Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 715006N **Date: 01-01-2014**

Subject Name: Flexible Competitive Manufacturing System

Time: 10.30 am – 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)**	What is flexibility in Manufacturing? Explain different types of flexibilities.	**07**
	(b)	Explain the limitations and their remedies of FMS in machining center.	**07**
Q.2	**(a)**	What is Group Technology? Explain the hurdles in implementations of GT.	**07**
	(b)	Explain the concept of 'Just In Time' in Manufacturing and its limitations.	**07**
		OR	
	(b)	Explain Automated Features and Capabilities of Machining Center in FMS.	**07**
Q.3	**(a)**	Describe the features of a Flexible Inspection System.	**07**
	(b)	What are the different types of data associated with FMS?	**07**
		OR	
Q.3	**(a)**	What are the various innovations introduced in tooling for flexible manufacturing systems?	**07**
	(b)	Explain the general principles and guidelines to Design for Automated Assembly.	**07**
Q.4	**(a)**	Differentiate between Rule-Based and knowledge based scheduling in FMS.	**07**
	(b)	What is KANBAN? Explain different types of KANBAN system in Manufacturing.	**07**
		OR	
Q.4	**(a)**	What is lean? Explain the fundamental concepts to Lean the Cultural changes.	**07**
	(b)	What is simulation? Explain simulation of Plant Scale manufacturing operations.	**07**
Q.5	**(a)**	Explain the limitations and their remedies of Lean Manufacturing.	**07**
	(b)	Explain the mathematical analysis of AGV System in FMS.	**07**
		OR	
Q.5	**(a)**	Explain the advancement in Automated Storage and Retrieval System.	**07**
	(b)	What is Tool Management? Explain Tool monitoring and Fault Detection in FMS.	**07**

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