GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– VIII (New) EXAMINATION – WINTER 2019

Subject Code: 2180208   **Date: 21/11/2019**

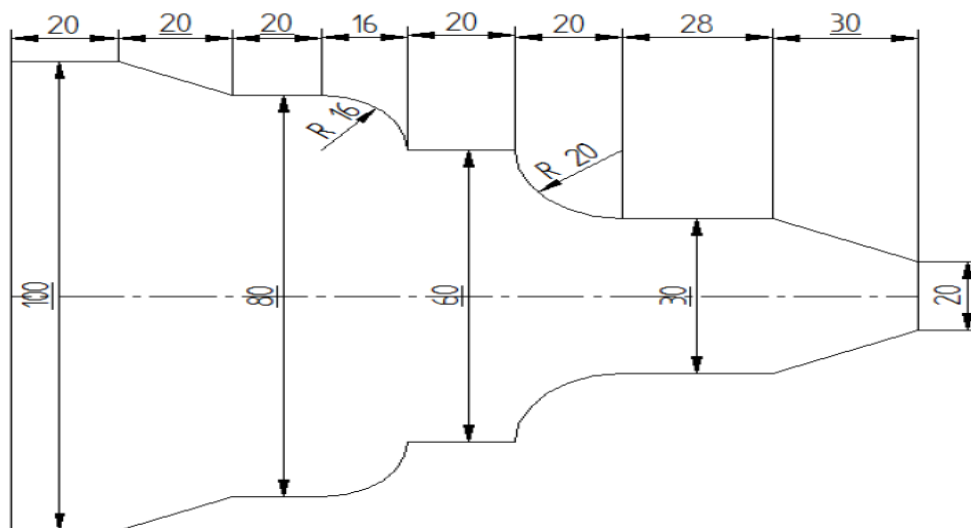**Subject Name: Computer Integrated Manufacturing In Automobile Industry**

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.

			MARKS
Q.1	**(a)**	Classify CNC machine tools on the basis of : 1. Programming Methods 2. Types of Controllers	**03**
	(b)	Draw CIM Wheel.	**04**
	(c)	Write a manual part program to turn a component for given below profile with G & M codes. Assume Suitable data for Speed, Feed & depth of cut.	**07**

All dimensions are in mm.

Q.2	**(a)**	Give Difference between NC and CNC.	**03**
	(b)	Why part classification and coding is required in GT?	**04**
	(c)	Draw Block diagram of the PLC Architecture and discuss each unit of the PCL.	**07**

OR

	(c)	Describe Structure of Robot. Explain various Robot configurations with line diagram.	**07**
Q.3	**(a)**	Discuss various elements of Coordinate Measuring Machine.	**03**
	(b)	Draw various types of layouts of FMS.	**04**
	(c)	Explain OPTIZ classification and coding System.	**07**

OR

Q.3	**(a)**	List Application of PLC.	**03**
	(b)	Discuss concept of Computer vision and Machine Intelligence.	**04**
	(c)	What are the different types of actuators(drives) used in robot? Explain any two in detail.	**07**

Q.4	**(a)**	List various applications of robots.	**03**

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(b) Discuss MRP-I and MRP-II in brief. **04**

(c) What is an AGV? What are the different types of AGVS? What are the benefits of using AGVs? **07**

<div align="center">OR</div>

Q.4 (a) Enlist the benefits of flexible manufacturing system. **03**

(b) Discuss Tool supply and Monitoring system. **04**

(c) What are the function of production planning and control? **07**

Q.5 (a) Discuss concept of transfer line. **03**

(b) What is JIT? How JIT improves Manufacturing system? **04**

(c) Explain design and concept of assembly line in detail. **07**

<div align="center">OR</div>

Q.5 (a) What is tool compensation? Explain tool length and cutter radius compensation. **03**

(b) What is quantitative analysis of assembly line? **04**

(c) Give comparison between Variant CAPP and Generative CAPP system. State benefits of CAPP. **07**

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