M.E. / M.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023
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.	How are robots programmed to follow a certain path?	2,K2,CO1
2.	List the typical application of AGV.	2,K1,CO1
3.	What are the various types of coding systems widely used?	2,K1,CO2
4.	Distinguish between FMC and FMS.	2,K2,CO2
5.	Differentiate intrinsic function from extrinsic function.	2,K2,CO3
6.	List the software used in tool management systems.	2,K1,CO3
7.	What are the steps involved in PDCA cycle?	2,K1,CO4
8.	What is the quality circle activity?	2,K1,CO4
9.	What are the characteristics of JIT?	2,K1,CO5
10.	Illustrate various value stream mapping symbols.	2,K2,CO5

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

11. a) Discuss the practical application of Industrial robots & Sensor technology.   13,K2,CO1

OR

b) Describe the concept of design of assembly. Why has it become an important factor in manufacturing?   13,K2,CO1

12. a) Explain the concept of part family with a suitable illustration.   13,K2,CO2

OR

b) Explain the various components of FMS with an example.   13,K2,CO2

13. a) Explain the various techniques of simulations.   13,K2,CO3

OR

b) Describe the practical Manufacturing data systems and data flow in detail.   13,K2,CO3

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **12314**

14. a) Explain the concept of Kaizen techniques and list the advantages. *13,K2,CO4*

OR

b) Describe the implementation of concepts of lean manufacturing with an example. *13,K2,CO4*

15. a) Illustrate any two types of kanban with neat sketches. *13,K2,CO5*

OR

b) Discuss the effect on pull systems with various examples. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Examine the 5s systems used in manufacturing industries. *15,K4,CO4*

OR

b) Formulate the method adopted to implement the JIT philosophy for a medium scale industry. Summarize the problems to be faced while implementing JIT. *15,K4,CO5*