# GUJARAT TECHNOLOGICAL UNIVERSITY
## BE - SEMESTER–VII • EXAMINATION – SUMMER 2013

**Subject Code: 171903**          **Date: 28-05-2013**

**Subject Name: Computer Integrated Manufacturing**

**Time: 02.30 pm - 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.**

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|---|---|---|---|
| **Q.1** | **(a)** | Classify CNC machine tools on the basis of <br>     (1) Programming methods <br>     (2) Types of controllers | **04** |
| | **(b)** | What is Adaptive control system? | **03** |
| | **(c)** | What are the different ways of defining circle ,using geometry statements of APT language. | **07** |
| **Q.2** | **(a)** | What are the auxiliary statements in APT language? Explain with suitable Examples any four auxiliary commands. | **07** |
| | **(b)** | (1) Explain any four canned cycles. <br> (2)What is a motion statement in APT language? Explain with suitable example the format of motion statements. | **07** |
| | | **OR** | |
| | **(b)** | Explain the programming of **CNC** Machining centre with suitable example. | **07** |
| **Q.3** | **(a)** | (1)What are the input parameters in MRP-I? <br> (2) What is the difference between MRP-I &MRP-II? | **07** |
| | **(b)** | What is computer integrated production management system? Explain with neat flow chart. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain in brief Economic Evaluation of investment in robotic Installation. | **07** |
| | **(b)** | What are the different types of drives used in robot? | **07** |
| **Q.4** | **(a)** | What is part classification and coding requirements in GT. Explain OPTIZ system of coding. | **07** |
| | **(b)** | Explain with neat sketch AS/RS system used in FMS. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | List various models of CIM. Explain any one in details. | **07** |
| | **(b)** | Explain with neat diagram retrieval of CAPP. | **07** |
| **Q.5** | **(a)** | Explain the types of flexibilities in FMS and discuss the factors on which these flexibilities depend. | **07** |
| | **(b)** | Discuss various applications of robots. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Explain in brief Programmable Logic controllers(PLCS) | **07** |
| | **(b)** | Explain in detail composite part | **07** |

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