

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
