

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**
