Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2180208 **Date: 30/04/2018**

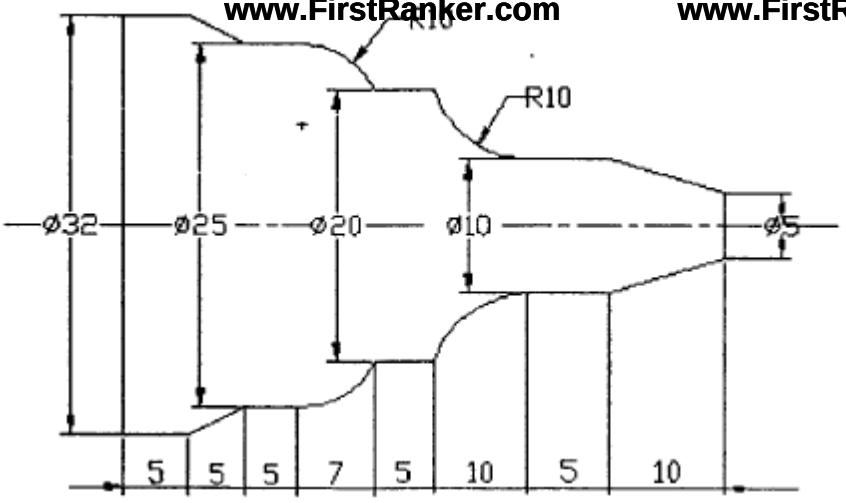
Subject Name: Computer Integrated Manufacturing in Automobile Industry(Department Elective II)

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.**

			MARKS
Q.1	**(a)**	State Objectives and scope of Computer Integrated Manufacturing.	**03**
	(b)	Classify the CNC machine on the basis of : i) Programming method ii) Type of Feedback System	**04**
	(c)	What are the basic components of numeric control system? Draw and discuss the function of each components.	**07**
Q.2	**(a)**	What is tool compensation? Explain tool length and cutter radius compensation.	**03**
	(b)	Explain OPTIZ classification and coding system.	**04**
	(c)	What is PLC? Explain major components of PLC. List Application of PLC.	**07**
		OR	
	(c)	What is Group Technology? Explain the Concept of part family.	**07**
Q.3	**(a)**	Define Robot. Enlist different elements of robot.	**03**
	(b)	Give difference between MRP-I and MRP-II.	**04**
	(c)	Explain Tool Supply system in FMS.	**07**
		OR	
Q.3	**(a)**	Discuss various applications of robots.	**03**
	(b)	Explain JIT technique in brief.	**04**
	(c)	What are the different types of grippers used in robot? Explain any two in detail.	**07**
Q.4	**(a)**	Distinguish between variant and generative type CAPP.	**03**
	(b)	List different flexibilities associated with FMS. Explain any two in brief.	**04**
	(c)	Discuss concept of Computer Vision & Machine Intelligence.	**07**
		OR	
Q.4	**(a)**	Write a general syntax of G81 canned cycle.	**03**
	(b)	Describe Automated Assembly Line.	**04**
	(c)	Discuss Automated Guided Vehicles and cellular manufacturing.	**07**
Q.5	**(a)**	What is quantitative analysis of assemble line?	**03**
	(b)	Name the relative merits and demerits of different types of robot configuration.	**04**
	(c)	Write a manual part Programme using appropriate G & M codes to turn a given below profile.	**07**



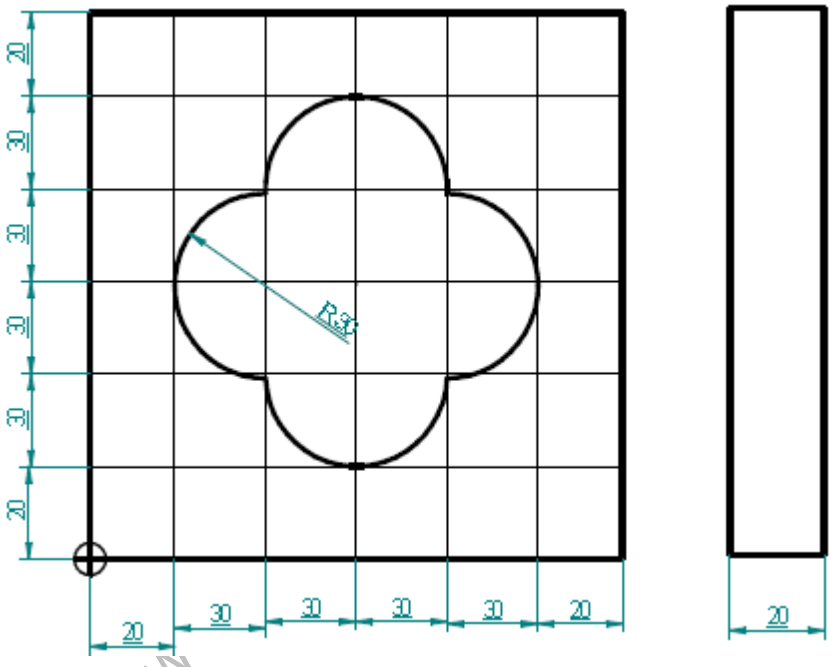
All Dimensions are in mm. Assume suitable data if necessary.

OR

Q.5 **(a)** State main problems associated with manual process planning. **03**

(b) Describe concept of transfer line. **04**

(c) Prepare a Part Programme with appropriate G/M codes to mill the component as per given below drawing. **07**



All Dimensions are in mm. Assume suitable data if necessary.

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