



Performance Based Objectives – PLC 5

Sub-Topic	PBO No.	Performance Based Objective
PLC Level 1	PLC-1	Match the features of the following hardware to a given list. (Written exercise) <ul style="list-style-type: none"> - PLC-5 Processor module - Input module - Output module - Chassis - Power supply - Remote I/O Adapter
	PLC-16	Change the processor's mode of operation.
	PLC-2	Interpret the PLC-5 Processor module diagnostic indicators, identifying the corrective action to be taken if a fault is indicated. (Written exercise using PLC-5 Reference Guide)
	PLC-3	Using RSLinx software, setup the proper driver necessary to allow the PC to communicate the PLC-5 Processor module.
	PLC-4	Using the "Who is active" communications tool, select a PLC-5 processor and initiate online communications.
	PLC-5	Download and Upload Programs to/from a PLC-5 Processor module.
	PLC-6	Create and save simple PLC programs (Simple Start (N.O.-PB) - stop circuit (N/C-PB)) using storage bit and one output lamp.
	PLC-7	Apply and enable forces, remove and disable forces.
	PLC-8	Perform minor edits to the ladder logic to include relay, timer and counter instructions.
	PLC-9	Given drawings of a Field Wiring Arm and the specification sheets for a sinking input module, a sourcing input module and an output module, draw the wiring to show the proper connections for these modules to real world I/O. (All jumpers on the Field Wiring Arm must be shown) (Written exercise)
	PLC-10	Add storage bits and cross-reference their location throughout the program, toggle output bits on & off. Add software jumpers & rung output blocker bits.
	PLC-11	Demonstrate the ability to access the data tables and interpret the information in the following areas – Input & output image tables, Timer, Binary, Counter, and Integer areas.
	PLC-12	Switch the displayed radix while viewing data table areas.
	PLC-13	Print-out ladder diagrams and cross-reference lists.
	PLC-14	Search a ladder diagram by address and instruction type. (Using "Search Next", "Search Previous", and "Find All").
PLC-15	Add symbol and rung comments to a ladder diagram.	
PLC-17	Demonstrate the ability to access the cross-reference list.	





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	PLC-18	Using the PLC-5 quick reference, identify all indicators on a PLC 5/25, determine whether the indicator represents normal or a faulted condition and identify the recommended recovery action for each possible condition. (Written Exercise)
	PLC-19	Using the PLC-5 quick reference, identify all indicators on a 1771 remote adapter module, determine whether the indicator represents normal or a faulted condition and identify the recommended recovery action for each possible condition.
	PLC-20	Using the PLC-5 quick reference, identify the switch settings for normal operation on the processor (scanner mode), I/O adaptor module and backplanes. (When given the station number, rack number, starting module group number and the type of modules being used in the system and other engineering data)
	PLC-21	Construct a simple clamp and drill circuit, program and debug. This will be completed on pneumatic actuated lab stations. (Note the program will be given to the students with one logic error in the program. The students are to debug the program. The circuit will demonstrate anti-tie down and pinch point control)
	PLC-22	Given a ladder listing and input conditions, predict the output status. This ladder listing will include the following instruction types: (Lab exercise) XIC, XIO, OTE, OTL, OUT, TON, TOF, RTO, CTU, CTD, RES, MOV, EQU, GEQ, GRT, LEQ, LES, LIM, MEQ, NEQ, SQO, JMP, LBL, JSR, MCR, ONS
	PLC-23	Identify what appears to be program anomalies when the program is running with Program Control Instructions (i.e. MCR, JMP, LBL)
	PLC-24	Load a bit pattern into the Binary data table and control real world outputs with this bit pattern using Move and Sequencer (SQO) instructions.
	PLC-25	While viewing the ladder listing of an operating program, search for the output that the simulated machine is waiting for and identify the inhibitors to machine operation. Trace these inhibitors back to real world inputs.
	PLC-26	Given an Operator complaint, machine condition, the RXlogix5 display of highlighted logic, input and output module indicator status, and the input sensor light status, (additional option – voltage measurements that would be measured in the control panel), predict the failed component(s) and identify additional troubleshooting actions that could be taken to further isolate the fault. (Written exercise)





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PLC Level 2	PLC-27	Given a ladder listing and input conditions, predict the output status. This ladder listing will include the following instruction types: CPT, CMP, MVM, FAL, FBC, FIFO, LIFO, BTW, BTR, MSG, PID (Note: local industry will have to review these instructions for applicability)
	PLC-28	Install and configure an Analog Input module. Write a program to use the inputs. Interpret the module's Led status.
	PLC-29	Install and configure an Analog Output module. Write a program to control the outputs. Interpret the module's Led status.
	PLC-31	Create a trend chart, and use chart to monitor a running program's data.
	PLC-32	Create Custom Data Monitor (CDM).
	PLC-33	Using a plant program, enter page titles and demonstrate the use of Advanced Diagnostics to search for specific ladder logic indicated by the page titles.
	PLC-34	Practice troubleshooting techniques on training simulator with instructor induced faults.
	PLC-35	Given copies of local plant prints, ladder listings, and a cross reference listing, devise rung comments that explain the operation of selected logic rungs. (Written exercise – may use the PLC-5 Quick Reference Guide)
	PLC-36	Given copies of local plant prints, identify all disconnects, fuses, transformers, circuit breakers, and power supplies associated with the power distribution for the PLC and I/O circuits and denote the panel that houses these components. (Written Exercise)
	PLC-37	Given the I/O wiring Diagrams and/or cross-reference listing, identify the PLC address associated with selected inputs and outputs to facilitate program logic searching should the logic be insufficiently documented. (Written Exercise)

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