

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII • EXAMINATION – SUMMER 2014**

**Subject Code: 171903****Date: 05-06-2014****Subject Name: Computer Integrated Manufacturing****Time: 02:30 pm to 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.**

- Q.1** (a) Differentiate between NC and CNC. List their advantages and limitations. **07**  
(b) What are the objectives of CIM? Which major functional areas of the manufacturing enterprise considered for achieving CIM objectives? What are the benefits of CIM? **07**
- Q.2** (a) Explain various types of tape readers with sketch used in NC machines. **07**  
(b) Explain in brief programmable logic controllers. **07**
- OR**
- (b) Explain with neat sketch AS/RS system used in FMS. **07**
- Q.3** (a) What is group technology? Explain opitz classification and coding system with example. **07**  
(b) Explain with neat diagram retrieval type CAPP. **07**
- OR**
- Q.3** (a) What is FMS? List different flexibilities associated with FMS and explain any two in brief. **07**  
(b) What is group technology? Differentiate between product layout and group technology layout. **07**
- Q.4** (a) Explain MRP and MRP II. **07**  
(b) Explain on-line and off-line programming methods of robots. State advantages and disadvantages of each. **07**
- OR**
- Q.4** (a) Explain in brief Economic Evaluation of investment in robotic Installation. **07**  
(b) Write a short note on Automated Guided Vehicles associated with FMS. **07**
- Q.5** (a) Explain JIT technique used in auto industries. **07**  
(b) What are canned cycles? What is the difference between a canned cycle and subroutine? Discuss how a canned cycle can be useful in writing a part program. **07**
- OR**
- Q.5** (a) Explain in brief Programmable Logic controllers(PLCS) **07**  
(b) Explain various sensors and actuators used in robots. **07**

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