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GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2181922 **Date: 02/05/2018**

Subject Name: Automation(Department Elective III)

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)**	Why automation is necessary in Industry	**03**
	(b)	Describe USA principle	**04**
	(c)	What is Automation and Explain the types of Automation.	**07**
Q.2	**(a)**	Explain the level of automation.	**03**
	(b)	Differentiate the pneumatics system and hydraulic system	**04**
	(c)	Explain the different component used in Pneumatic System with neat diagram.	**07**
		OR	
	(c)	Explain the different component used in Hydraulic System with neat diagram.	**07**
Q.3	**(a)**	Define PLC with example	**03**
	(b)	Describe the classification the hydraulic actuator and explain any one.	**04**
	(c)	What is the role of PLC in automation and also explain the application of PLC in automation with suitable example.	**07**
		OR	
Q.3	**(a)**	Describe the role of sensors in Robotics	**03**
	(b)	Describe the application of microcontroller for automations	**04**
	(c)	Explain the different types of sensors in robotics and also describe the working of any five sensors	**07**
Q.4	**(a)**	What are the selection criteria of Actuator for Robot	**03**
	(b)	Explain robot control system	**04**
	(c)	Explain different type of actuator in robotics with neat sketch	**07**
		OR	
Q.4	**(a)**	Explain CMM	**03**
	(b)	Describe automated material handling system.	**04**
	(c)	Explain the different component in Microcontroller.	**07**
Q.5	**(a)**	Define Break-even point with neat diagram.	**03**
	(b)	Explain feasibility of automation in Indian market.	**04**
	(c)	Describe the parameters and procedure set the automation in the machine shop design.	**07**
		OR	
Q.5	**(a)**	Differentiate transducer and sensor.	**03**
	(b)	Describe the AGV and explain any one in details.	**04**
	(c)	Explain the application of automated storage and retrieval system in automation with sketch.	**07**

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