GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–VII (NEW) EXAMINATION – WINTER 2020

Subject Code:2174102   **Date:28/01/2021**

Subject Name:Computer Integrated Manufacturing Systems

Time:10:30 AM TO 12:30 PM   **Total Marks: 56**

Instructions:
1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			MARKS
Q.1	(a)	Discuss the concepts of CIM.	03
	(b)	Describe the basic activities that must be carried out in a factory to convert raw material into finished product.	04
	(c)	(a) Examine what is meant by product data management? (b) Identify the main element of automated system. Explain why it is important in CAD/CAM integration?	07
Q.2	(a)	Give an important function of PPC?	03
	(b)	Demonstrate aggregate production planning?	04
	(c)	(a) Summarize briefly on CMPP. In what ways, CMPP is considered vary significantly. (b) Describe the factors should be consider while selecting the best CAPP system.	07
Q.3	(a)	List the roles of group technology in CAD/CAM integration.	03
	(b)	Define the Production Flow Analysis in detail.	04
	(c)	Describe an engineering brief about (I) DCLASS, and (II) Opitz Classification system	07
Q.4	(a)	List out the objective of using industrial robot.	03
	(b)	Describe How FMS classified based on number of machines.	04
	(c)	Express about production planning process in discrete part manufacturing.	07
Q.5	(a)	Identify any four functions of the material handling systems in a FMS.	03
	(b)	What are AGVs? How do they operate?	04
	(c)	Assess following types of AGVs along with their application (a) AGVs towing vehicles (b) AGVs pallet trucks (c) AGVs fork lift trucks (d) AGVs unit load Transport	07
Q.6	(a)	Distinguish the steps involved in production flow analysis.	03
	(b)	When the conditions are to be fulfilled in order to implement JIT concept effectively.	04
	(c)	Discuss about (I) Composite part concept (II) Key machine concept.	07
Q.7	(a)	Point out what are the basic classifications of sensors?	03
	(b)	Discuss briefly explain the need for robots in industries.	04
	(c)	(a) Explain briefly the lead through programming method in detail. (b) Point out the capabilities and limitations of lead-through programming methods .	07

Q.8   **(a)**   Compare the types of inventory.   **03**
          (b)   Define MUDA and KAIZEN with example.   **04**
          (c)   (a)   Formulate   principle   of   operation   of   teach   pendent.   **07**
                    (b) Prepare What are the limitations of teach pendent control.

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