A **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 99723

B.E./B.Tech. DEGREE EXAMINATION, NOV 2024

Professional Elective

Mechanical Engineering

19UME923-COMPUTER INTEGRATED MANUFACTURING

(Regulations 2019)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The model which is created by using basic entities of two dimensioning is called CO1-U

   (a) Surface model (b) Wire frame model

   (c) Solid model (d) Isometric model

2. CAD technology is used in the design of CO1-U

   (a) Tools and machines (b) All types of buildings

   (c) Both (a) & (b) (d) None of the above

3. The network topology is categorized into _____ types? CO1-U

   (a) One (b) Two (c) Three (d) Four

4. Multipoint topology is CO1-U

   (a) Bus (b) Ring (c) Star (d) Mesh

5. Computer aided process planning is _____. CO1-U

   (a) Extension of CAM (b) first step in design before CAD

   (c) a type of automation (d) link between CAD and CAM

6. Cellular manufacturing is also known as CO1-U

   (a) Manufacturing Technology (b) Production Technology

   (c) Group Technology (d) None of the above

7. Which of the following is phases of shop floor control? CO1-U

(a) Order release (b) Order scheduling

(c) Order progress (d) All of the above

8. Which is not a property of FMS (Flexible manufacturing system)? CO1-U

(a) High accuracy (b) Less production cost

(c) Less initial cost (d) Flexibility in production

9. LOB stands for CO1-U

(a) Line of benefit (b) Line of balance (c) Law of balance (d) none of the above

10. An MRP system that provides feedback to the capacity plan, master production schedule, and production plans is called CO1-U

(a) load report (b) closed-loop MRP (c) system nervousness (d) lot-sizing.

PART – B (5 x 2= 10Marks)

11. What are the main objectives of CIM? CO1- U

12. List out the benefits of CIM CO1- U

13. Define group technology concept CO1- U

14. State the automated data collection technologies CO1- U

15. Mention the process control strategies CO1- U

PART – C (5 x 16= 80Marks)

16. (a) Explain the purpose of redraw and regenerate commands in CAD software CO1-U (16)

Or

(b) Compare and contrast wireframe, surface, and solid modeling techniques in CAD. CO1-U (16)

17. (a) Describe the concept of a communication matrix in CIM and its importance in coordinating manufacturing processes. CO1-U (16)

Or

(b) Explain the various topologies in the communication in CIM. CO1-U (16)

18.	(a)	Differentiate contrast the variant approach and generative approaches to computer-aided process planning (CAPP) systems.	CO3-Ana	(16)
		Or		
	(b)	Critically analyze the role of process planning in integrating CAD/CAM systems and optimizing production workflows.	CO3-Ana	(16)
19.	(a)	Briefly explain the phases of shop floor control.	CO1-U	(16)
		Or		
	(b)	Briefly explain the various layouts of FMS.	CO1-U	(16)
20.	(a)	Express the Material requirements planning (MRP) in CIM?	CO1-U	(16)
		Or		
	(b)	Describe the production monitoring system and its types	CO1-U	(16)