

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.	n either to 0. [12]
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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