

SWARNANDHRA

COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous)

Accredited by NBA, AICTE, NEW DELHI • Accredited by NAAC with "A" Grade – 3.32/4.00 CGPA
Recognized by UGC Under Sections 2(f) & 12 (B) of UGC Act 1956
Approved by AICTE, New Delhi, Permanent Affiliated to JNTU K, Kakinada Seetharampuram, NARSAPUR-534 280, W.G-Dist., Andhra Pradesh

Department of Electrical and Electronics Engineering **TEACHING PLAN**

		and the second s		GILIT			
Cour		Semester	Branches	Contact Periods/ Week		Acad emic Year	Date of Commencemen of Semester
20EE70	OO2 INTRODUCTI ON TO PROGRAMM ABLE LOGIC CONTROLLE R	B.Tech /VII sem	CSE	6		2025 - 2026	9/06/2025
Course	Outcomes: After s					able to	o:
1	Illustrate I/O modu	ales of PLC sys	stems and lac	lder diagrams			
2	Demonstrate various types registers and programming instructions						
3	Examine various types of PLC functions and its applications						
4	Assess different da	ata handling fur	nctions and i	ts application:	5.		
5	Describe the analo						
Unit	Outcome/ Bloom's Level Topics No.		Topics/ Activity		Text Book/ Reference	Conta ct Hour	Method/ LMS
I		Illustrate I/O	modules of	PLC system	s and ladder	diagra	ms
1		1.1	I/O mod interfacing	dules and	T1,R1	1	Chalk & Talk
	CO1;Illustrate I/O modules of PLC systems and ladder diagrams	1.2	CPU proce	ssor	T1,R1	1	Chalk & Talk
		1.3	programmi Equipment		T1,R1	1	Chalk & Talk
		1.4	programmi	ng formats	T1,R1	1	Chalk & Talk
		1.5	construction of PLC ladder diagrams		T1,R1	1	Chalk & Talk
		1.6	Devices c	onnected to iles. Digital	T1,R1	1	Chalk & Talk
		1.7	programmi	ng in the gebra system	Ţ1,R1	2	PPT
		1.8	conversion Ladder Dia process con	examples grams for	T1,R1	1	PPT
		1.9		iagrams &	T1,R1	1	PPT
		1.10	ladder construction flowchart process sys	diagram n and for spray	T1,R1	2	PPT
	tent beyond syllabu	s (if need)	process cys	70-000 TCO			Page 1



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Reetharampuram, NABSABUD, 53.4.280, M.C. Diet, Andhra Prades Seetharampuram, NARSAPUR-534 280, W.G-Dist., Andhra Pradesh

		To	tal	R.MBET	12	
		D .	te various types registers a	nd program	ming in	structions
		Demonstra	te various types registers a	nd program	Illing III	Chalk & Talk
П	CO2: Demonstrate various types registers and programming instructions	2.1	PLC Programming	T1,R2	1	
		2.2	Input instructions outputs	T1,R2	1	Chalk & Talk
		2.3	operational procedures	T1,R2	1	Chalk & Talk
		2.4	programming examples using contacts and coils.	T1,R2	1	Chalk & Talk
		2.4	Drill press operation	T1,R2	1	Chalk & Talk
		2.5	PLC Registers T1,R2		1	Chalk & Talk
		2.6	Characteristics of Registers	T1,R2	1	Chalk & Talk
		2.7	module addressing	T1,R2	1	Chalk & Talk
		2.8	holding registers	T1,R2	1	Chalk & Talk
		2.9	Input Registers	T1,R2	1	Chalk & Talk
		2.10	Output Registers. T1,R2		1	Chalk & Talk
Co	ntent beyond syllabi	s (if need)				
00	meent of one of meet	is (ii liecu)				
		is (if fiecu)		Total	10	
-			rious types of PLC function			ns
			Timer functions & Industrial applications			
		Examine va	Timer functions &	ons and its a	pplicatio	Chalk & Tal
	CO3 : Examine various types of	Examine va	Timer functions & Industrial applications counters counter function	T3,R1	pplicatio	Chalk & Tal
III	CO3 : Examine various types of PLC functions and its	3.1 3.2	Timer functions & Industrial applications counters	T3,R1	pplication 2	ns Chalk & Tal Chalk & Tal Chalk & Tal PPT
	CO3 : Examine various types of PLC functions	3.1 3.2 3.3	Timer functions & Industrial applications counters counter function industrial applications	T3,R1 T3,R1 T3,R1	2 2 2	Chalk & Tal Chalk & Tal Chalk & Tal
	CO3 : Examine various types of PLC functions and its	3.1 3.2 3.3 3.4	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1	2 2 2 2	Chalk & Tal Chalk & Tal Chalk & Tal PPT
	CO3 : Examine various types of PLC functions and its	3.1 3.2 3.3 3.4 3.5 3.6	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison functions number conversion functions	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1	2 2 2 2 2 2 1	Chalk & Tal Chalk & Tal Chalk & Tal PPT Chalk & Tal Chalk & Tal
	CO3 : Examine various types of PLC functions and its	3.1 3.2 3.3 3.4 3.5 3.6	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison functions number conversion functions	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 Total ens and its ap	2 2 2 2 2 2 1	Chalk & Tal Chalk & Tal Chalk & Tal PPT Chalk & Tal Chalk & Tal
	CO3 : Examine various types of PLC functions and its applications	3.1 3.2 3.3 3.4 3.5 3.6 Assess different	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison functions number conversion functions	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 Total ms and its ap T2,R1,R2	2 2 2 2 1 11 pplicatio	Chalk & Tal Chalk & Tal Chalk & Tal PPT Chalk & Tal Chalk & Tal Chalk & Tal
	CO3 : Examine various types of PLC functions and its applications CO4 : Assess	3.1 3.2 3.3 3.4 3.5 3.6 Assess different 4.1 4.2	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison functions number conversion functions rent data handling function SKIP Master control Relay	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T2,R1,R2 T2,R1,R2 T2,R1,R2	2 2 2 2 1 11 pplicatio	Chalk & Tal Chalk & Tal Chalk & Tal PPT Chalk & Tal
Ш	CO3 : Examine various types of PLC functions and its applications CO4 : Assess different data	3.1 3.2 3.3 3.4 3.5 3.6 Assess different 4.1 4.2 4.3	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison functions number conversion functions rent data handling function SKIP Master control Relay Jump - Move	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T2,R1,R2 T2,R1,R2 T2,R1,R2 T2,R1,R2	2 2 2 2 1 1 1 pplication 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Chalk & Tal Chalk & Tal Chalk & Tal PPT Chalk & Tal Chalk & Tal Chalk & Tal Chalk & Tal PS. Chalk & Tall PPT
	CO3 : Examine various types of PLC functions and its applications CO4 : Assess different data handling	3.1 3.2 3.3 3.4 3.5 3.6 Assess different 4.1 4.2 4.3 4.4	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison functions number conversion functions rent data handling function SKIP Master control Relay Jump - Move FIFO - FAL	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T2,R1,R2 T2,R1,R2 T2,R1,R2 T2,R1,R2 T2,R1,R2	2 2 2 2 1 11 oplicatio 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Chalk & Tal Chalk & Tal Chalk & Tal PPT Chalk & Tal Chalk & Tal Chalk & Tal Chalk & Tal PPT PPT
Ш	CO3 : Examine various types of PLC functions and its applications CO4 : Assess different data	3.1 3.2 3.3 3.4 3.5 3.6 Assess different 4.1 4.2 4.3	Timer functions & Industrial applications counters counter function industrial applications Arithmetic functions Number comparison functions number conversion functions rent data handling function SKIP Master control Relay Jump - Move	T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T3,R1 T2,R1,R2 T2,R1,R2 T2,R1,R2 T2,R1,R2	2 2 2 2 1 1 1 pplication 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Chalk & Tal Chalk & Tal Chalk & Tal PPT Chalk & Tal Chalk & Tal Chalk & Tal Chalk & Tal PS. Chalk & Tall PPT



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	3	eeulalainpu				
			a bit shift register			
		4.8	sequence functions and applications	T2,R1,R2	2	Chalk & Talk
		4.9	controlling of two-axis & three axis Robots with PLC	T2,R1,R2	2	Chalk & Talk
		4.10	Matrix functions	T2,R1,R2	1	Chalk & Talk
Contan	nt beyond syllabus (i					
Conten	it beyond by man a			Total	12	
		Describe th	ne analog operations and P	1D modules		
		5.1	Analog modules & systems	T1,T2,R1	1	Chalk & Talk
V	CO5: Describe the analog operations and PID modules	5.2	Analog signal processing	T1,T2,R1	1	PPT
		5.3	Multi bit Data Processing	T1,T2,R1	1	Chalk & Talk
		5.4	Analog output Application	T1,T2,R1	1	Chalk & Talk
		5.5	Examples - PID	T1,T2,R1	1	Chalk & Talk
		5.7	principles position indicator with PID control	T1,T2,R1	1	Stud. Seminars
			PID Control PID Modules	T1,T2,R1	1	Chalk & Talk
		5.8	PID wodules PID tuning	T1,T2,R1	1	Smart Board
		5.9	PID functions.	T1,T2,R1	1	Chalk & Talk
	. I amend gyllobus (i					
Conten	nt beyond syllabus (i	i neca)		Total	10	
			Cumulative Propo	sed Periods	61	
Text B	looks:					- Carrier III
S. No.	Author, Book Titl	e, Edition, Pu	blisher, Year of Publication	1 Tolon	W Wal	h & Ronald A
1	Programmable Lo	gic Controlle	rs- Principles and Application	ons by John	W. WEL	oo & Rohard 11
	Reiss - Fifth Editi	on – PHI.	- ' Mathadan	d Application	s IR H	ackworth&nF.D
2	Programmable Lo	gic Controller	rs- Programming Method an	id Application	15 010111	
	Hackworth Jr. –Pe	earson - 2004				
	nce Books:	. D. 1'' D.	blisher Vear of Publication	1		
S. No	Authors, Book Tit	le, Edition, Pt	ublisher, Year of Publication	. Dunning -	3rd edi	tion - Cengage
1	Authors, Book Title, Edition, Publisher, Year of Fublication Introduction to Programmable Logic Controllers- Gary A. Dunning - 3rd edition - Cengage Learning - 2005. 2 Programmable Logic Controllers - W.Bolton - 5th Edition - Elsevier publisher - 2009.					
2	Programmable Lo	gic Controller	s-W.Bolton - 5th Edition -	Elsevier publ	lisher - 2	2009.
			Name	THE RESERVE TO SERVE THE PARTY OF THE PARTY		ith Date
i.	Course Coordinator		Mr.B Bhargav santosh	B. Bleag		
ii.	Programme Coord	linator	Dr.A Satyanarayana	A. J. 4.		

Principal Page 3 of 3

