GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VIII(NEW) EXAMINATION – SUMMER 2019

Subject Code:2180208   **Date:09/05/2019**

Subject Name:Computer Integrated Manufacturing In Automobile Industry

Time:10:30 AM TO 01:00 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)**	Define FMS. What are the objectives of FMS?	**03**
	(b)	Enlist and explain relay device components.	**04**
	(c)	Explain robot sensors. Classify the different sensors used in robotics.	**07**
Q.2	**(a)**	Explain, in brief, different layouts used in FMS.	**03**
	(b)	Differentiate between MRP_I and MRP_II.	**04**
	(c)	Enlist and explain different elements of a robot.	**07**
		OR	
	(c)	Define part classification and coding system. Enlist, at least, five coding systems used in industry. Explain OPTIZ coding system.	**07**
Q.3	**(a)**	Explain the methodology of factory flow analysis.	**03**
	(b)	Define (a) Minimum Rational Work Element (b) Total Work Content (c) Cycle Time (d) Balance Delay	**04**
	(c)	Define Line Balancing. Enlist and explain the methods of manual line balancing.	**07**
		OR	
Q.3	**(a)**	Compare electric, hydraulic and pneumatic actuators used in robots.	**03**
	(b)	Explain in detail composite part.	**04**
	(c)	What is Group Technology? What are the advantages of GT in manufacturing?	**07**
Q.4	**(a)**	Explain, in brief, the concept of transfer line.	**03**
	(b)	What are subroutines? Explain in detail.	**04**
	(c)	What are is cellular manufacturing? Explain the different types of machine cell designs.	**07**
		OR	
Q.4	**(a)**	Discuss, in brief, application of robots in automobile industry.	**03**
	(b)	Explain any four canned cycles.	**04**
	(c)	Enlist the formats used for manual part programming. Write the general structure of Milling Part Program.	**07**
Q.5	**(a)**	Define manufacturing system. Explain the type of manufacturing system.	**03**
	(b)	Explain the steps of King's Algorithm.	**04**
	(c)	Describe with neat sketch AS/RS system used in FMS.	**07**
		OR	
Q.5	**(a)**	With the help of neat sketch, discuss the concept of CIM wheel.	**03**
	(b)	Define PPC. Explain, in brief, the various functions of PPC.	**04**
	(c)	What are the basic components of numerical control system Draw and discuss function of each component.	**07**

****