eat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2181922	Date: 06/05/2017
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Subject Name: Automation(Department Elective III)

00 PM Total Marks: 70
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Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

Q.1	(a) (b)	What is Automation? Explain different types of Automation. List out the basic components of a pneumatic circuit. Explain any three of them.	07 07	
Q.2	(a) (b)	What is an automation migration strategy? Explain Strategies for automation. Write a note on the following components of a hydraulic circuit: (i) 3-way valve hydraulic amplifier, (ii) Hydraulic accumulator and unloading valve, (iii) Relief valve and direction control valve. OR	07 07	
	(b)	How pneumatics is useful for automation? Explain it with example.	07	
Q.3	(a) (b)	What are the limitations of pneumatic system and Hydraulic system? What is the role of PLC in Automation? Explain the applications of PLC in automation with a suitable example.	07 07	
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Q.3	(a) (b)	Describe the working of microcontroller with example. Describe the application of robots with example.	07 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. OR	07	
Q.4	(a) (b)	What are the criteria for selection of an industrial robot? Explain in brief. Explain the scope of automation in Indian industries	07 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) (b)	List the different types of AGV. Explain any three with neat sketch. Describe the parameters and procedure set the automation in the Casting shop	07 07	
