Seat No.: _____ Enrolment No._____

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 the 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 in to 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**

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