PRN:		Course Code :	ECE310.3R1

Third Year **B. Tech** End Semester Examination Summer 2023

PLC & Industrial Automation

Day and Date: Tuesday, 20/06/2023 Max Marks: **100**

Time : 10.30 am to 1.30 pm Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CLO
Q.1		**Attempt the following**			
	a)	What is scan cycle? Explain with example.	08	2	2
	b)	Describe programmable controller block diagram in detail.	08	2	1
		OR			
	b)	Explain Boolean Logic and Relay Logic for AND, OR, AND-OR and OR-AND.	08	2	1
Q.2		**Attempt the following**			
	a)	Develop the program commands for this logic given in fig. no. 1	08	3	2

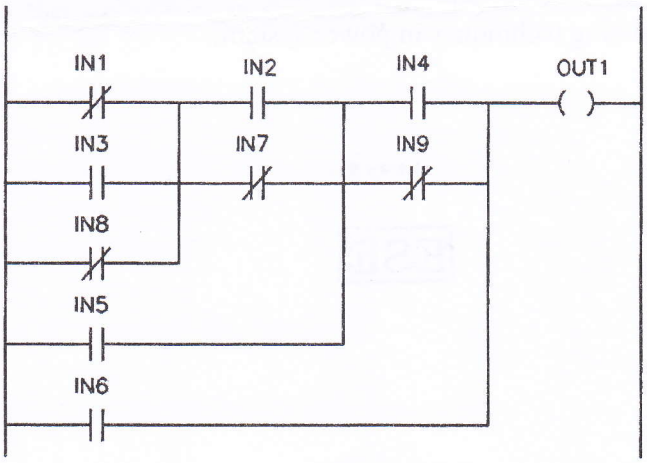


Fig. no. 1

	b)	Write the mnemonic code for the T Flip Flop.	08	3	2
		OR			
	b)	Write the mnemonic code for the J-K Flip Flop.	08	3	2
Q.3		**Attempt any two from the following**			
	a)	Explain in detail central computer system architecture.	08	3	3

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	b)	Draw and explain hybrid system architecture.	08	3	3
	c)	State and explain four types of SCADA systems.	08	3	3
Q.4		**Attempt any two from the following**			
	a)	Write a note on task of computer control system	08	3	4
	b)	Describe role of computers in measurement and process control.	08	3	5
	c)	Describe in detail input/output interface and BUS interface.	08	3	6
Q.5		**Attempt any Two of the following**			
	a)	Summarize implementation of SCADA system in crane control.	09	5	4
	b)	Summarize implementation of SCADA system in Petroleum refinery.	09	5	5
	c)	Summarize implementation of SCADA system in water purification system.	09	5	6
Q.6		**Attempt any Two of the following**			
	a)	Explain future trends in power system planning.	09	2	5
	b)	Write a Note on pick and place robot.	09	2	4
	c)	Explain present planning techniques in power system.	09	2	6

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