

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – WINTER 2013****Subject Code: 172501****Date: 26-11-2013****Subject Name: Computer Aided 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.

- Q.1** (a) Differentiate NC, CNC and DNC machines with their relative merits and demerits. **07**
(b) Discuss in brief “CNC is a management control system?” **07**
- Q.2** (a) Explain the working of any two types of punched tape readers. **07**
(b) What are the basic components of numerical control system? briefly discuss the function of each component **07**
- OR**
- (b) Explain various stages involved with NC manufacturing. How do they differ from conventional manufacturing? **07**
- Q.3** (a) Write steps involved in NC/CNC machining. **07**
(b) Explain Co-Ordinate Measuring Machine. **07**
- OR**
- Q.3** (a) What is parity checking? Explain representation of ISO and EIA numerical control codes in punched tape. **07**
(b) Discuss how sliding friction is converted into rolling friction in CNC machines. **07**
- Q.4** (a) Explain structure of part programming. **07**
(b) Define CIM. Explain the various elements of CIM. **07**
- OR**
- Q.4** (a) Define FMS? Discuss suitability of FMS and Problem faced in implementing FMS. **07**
(b) What is Rapid Prototyping? Explain Stereo Lithography. **07**
- Q.5** (a) Classify and explain robots in brief. **07**
(b) Describe various sensors used in robot technology. **07**
- OR**
- Q.5** (a) What is mechatronics? How it is integrated? Role of Mechatronics in Manufacturing. **07**
(b) Select a job related to turning operation of your choice and prepare a part program. **07**
