GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (OLD) EXAMINATION – SUMMER 2019

Subject Code: 171903   **Date: 16/05/2019**

Subject Name:Computer Integrated Manufacturing

Time: 02:30 PM TO 05:00 PM   **Total Marks: 70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Compare CNC machines with conventional machines in regard to hardware used in them.	**07**
	(b)	What are part classification and coding requirements in GT ? Explain OPITZ's system of coding.	**07**
Q.2	**(a)**	Which are the formats used for manual part programming? Explain word address format. Write word address format for milling and drilling operations.	**07**
	(b)	Explain canned cycle used for CNC programming with suitable example.	**07**
		OR	
	(b)	What are the auxiliary statements in APT language? Explain with suitable Examples any four auxiliary commands.	**07**
Q.3	**(a)**	Explain in brief Economic Evaluation of investment in robotic Installation.	**07**
	(b)	Explain with neat diagram retrieval type of CAPP.	**07**
		OR	
Q.3	**(a)**	Sketch SCARA robot and explain its degree of freedom and motion.	**07**
	(b)	What is CAPP? Differentiate variant and generative CAPP.	**07**
Q.4	**(a)**	Explain Manufacturing Resource planning (MRP-II).	**07**
	(b)	Define FMS. Which are the components of FMS? Draw FMS layouts.	**07**
		OR	
Q.4	**(a)**	What are the objectives of MRP system? State various inputs to MRP system. Draw an MRP structure.	**07**
	(b)	Explain with neat sketch AS/RS system used in FMS.	**07**
Q.5	**(a)**	What are the objectives of CIM? Which major functional areas of the manufacturing enterprise considered for achieving CIM objectives? What are the benefits of CIM	**07**
	(b)	Explain the role of CMM in Computer Aided Quality Control. What are different elements of a CMM?	**07**
		OR	
Q.5	**(a)**	State various compensations used in CNC machines. Explain tool length compensation with neat sketch.	**07**
	(b)	Define Group Technology (GT). State the main two hurdles in its implementation. Enlist various benefits of GT implementation in the industry.	**07**

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