Question Paper Code	12693

M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024
First Semester
M.E - CAD/CAM
20PCDPC101 - COMPETITIVE MANUFACTURING SYSTEMS
Regulations - 2020

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks	K-Level	CO
1.	What are the two kinds of robot joints?	2	K1	CO1
2.	What are the advantages of CNC controls over NC control?	2	K1	CO1
3.	Distinguish between MICLASS and DCLASS systems.	2	K2	CO2
4.	List the applications of cell design.	2	K1	CO2
5.	Define sequential flow FMS.	2	K1	CO3
6.	List software's used in FMS.	2	K1	CO3
7.	Define Total Productive Maintenance.	2	K1	CO4
8.	What is systematic planning methodology?	2	K1	CO4
9.	List out the benefits of flexible work force.	2	K1	CO5
10.	What do you meant by zero-defects?	2	K1	CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11.	a)	Describe the features of an industrial robot. Why are these features necessary?	13	K2	CO1

OR

	b)	Describe the differences between mechanization and automation. Give examples.	13	K2	CO1

12.	a)	Explain the Optiz classification system generally used in group technology.	13	K2	CO2

OR

	b)	Explain the need of FMS in today's Competitive Environment.	13	K2	CO2

13.	a)	Explain various systems issues in FMS.	13	K2	CO3

OR

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

b)	Explain in detail the various CAD/CAM considerations to be considered in planning of FMS database with your own example.	13	K2	CO3
14. a)	Explain Poka Yoke systems with two examples.	13	K2	CO4

OR

b)	Enumerate the six big losses considered while implementing Total Productive Maintenance (TPM) in manufacturing industries.	13	K2	CO4
15. a)	Discuss various implementation issues on kanban and JIT systems.	13	K2	CO5

OR

b)	Explain with various applications on flexible work force in JIT.	13	K2	CO5

PART - C (1 × 15 = 15 Marks)

16. a)	Discuss Hoshin planning with a case study.	15	K2	CO4

OR

b)	Describe the Characteristics of JIT and Pull method. Explain their importance in a manufacturing industry.	15	K2	CO5