

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019****Subject Code: 2172506****Date: 30/11/2019****Subject Name: Flexible Manufacturing System****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.

		MARKS
Q.1	(a) Define FMS and enlist the limitations of conventional manufacturing.	03
	(b) Enlist types of flexibilities associated with FMS by suitable example of each.	04
	(c) Discuss components of FMS and their integration in the data processing system.	07
Q.2	(a) Enlist the principle objectives of FMS.	03
	(b) Give the classification of manufacturing cell.	04
	(c) Explain the need, benefits and limitation of FMS in industry.	07
	OR	
	(c) Explain unattended machining in any food processing unit.	07
Q.3	(a) State the application of turning and machining centres.	03
	(b) Explain automated features and capabilities of turning centres.	04
	(c) Define Group Technology and state the objectives and benefits derived from Group Technology.	07
	OR	
Q.3	(a) Explain the operation performed on turning centres.	03
	(b) Discuss the programming options in machining centres.	04
	(c) Discuss a case study on the implementation of the GT concept in the fabrication sector with necessary sketch.	07
Q.4	(a) What is the importance of cleaning and deburring in automated manufacturing?	03
	(b) Discuss deburring station with its operation description.	04
	(c) Compare horizontal and vertical turning centres with neat sketch.	07
	OR	
Q.4	(a) Explain wash station with its operation description.	03
	(b) State the importance of CMM to flexible cells and systems.	04
	(c) Draw the schematic sketch of CMM and explain its working principle.	07
Q.5	(a) State the advantages and disadvantages of AGVs.	03
	(b) Classify and describe tool strategies in details.	04
	(c) Define AGV and elaborate the types of AGVs.	07
	OR	
Q.5	(a) Differentiate between conventional and automated storage system.	03
	(b) Briefly explains tool management in FMS.	04
	(c) Discuss the numbers of phases required for FMS implementation.	07
