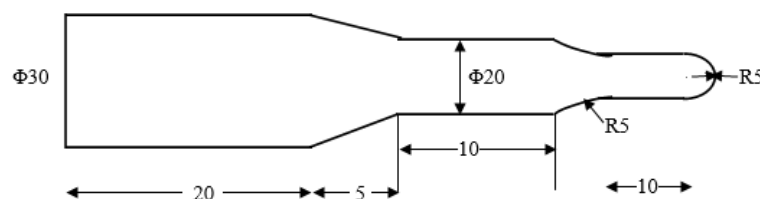# GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2180208   **Date: 04/05/2017**

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.**

Q.1	**(a)**	What is objective of CIM? Write down application of CIM in Automobile Engineering	**07**
	(b)	Classify NC Machines Tool systems.	**07**
Q.2	**(a)**	What is PLC? Explain major components of PLC. List application of PLC	**07**
	(b)	Explain with example (i) Cutter Radius Compensation (ii) Subroutines	**07**
		OR	
	(b)	Identify with neat sketch axis designation for CNC 3 Axes Center lathe and 2 Axis Vertical Lathe.	**07**
Q.3	**(a)**	Write a part program using appropriate G and M code to turn a component as shown in fig (1) below. Assume suitable data for speed, feed and depth of cut.	**07**
	(b)	Define part coding system. List out the coding system. Explain OPTIZ coding system.	**07**
		OR	
Q.3	**(a)**	What is PFA? Discuss the various steps in PFA.	**07**
	(b)	Explain with neat diagram retrieval type CAPP.	**07**
Q.4	**(a)**	List the Robot configuration and explain any two with neat sketch.	**07**
	(b)	What is JIT? How JIT improves the manufacturing system?	**07**
		OR	
Q.4	**(a)**	Compare electric, hydraulic and pneumatic actuators on the basis of (i) Payload (ii) Accuracy and Precision (iii) Ability to withstand shock(iv) Braking required.	**07**
	(b)	Explain the various types of FMS.	**07**
Q.5	**(a)**	Explain line balancing Algorithm.	**07**
	(b)	Explain the procedure for the design of mechanical grippers.	**07**
		OR	
Q.5	**(a)**	Define: Assembly line and Automated Assembly line.	**07**
	(b)	What are the input parameters to MRP I? Explain in brief.	**07**

Figure: 1

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