Library

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025

Time hrs.

Max. Marks: 100

2. M: Marks, L: Bloom's level, C: Course outcomes.

Module - 1	ate	*****	/S/			
and mention its advantages and limitations. b. Describe the characteristics and tasks performed by PLCs. 10 L2 CO1 With a neat flow chart explain the processor or executive software in PLCs. b. With a neat flow chart explain the processor or executive software in PLCs. 10 L2 CO1 Module - 2		الكامار ا	Module – 1	M	L	С
Describe the characteristics and tasks performed by PLCs.	Q1	wa.	List the types of PLCs and highlight the features of various class of PLCs	10	L2	CO1
Q.2 a. Sketch and explain the architecture of PLC and brief about the functional units. b. With a neat flow chart explain the processor or executive software in PLCs. 10 L2 CO1 Wodule - 2	TOALU	The state of the s	and mention its advantages and limitations.			
Q.2 a. Sketch and explain the architecture of PLC and brief about the functional units. 10 L2 CO1		b.	Describe the characteristics and tasks performed by PLCs.	10	L2	CO1
b. With a neat flow chart explain the processor or executive software in PLCs. Module - 2						
b. With a neat flow chart explain the processor or executive software in PLCs. Module - 2	Q.2	a.	*	10	L2	CO1
Q.3 a. Construct the Ladder diagram for the following: i) X NOR Gate ii) NAND Gate b. State and prove the Demargar's theorems with truth table and ladder diagram. OR Q.4 a. Briefly describe the rules to build ladder diagram with an example. b. Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the logic input/output terminals. Module – 3 Q.5 a. Explain the classification and characteristics of timer in PLCs. b. Explain the working of DOWN counter with program example. OR Q.6 a. Construct the ladder diagram for ON delay timer to ON/OFF lamp and explain its working with programs example. b. Illustrate the following advanced instruction in PLC with example. i) L2 CO4 i) NEQ ii) LIM iii) MEQ ii) LIM iii) MEQ OR Q.8 a. Explain the practical I/O system and its mapping in PLC. b. Outline the power supply configuration with sinking and sourcing modules. OR Q.8 a. Summarize the working of parallel I/O system with a neat diagram. b. With a neat block diagram, explain the discrete DC and AC input modules. OR Q.9 a. Draw and explain the working of typical SCADA system Architecture. OR Q.10 a. With the help of a block diagram, Explain monolithic architecture of SCADA system. b. Sketch and explain the networked architecture in SCADA and mention its 10 L2 CO5 SCADA system.						
Q.3 a. Construct the Ladder diagram for the following: 10 L3 CO2 i) X NOR Gate ii) NAND Gate b. State and prove the Demargar's theorems with truth table and ladder 10 L2 CO2 diagram. OR		b.		10	L2	CO1
i) X NOR Gate ii) NAND Gate b. State and prove the Demargar's theorems with truth table and ladder 10 L2 CO2 diagram. OR Q.4 a. Briefly describe the rules to build ladder diagram with an example. b. Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the 10 L3 CO2 input/output terminals. Module – 3 Q.5 a. Explain the classification and characteristics of timer in PLCs. b. Explain the working of DOWN counter with program example. OR Q.6 a. Construct the ladder diagram for ON delay timer to ON/OFF lamp and explain its working with programs example. b. Illustrate the following advanced instruction in PLC with example. i) NEQ ii) NEQ ii) LIM iii) MEQ Module – 4 Q.7 a. Explain the practical I/O system and its mapping in PLC. b. Outline the power supply configuration with sinking and sourcing modules. OR Q.8 a. Summarize the working of parallel I/O system with a neat diagram. b. With a neat block diagram, explain the discrete DC and AC input modules. Q.9 a. Draw and explain the working of typical SCADA system Architecture. OR Q.9 a. Draw and explain the working of SCADA system and sketch the SCADA system Links OR Q.10 a. With the help of a block diagram, Explain monolithic architecture of SCADA system. b. Sketch and explain the networked architecture in SCADA and mention its 10 L2 CO5 SCADA system.				T		
b. State and prove the Demargar's theorems with truth table and ladder diagram. OR Q.4 a. Briefly describe the rules to build ladder diagram with an example. b. Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input/output terminals. Module – 3 Q.5 a. Explain the classification and characteristics of timer in PLCs. b. Explain the working of DOWN counter with program example. OR Q.6 a. Construct the ladder diagram for ON delay timer to ON/OFF lamp and explain its working with programs example. b. Illustrate the following advanced instruction in PLC with example. i) NEQ ii) LIM iii)MEQ b. Outline the power supply configuration with sinking and sourcing modules. OR Q.8 a. Summarize the working of parallel I/O system with a neat diagram. OR Q.9 a. Draw and explain the working of typical SCADA system Architecture. OR Q.10 a. With the help of a block diagram, Explain monolithic architecture of SCADA system. b. Sketch and explain the networked architecture in SCADA and mention its 10 L2 CO5 SCADA System.	Q.3	a.		10	L3	CO ₂
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OR Q.4 a. Briefly describe the rules to build ladder diagram with an example. b. Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the industry of the properties of SCADA system. Module – 3 Q.5 a. Explain the classification and characteristics of timer in PLCs. b. Explain the working of DOWN counter with program example. OR Q.6 a. Construct the ladder diagram for ON delay timer to ON/OFF lamp and explain its working with programs example. b. Illustrate the following advanced instruction in PLC with example. i) NEQ ii) LIM iii) MEQ A. Explain the practical I/O system and its mapping in PLC. D. Outline the power supply configuration with sinking and sourcing modules. OR Q.8 a. Summarize the working of parallel I/O system with a neat diagram. D. Diagram and explain the working of typical SCADA system Architecture. OR Q.10 a. With the help of a block diagram, Explain monolithic architecture of SCADA system. D. Sketch and explain the networked architecture in SCADA and mention its 10 L2 CO5 SCADA system.		b.	·	10	L2	CO ₂
Q.4 a. Briefly describe the rules to build ladder diagram with an example. 10 L2 CO2 b. Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input/output terminals. 10 L3 CO2 Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input/output terminals. 10 L3 CO2 Q.5 a. Explain the classification and characteristics of timer in PLCs. 10 L3 CO3 Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input 10 L3 CO3 Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input 10 L2 CO3 Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input 10 L2 CO3 Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input 10 L2 CO3 Develop a 4 x 1 Multiplexer using PLC ladder logic and mark the input 10 L3 CO3 Develop a 2 Explain the classification and characteristics of timer in PLCs. 10 L3 CO4 Explain the working with program example. 10 L2 CO4 Develop a 2 Explain the practical logic system and its mapping in PLC. 10 L2 CO3 Develop a 3 Draw and explain the working of parallel logic system with a neat diagram. 10 L2 CO4 Develop a 4 Draw and explain the working of typical SCADA system Architecture. 10 L2 CO5 Develop a 4 Draw and explain the working of typical SCADA system Architecture. 10 L2 CO5 Develop a 4 Draw and explain the working of typical SCADA system Architecture 10 L2 CO5 Develop a 5 Draw and explain the working of typical SCADA system Architecture 10 L2 CO5 Develop a 5 Draw and explain the networked architecture in SCADA and mention its 10 L2 CO5 SCADA system. Develop a 4 Draw and explain the networked architecture in SCADA and mention its 10 L2 CO5 Develop a 4 Draw and explain the networked architecture in SCADA and mention its 10 L2 CO5 Develop a 4 Draw and explain the networked architecture in SCADA and men						
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