GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2181922   **Date: 06/05/2017**

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)**	What is Automation? Explain different types of Automation.	**07**
	(b)	List out the basic components of a pneumatic circuit. Explain any three of them.	**07**
Q.2	**(a)**	What is an automation migration strategy? Explain Strategies for automation.	**07**
	(b)	Write a note on the following components of a hydraulic circuit:	**07**

        (i)   3-way valve hydraulic amplifier,
        (ii) Hydraulic accumulator and unloading valve,
        (iii)   Relief valve and direction control valve.

OR

	(b)	How pneumatics is useful for automation? Explain it with example.	**07**
Q.3	**(a)**	What are the limitations of pneumatic system and Hydraulic system?	**07**
	(b)	What is the role of PLC in Automation? Explain the applications of PLC in automation with a suitable example.	**07**

OR

Q.3	**(a)**	Describe the working of microcontroller with example.	**07**
	(b)	Describe the application of robots with example.	**07**
Q.4	**(a)**	List out the different types of sensors in robotics. Describe the working of any five sensors.	**07**
	(b)	Explain the different types of actuators in robotics.	**07**

OR

Q.4	**(a)**	What are the criteria for selection of an industrial robot? Explain in brief.	**07**
	(b)	Explain the scope of automation in Indian industries	**07**
Q.5	**(a)**	Explain the application of automated storage and retrieval system in automation with sketch.	**07**
	(b)	Describe the parameters and procedure set the automation in the Press working shop	**07**

OR

Q.5	**(a)**	List the different types of AGV. Explain any three with neat sketch.	**07**
	(b)	Describe the parameters and procedure set the automation in the Casting shop	**07**

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