

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII(NEW) EXAMINATION – SUMMER 2019

Subject Code:2172506**Date:18/05/2019****Subject Name:Flexible Manufacturing System****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.

		MARKS
Q.1	(a) Principle objective of Flexible manufacturing system.	03
	(b) State the benefits and limitation of flexible manufacturing system.	04
	(c) “ Flexible manufacturing system is far more versatile than the flexible manufacturing cell ” justify this statement	07
Q.2	(a) Discuss the hierarchy of CIM technology.	03
	(b) Give the classification of manufacturing cell.	04
	(c) Differentiate flexible manufacturing system versus cellular manufacturing system.	07
OR		
	(c) What do you understand by cell? Explain celluler manufacturing with suitable example with their benefits.	07
Q.3	(a) What do you understand by group technology?	03
	(b) Difference between Vertical and Horizontal machining center.	04
	(c) “A normal industrial practice is to adopt hybrid coding combining mono- code and poly- code in groping the parts in group technology “ justify.	07
OR		
Q.3	(a) Explain automated features and capabilities of turning center.	03
	(b) How many methods are available for parts grouping together? Explain anyone them.	04
	(c) Explain pallet part loading and programming operation of machining center.	07
Q.4	(a) What is deburring? Why deburring of machined parts are required?	03
	(b) Compare and contrast vibratory deburring with cryogenic deburring.	04
	(c) Enlist six types of mechanical configuration of CMM. Explain any one of them with their merits, demerits and application.	07
OR		
Q.4	(a) Write down application of Coordinate measuring Machine.	03
	(b) Comparison between gantry type and cantilever type of CMM.	04
	(c) Explain the working principle of Electro-Chemical deburring process. Its positive features and process limitations.	07
Q.5	(a) Enlist application of industrial Robot in FMS.	03
	(b) Write shot note on FMS implementation.	04

(c) Explain automated storage and retrieval system in modern industries. **07**
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OR

- Q.5** (a) What do you understanding by AGVs? Give the application in automobile industries. **03**
- (b) Explain the control of cutting tool in flexible manufacturing system. **04**
- (c) Draw the various type of AGVs guide path. **07**

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