

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII • EXAMINATION – WINTER 2013**

**Subject Code: 171903****Date: 07-12-2013****Subject Name: Computer Integrated Manufacturing****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.

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|------------|--------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Q.1</b> | (a) Classify CNC machine tools on the basis of<br>(1) Programming methods<br>(2) Types of controllers              | <b>07</b> |
|            | (b) What are the different ways of defining circle, using geometry statements of APT language.                     | <b>07</b> |
| <b>Q.2</b> | (a) What are the auxiliary statements in APT language? Explain with suitable examples any four auxiliary commands. | <b>07</b> |
|            | (b) Explain in detail composite part.                                                                              | <b>07</b> |
|            | <b>OR</b>                                                                                                          |           |
|            | (b) Explain in brief programmable logic controllers.                                                               | <b>07</b> |
| <b>Q.3</b> | (a) State various models of CIM. Explain any one in detail.                                                        | <b>07</b> |
|            | (b) Describe with neat sketch AS/RS system used in FMS.                                                            | <b>07</b> |
|            | <b>OR</b>                                                                                                          |           |
| <b>Q.3</b> | (a) What is group technology? Differentiate between product layout and group technology layout.                    | <b>07</b> |
|            | (b) Explain OPTIZ system of coding.                                                                                | <b>07</b> |
| <b>Q.4</b> | (a) Differentiate between MRP_I and MRP_II                                                                         | <b>07</b> |
|            | (b) Explain RGV manufacturing cells.                                                                               | <b>07</b> |
|            | <b>OR</b>                                                                                                          |           |
| <b>Q.4</b> | (a) Describe computer integrated production management.                                                            | <b>07</b> |
|            | (b) Explain tool supply system in FMS.                                                                             | <b>07</b> |
| <b>Q.5</b> | (a) Classify various robots. Explain in brief economic evaluation of investment in robotic installation.           | <b>07</b> |
|            | (b) Explain various sensors and actuators used in robots.                                                          | <b>07</b> |
|            | <b>OR</b>                                                                                                          |           |
| <b>Q.5</b> | (a) Explain JIT technique used in auto industries.                                                                 | <b>07</b> |
|            | (b) Explain in brief canned cycle.                                                                                 | <b>07</b> |

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