Reg. No.												

Question Paper Code	12600

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Eighth Semester

Mechanical Engineering

ME8094 - COMPUTER INTEGRATED MANUFACTURING SYSTEMS

Regulations - 2017

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Explain the objectives of implementation.	2	K2	CO1
2.	Define manufacturing lead time.	2	K2	CO1
3.	Give any four functions of production planning and control.	2	K2	CO2
4.	Define master production schedule.	2	K2	CO2
5.	Identify GT an important element of CAD/CAM integration.	2	K2	CO3
6.	Summarize any four design considerations guiding the cell formation.	2	K3	CO3
7.	Identify any four functions of the material handling systems in a FMS.	2	K2	CO4
8.	Explain what AGVs are. How do they operate?	2	K1	CO4
9.	List out the objective of using industrial robot.	2	K2	CO5
10.	Examine what is meant by degrees of freedom.	2	K2	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Define CAD. Explain in detail about the various design related tasks performed by CAD.	13	K2	CO1
		OR			
	b) i)	Explain the hierarchical structure of computerized elements of CIM.	7	K2	CO1
	ii)	Explain in detail about Kanban system and its types with example.	6	K2	CO1
12.	a)	What is shop floor control and discuss the various functions of SFC?	13	K1	CO2
		OR			
	b)	What is production planning control? Describe the various activities of a PPC system.	13	K1	CO2
13.	a)	Describe what is Group Technology? Also explain why GT is important in achieving CAD and CAM integration.	13	K2	CO3
		OR			

b) Discuss about

i) Composite part concept. 7 K2 CO3

ii) Key machine concept. 6 K2 CO3

14. a) Examine what is flexible manufacturing system? In what ways, FMS differs from other manufacturing systems. 13 K2 CO4

OR

b) Illustrate short notes various material handling equipment that are commonly found in a FMS. 13 K3 CO4

15. a) i) Describe the various types of industrial robot. 7 K1 CO5

ii) Describe the basic structure of a robotic system with neat sketch. 6 K1 CO5

OR

b) Identify and Draw the neat sketch of components of teach pendant and explain briefly. 13 K2 CO5

PART - C (1 × 15 = 15 Marks)

16. a) i) Develop the two main types of AGVs steering control. 8 K2 CO6

ii) Prepare what are the advantages of AGVs over other material handling systems. 7 K2 CO6

OR

b) Explain at least four languages meant for robot programming and briefly discuss the features of any two of them. 15 K3 CO6