GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI (NEW) EXAMINATION – SUMMER 2022

Subject Code:3161715   **Date:08/06/2022**
Subject Name:Industrial Data Communication and Distributed control system
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.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	(a)	Explain Direct Digital Control	03
	(b)	Explain MAP/TOP protocol	04
	(c)	Explain different types of network topologies in detail.	07
Q.2	(a)	Explain Centralized control system	03
	(b)	Explain velocity algorithm	04
	(c)	Explain different types of displays available in DCS	07
		OR	
	(c)	Explain MODBUS in detail	07
Q.3	(a)	Explain feed forward process control algorithm	03
	(b)	Explain communication hierarchy in industrial communication systems	04
	(c)	Explain Rackbus in detail.	07
		OR	
Q.3	(a)	Explain the function of supervisory control in DCS	03
	(b)	Explain Hierarchical control system	04
	(c)	Explain Profibus in detail.	07
Q.4	(a)	Explain Man Machine Interface	03
	(b)	Explain the advantages and disadvantages of DCS	04
	(c)	Explain FIPBUS in detail	07
		OR	
Q.4	(a)	Explain data highway designs.	03
	(b)	Explain Reductant and Fault tolerance system	04
	(c)	Explain the display access method in DCS	07
Q.5	(a)	Explain the function of gateway	03
	(b)	Explain PLC integrated with DCS	04
	(c)	Explain Network linkages in detail.	07
		OR	
Q.5	(a)	Explain position algorithm	03
	(b)	Explain Dead band control.	04
	(c)	Explain Foxboro I/A series DCS system	07

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