

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: 172501**Date: 25-11-2014****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) How CAM is better than conventional manufacturing? Explain. What are its limitations? **07**
- (b) Define NC, CNC and DNC machine. Write the merits and demerits of CNC machines. **07**
- Q.2** (a) Explain various stages involved with NC manufacturing. How do they differ from conventional manufacturing? **07**
- (b) Justify the role of CAM in present day competitive manufacturing that has emerged out in Indian industries. **07**
- OR**
- (b) What do you understand by NC coding? Explain the ISO and EIA standard codes for NC coding. **07**
- Q.3** (a) What does component drawing instruction decide? List type of formats used for NC/CNC programming. **07**
- (b) Explain the construction and working of an incremental optical encoder with the help of neat sketch. **07**
- OR**
- Q.3** (a) Explain subroutine, Do loop and Macro with suitable examples. **07**
- (b) Select a job of your choice and prepare a part program including a canned cycle. **07**
- Q.4** (a) Classify and explain robots. **07**
- (b) Differentiate between Generative process planning and Variant process planning. **07**
- OR**
- Q.4** (a) Explain how RPT is useful in modern industrial context. What are its limitations? **07**
- (b) Give advantages, limitations and application of FMS. **07**
- Q.5** (a) Explain different types of FMS layouts with neat diagram. **07**
- (b) Explain different types of automated guided vehicles. How traffic is controlled in AGV? Explain the safety features in AGV systems. **07**
- OR**
- Q.5** (a) Define computer integrated manufacturing (CIM) .Explain the different elements of CIM. **07**
- (b) What is mechatronics? How it is integrated? Role of Mechatronics in Manufacturing. **07**
