NIDA CORPORATION
COMPUTER ASSISTED INSTRUCTION

LESSON AND OBJECTIVE LISTING

Master Course Listing
PLCs

2018-08-30

Representative
tec
Technology Education Concepts
www.TECedu.com | 800-338-2238

TABLE OF CONTENTS

MODEL 5050

MOD 44 - PROGRAMMABLE LOGIC CONTROLLERS 1

OBJECTIVE LISTING - Master Course Listing

LESSON ID/TITLE CARDS/KITS

MOD 44 - PROGRAMMABLE LOGIC CONTROLLERS

5142-612-130 Introduction to Programmable Logic Controllers 1
- ▪ Recognize a basic PLC block diagram.
- ▪ Identify basic PLC functions.
- ▪ Identify PLC principles of operation.
- ▪ Recognize and understand a simple ladder logic diagram.
- ▪ Recognize the symbols used in a basic ladder logic diagram.
- ▫ Use the PLC trainer to control LEDs.
- ▫ Use the PLC trainer to control the motor.
- ▫ Understand how the PLC's operation changes by changing the ladder logic programs.

5142-612-160 PLC Trainer Familiarization 1
- ▪ Identify the power requirements for the Nida Model 5050 PLC trainer.
- ▪ Recognize trainer controls, switches, and indicating devices.
- ▫ Identify an experiment card.
- ▫ Describe insertion and removal procedures.
- ▫ Perform procedures to start an experiment.
- ▫ Insert and remove an experiment card.
- ▫ Perform procedures to end an experiment.

5142-612-190 PLC Hardware 1
- ▪ Understand the functions of I/O modules.
- ▪ Identify the different types of I/O modules.
- ▪ Know the basic operation of both discrete and analog I/O modules.
- ▪ Know the function of the processor module's microprocessor (CPU).
- ▪ Describe a memory map and the different memory functions.
- ▪ Know the purpose of the communications circuitry.
- ▪ Understand the scan cycle.
- ▫ Use an analog I/O module for analog input and output devices.
- ▫ Use an analog I/O module for an analog input device with a relay I/O module for an LED output.
- ▫ Observe the processor module's operation using the scan cycle.

5142-612-220 PLC Programming 1
- ▪ Understand the arrangement of input instructions for AND and OR operations.
- ▪ Identify different input instructions.
- ▪ Identify different output instructions.
- ▪ Use a four step process to develop an organized programming strategy.
- ▪ Identify the correct ladder logic program for a specified process.
- ▫ Use a four step process to develop an organized programming strategy.
- ▫ Identify the correct ladder logic program for a specified process.

5142-612-250 PLC Troubleshooting 1, 2
- ▪ Use a four step process to develop an organized troubleshooting strategy.
- ▪ Identify areas of a PLC controlled system most likely to fail.
- ▪ Identify areas of a PLC controlled system least likely to fail.
- ▫ Observe and understand the normal operation of a PLC controlled system.
- ▫ Recognize a faulty PLC controlled system.
- ▫ Identify the possible causes of the fault.

5142-614-160 RSLogix Familiarization . . . . . ---
- ▫ Understand the different file types associated with the PLC.
- ▫ Recognize the importance of proper configuration settings.

LESSON ID/TITLE CARDS/KITS

MOD 44 - PROGRAMMABLE LOGIC CONTROLLERS (cont.)

5142-614-160 RSLogix Familiarization (cont.)
- ▪ Understand the process for creating ladder programs.
- ▪ Develop an understanding of commands used for ladder program development.
- ▪ Identify the different modes of operation of the PLC.
- ▪ Understand the usage of each processor mode.
- ▪ Understand the steps required to transfer a file to and from the PLC.

5142-614-190 Bit Instructions 1
- ▪ Understand the concepts of bit instructions.
- ▪ Describe the operation of bit instructions.
- ▫ Demonstrate the usage of bit instructions with Rockwell RSLogix software.

5142-614-220 Timer and Counter Instructions 1
- ▪ Understand the concepts of timer instructions.
- ▪ Describe the operation of timer instructions.
- ▪ Understand the concepts of counter instructions.
- ▪ Describe the operation of counter instructions.
- ▫ Demonstrate the usage of timer and counter instructions using Rockwell RSLogix software.

5142-614-250 I/O and Interrupt Instructions 1
- ▪ Understand the concepts of I/O instructions.
- ▪ Describe the operation of I/O instructions.
- ▪ Understand the concepts of interrupt instructions.
- ▪ Describe the operation of interrupt instructions.
- ▫ Demonstrate the usage of I/O instructions using Rockwell RSLogix software.

5142-614-280 Comparison Instructions 1
- ▪ Understand the concepts of comparison instructions.
- ▪ Describe the operation of comparison instructions.
- ▫ Demonstrate the usage of comparison instructions using Rockwell RSLogix software.

5142-614-310 Math Instructions 1
- ▪ Understand the concepts of math instructions.
- ▪ Describe the operation of math instructions.
- ▫ Demonstrate the usage of math instructions using Rockwell RSLogix software.

5142-614-340 Move and Logical Instructions 1
- ▪ Understand the concepts of move instructions.
- ▪ Describe the operation of move instructions.
- ▪ Understand the concepts of logic instructions.
- ▪ Describe the operation of logic instructions.
- ▫ Demonstrate the usage of move and logic instructions using Rockwell RSLogix software.

5142-614-370 File Instructions 1
- ▪ Understand the concepts of file instructions.
- ▪ Describe the operation of file instructions.
- ▫ Demonstrate the usage of file instructions using Rockwell RSLogix software.

5142-614-400 Bit Shift, FIFO, and LIFO Instructions 1
- ▪ Understand the concepts of bit shift, FIFO, and LIFO instructions.
- ▪ Describe the operation of bit shift, FIFO, and LIFO instructions.
- ▫ Demonstrate the usage of bit shift instructions using Rockwell RSLogix software.

5142-614-430 Sequencer Instructions 1
- ▪ Understand the concepts of the sequencer instructions.
- ▪ Describe the operation of the sequencer instructions.

LESSON ID/TITLE CARDS/KITS

MOD 44 - PROGRAMMABLE LOGIC CONTROLLERS (cont.)

5142-614-430 Sequencer Instructions (cont.)
- ▫ Demonstrate the usage of sequencer instructions using Rockwell RSLogix software.

5142-614-460 Control Instructions 1
- ▪ Understand the concepts of the control instructions.
- ▪ Describe the operation of the control instructions.
- ▫ Demonstrate the usage of control instructions using Rockwell RSLogix software.

5142-614-160 RSLogix Familiarization . . . . . ---
- ▫ Understand the different file types associated with the PLC.
- ▫ Recognize the importance of proper configuration settings.
- ▪ Understand the process for creating ladder programs.
- ▪ Develop an understanding of commands used for ladder program development.
- ▪ Identify the different modes of operation of the PLC.
- ▪ Understand the usage of each processor mode.
- ▪ Understand the steps required to transfer a file to and from the PLC.

5142-614-190 Bit Instructions 1
- ▪ Understand the concepts of bit instructions.
- ▪ Describe the operation of bit instructions.
- ▫ Demonstrate the usage of bit instructions with Rockwell RSLogix software.

5142-614-220 Timer and Counter Instructions 1
- ▪ Understand the concepts of timer instructions.
- ▪ Describe the operation of timer instructions.
- ▪ Understand the concepts of counter instructions.
- ▪ Describe the operation of counter instructions.
- ▫ Demonstrate the usage of timer and counter instructions using Rockwell RSLogix software.

5142-614-250 I/O and Interrupt Instructions 1
- ▪ Understand the concepts of I/O instructions.
- ▪ Describe the operation of I/O instructions.
- ▪ Understand the concepts of interrupt instructions.
- ▪ Describe the operation of interrupt instructions.
- ▫ Demonstrate the usage of I/O instructions using Rockwell RSLogix software.

5142-614-280 Comparison Instructions 1
- ▪ Understand the concepts of comparison instructions.
- ▪ Describe the operation of comparison instructions.
- ▫ Demonstrate the usage of comparison instructions using Rockwell RSLogix software.

5142-614-310 Math Instructions 1
- ▪ Understand the concepts of math instructions.
- ▪ Describe the operation of math instructions.
- ▫ Demonstrate the usage of math instructions using Rockwell RSLogix software.

5142-614-340 Move and Logical Instructions 1
- ▪ Understand the concepts of move instructions.
- ▪ Describe the operation of move instructions.
- ▪ Understand the concepts of logic instructions.
- ▪ Describe the operation of logic instructions.
- ▫ Demonstrate the usage of move and logic instructions using Rockwell RSLogix software.

5142-614-370 File Instructions 1
- ▪ Understand the concepts of file instructions.
- ▪ Describe the operation of file instructions.

LESSON ID/TITLE CARDS/KITS

MOD 44 - PROGRAMMABLE LOGIC CONTROLLERS (cont.)

5142-614-370 File Instructions (cont.)
- ▫ Demonstrate the usage of file instructions using Rockwell RSLogix software.

5142-614-400 Bit Shift, FIFO, and LIFO Instructions 1
- ▪ Understand the concepts of bit shift, FIFO, and LIFO instructions.
- ▪ Describe the operation of bit shift, FIFO, and LIFO instructions.
- ▫ Demonstrate the usage of bit shift instructions using Rockwell RSLogix software.

5142-614-430 Sequencer Instructions 1
- ▪ Understand the concepts of the sequencer instructions.
- ▪ Describe the operation of the sequencer instructions.
- ▫ Demonstrate the usage of sequencer instructions using Rockwell RSLogix software.

5142-614-460 Control Instructions 1
- ▪ Understand the concepts of the control instructions.
- ▪ Describe the operation of the control instructions.
- ▫ Demonstrate the usage of control instructions using Rockwell RSLogix software.

NOTES

NOTES

Representative

Technology Education Concepts

www.TECedu.com | 800-338-2238

Nida Corporation
Melbourne, Florida 32904
300 S. John Rodes Blvd
Tel: 321-727-2265 • Fax: 321-727-2655
www.nida.com