Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME SEMESTER II EXAMINATION – SUMMER 2017

Subject Code: 2722808 **Date:29/05/2017**

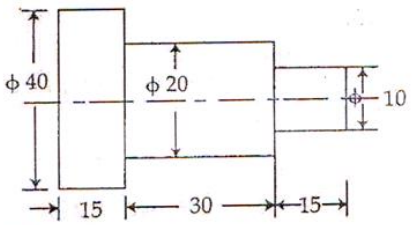
Subject Name: Product Automation and CNC technology

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)	Discuss various practical aspects of introducing CNC machines in industry.	07
	(b)	Explain various drive used in CNC machines.	07
Q.2	(a)	Explain ACC and ACO briefly.	07
	(b)	Classify with neat sketch the NC system based on motion control.	07
		OR	
	(b)	Give the difference between an Open loop and a Closed loop control system.	07
Q.3	(a)	Write a note giving examples of repetitive programming in APT.	07
	(b)	Give some examples of automation with specific reference to manufacturing of discrete components and parts.	07
		OR	
Q.3	(a)	Explain need of canned cycles in turning centers with suitable example.	07
	(b)	Explain any 7 vocabulary words used in APT language.	07
Q.4	(a)	Explain the programming of CNC Machining centre with suitable example.	07
	(b)	Write a note on Word Address Format that is generally used with CNC machining center.	07
		OR	
Q.4	(a)	Explain Part programming for machining along curved surface using example.	07
	(b)	What is the importance of using subroutines in a part program? Explain nested subroutines with an example.	07
Q.5	(a)	Explain in brief G code used for Stock removal turning cycle and finish turn cycle.	07
	(b)	Discuss how tool length is compensated in the CNC system.	07
		OR	
Q.5	(a)	Write a manual par program for machining following component on CNC lathe. Bar stock diameter is 42.	07



(All the dimensions are in mm)

	(b)	Describe a CNC wire EDM machine.	07

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