GIET UNIVERSITY, GUNUPUR – 765022

M. Tech (First Semester) Examinations, January– 2024

MPEMT1052 - Computer Integrated Manufacturing

(Manufacturing)

Time: 3Hrs   Maximum: 70 Marks
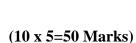
(The figures in the right hand margin indicate marks.)

PART – A   (2 x 10 = 20 Marks)

Q.1. Answer all questions	CO#	Blooms Level
a. State the elements of CIM.	CO1	K1
b. Define concurrent Engineering.	CO1	K2
c. Outline the advantages of DNC.	CO2	K2
d. Explain primary and secondary material handling system in FMS.	CO3	K1
e. State the categories of AGV.	CO3	K1
f. List the types of Mechanical Grippers?	CO3	K1
g. Classify sensors used in robots?	CO3	K3
h. Distinguish between a dedicated FMS and random order FMS?	CO4	K4
i. State the basic components of an FMS?	CO4	K1
j. State the capabilities that a manufacturing system must satisfy in order to be classified as flexible?	CO4	K4

PART – B   (10 x 5=50 Marks)

Answer *ANY FIVE* questions

		Marks	CO#	Blooms Level
2. a.	Explain CIM Hardware and CIM Software.	5	CO1	K2
b.	Describe "Computer Aided Manufacturing"	5	CO1	K2
3.a.	Describe the benefits of CIM.	5	CO1	K2
b.	Explain various elements of an automated system with schematic diagram.	5	CO1	K2
4.a.	Discuss about Coordinate measuring machine (CMM).	5	CO2	K2
b.	State different applications of CMM.	5	CO2	K1
5.a.	Describe Automated Storage Retrieval System (ASRS).	5	CO3	K2
b.	Define AGV? Discuss about different types of AGV with its application.	5	CO3	K1
6. a.	Briefly explain the different types of robots.	5	CO3	K2
b.	Sketch and explain the four basic robot configurations classified according to the coordinate system.	5	CO3	K3

7.	Discuss quantitative analysis of FMS based on bottleneck model for the calculation of production rate, number of work stations, etc., by considering an example.	10	CO4	K2
8. a.	Discuss the importance of Computer Control System in FMS and its main components.	5	CO4	K3
b.	Explain basic coding structures in group technology.	5	CO4	K2

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