define OSI.

13. What is the role of process planning in CIM architecture?

14. How FMS is classified based on the level of flexibility?

15. What is meant by material requirements planning?

PART - C (5 x 16 = 80 Marks)

16. (a) Describe the functions of the zoom, pan, redraw/regenerate, and dimensioning

 commends. (16)

 Or

 (b) What are commonly used geometrical models? Explain in detail. (16)

17. (a) Explain the nature and role of the elements of CIM system. (16)

 Or

 (b) Describe briefly Manufacturing Automation Protocol (MAP) and Technical and

 Office Protocol (TOP). (16)

18.(a) What are the three general methods for solving part families grouping?

 Describe in detail. (16)

Or

 (b) (i) Why we need process planning in CAD/CAM? (6)

 (ii) What are the emergences of CAPP? Explain. (10)

19. (a) Write a brief notes on the factory data collection system in Shop floor. (16) Or

(b) (i) What is the role o flexible manufacturing system in CIM environment? (4)

 (ii) What are the types of FMS? Explain in detail. (12)

20. (a) Describe the concept of a production monitoring system. (16)

Or

(b) What are the scopes of MRP in manufacturing? Explain in detail. (16)