Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2722808 **Date: 27/05/2016**

Subject Name: Product Automation & CNC Technology

Time:10:30 am to 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)**	Briefly describe about the type of drives used in CNC machine tool.	**07**
	(b)	What are the types of automation? Differentiate them.	**07**
Q.2	**(a)**	Briefly describe the automatic tool changer used in CNC machining center.	**07**
	(b)	What is cutter radius compensation and how it is implemented in CNCs?	**07**
		OR	
	(b)	What are the canned cycles used on CNC lathes? Explain any two with the necessary G codes.	**07**
Q.3	**(a)**	Explain the use of Do-loops in manual part programming.	**07**
	(b)	What do you understand by the terms Preset tooling and Qualified tooling?	**07**
		OR	
Q.3	**(a)**	Explain with neat sketch the Rotary or Angular position measuring transducer.	**07**
	(b)	Classify the NC system based on the Circuit technology.	**07**
Q.4	**(a)**	Explain the rules for linear and rotary axis designation in CNC machines.	**07**
	(b)	Explain the concept of Adaptive Control? What are its advantages?	**07**
		OR	
Q.4	**(a)**	Why are the CNC machines are called soft wired? Also explain the basic elements of a CNC system.	**07**
	(b)	Write a note on Word Address Format and Tab sequential format used in part programming.	**07**
Q.5	**(a)**	What are the advantages and limitations of automation?	**07**
	(b)	Explain in detail working principle, process parameters and applications of wire cut EDM process.	**07**
		OR	
Q.5	**(a)**	What are the different ways to define line using geometric statement of APT programming?	**07**
	(b)	Write a short note on a transfer machines.	**07**

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