

## Code No: C3705, C7507 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD M.Tech I - Semester Examinations, March/April-2011 PROGRAMMABLE LOGIC CONTROLLERS AND THEIR APPLICATIONS (COMMON TO CONTROL ENGINEERING, CONTROL SYSTEMS) Time: 3hours Max. Marks: 60

## Answer any five questions All questions carry equal marks

1.a) b)	Describe the four major parts of a PLC system. Explain the difference between legal (proper) and illegal (improper) PLC programming layouts.	ladder [6+6]
2.	Discuss in detail the coil (output) function of the PLC.	[12]
3.	List and describe the major steps in creating a PLC program for an industri situation.	rial [12]
4.	List the five major types of registers. Use a block diagram to show where type fits into the PLC scheme of operation.	each [12]
5.	Design construct and test PLC circuits for the following process: A fan, F, is to be turned on when count L goes from 7 down to 0 and when count M goes up to 14 or count N has not gone all the way from 14 down One switch or stop button resets the entire process.	
6.a) b)	Explain the operation of the SKIP function. What is the purpose of jump instruction? What are the advantages of jump instruction?	) [6+6]
7.a) b)	Describe the BIT PICK CONTACT function and its use. Develop a "coil and contact" (input/output) control system to operate a barobot.	sic [6+6]
8.	The linear input of 0 to 80 volts is to be displayed on a 9999 – maximum - BCD output. Trace 32 volts through the system.	- count [12]

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