

Siemens / Allen Bradley	QQI	Maint Part 1	Prog Level 1	Maint Part 2	Prog Level 2
Hardware:					
Intro to Types of PLCs	X	X	X		
I/O Device Modules Digital & Analogue	X	X	X		
Comms Modules RS232, 422		X	X		
Remote, Point & Flex Logix I/O.	X	X	X		
Communications Modules:					
Device Net, Control Net		X	X		
Profibus & Profinet. Connectors & Terminating Cables using FAST Connectors		X	X		
Ethernet, EtherNet/IP FAST Connect Connectors		X	X		
Graphic Interfaces HMI's					
Hmi's KTPs, Comfort PanelView Plus + Component		X	X		
Hmi's FLAT Panel PC's SIMATIC HMI PRO		X	X	X	X
Motors & Drives:					
Drives & VFD MicroMaster or Flexpower				X	X
Drives & Motors Stepper + Servo Motion Control + SIMotion				X	X
E-Stop Circuitry:					
Understanding Estop Circuitry including - Safety Relays + Light Curtains + OSSD		X	X		
Setting up Estop Circuitry to include - Safety Relays + Light Curtains + OSSD				X	X
Software:					
Intro to Software Structure Organisation, Function Blocks, Routines and Periodic Tasks	X	X	X		
How to Get Online over RS232, Profibus, Ethernet & EtherNet/IP	X	X	X		
How to Upload/Download (Backup), Compare PLC Code	X	X	X		
Set Up a Project Hardware Config Controller Properties. Add I/O Modules	X	X	X	X	X
Configure Remote, Point & Flex Logix I/O using Profibus, EtherNet/IP & Device Net		X	X	X	X
Configure addressing of I/O modules	X	X	X		
Configure HMI Comms over Profibus, Ethernet & EtherNet/IP			X	X	
Configure MicroMaster, FlexPower using Profibus and DeviceNet			X	X	
Diagnostics of Remote, Point and Flex I/O		X	X	X	
Digital Operations:					
Binary Operations (AND, OR, Latch & Unlatch, Rising / Lowering Edge)	X	X	X		
Digital Operations Timers, Counters. Changing Timer Preset Value	X	X	X		
Digital Operations Single & Multi Instance & Array of Times				X	X
Creating Controller, Program, Local & Global Tags Symbols, Absolute Consumed & Produced		X	X		
Cross Referencing I/O	X	X	X		
Advanced Digital Operations					
Configure Device Object Code for Motors, Valves VFD etc using Add-On & Function Blocks			X	X	X
Diagnose Device Object Code	X	X	X		
Setup Direct and Indirect Parameters, UDT's (User Defines Data Types) and ARRAYS					X
Setting Up STRUT and String Telegrams					X
Number Formats:					
Number Formats Binary, Deciaml, HEX, BCD, SINT, INT, DINT and REAL Values	X	X	X		
Number Converions BCD->INT, INT->BCD, BCD->DINT, DINT->BCD				X	X
Basic Mathematical Functions ADD, SUBTRACT, MULTIPLE, DIVIDE					X
Sequencers (Step + Transtions) using Ladder	X	X	X		
Advanced Sequencing Progamming using SFC's-CFC's, Graph7, SLC's					X
Analogue Value Processing:					
Add and Configure Analogue I/O to the Controller or Hardware Configuration				X	X
Setup Software to Read / Write Analogue values to DB's (Data Blocks) or Arrays				X	X
Analyse Analogus Value Representation of Different Measuring Ranges				X	X
Setup an Application to incorporate a Level & Temperature in a Tank				X	X
Trouble Shooting:					
Monitoring Module information, Controller Properities, Scan Cycle, Interface Setup	X	X	X		
Monitoring & Modifying Variables/Tags Digital & Analogue I/O	X	X	X		
Setting Up VAT Tables and Monitoring Tags	X	X	X		
Setup Hardware, Time of Day (TOD), Cyclic, Periodic Interupts					X
Diagnose Major, Minor, Hardware Fault and Errors. Contents of I,B and L Stacks				X	X
Testing and Degging PLC Code			X	X	
Trobule Shooting MPI, Profibus, DeviceNet and ControlNet Networks				X	X
Identifying Hardware Node, and IP Addresses		X	X		
HMI's Graphic Interface:					
Configure HMI Graphics using WinCC Flexible, Advanced, Factory Talk RSView Studio			X	X	
Configure Objects Start/Stop PB's and Motor Status Run, Stopped, Fault (Text List)			X	X	
Configure Graphics for Start/ Stop, Alarms and Sequence Step+Transition				X	X
Seting up Event and Alarm Messages using Area Pointers				X	X
Configure Recipes and Simatic LogOn User Groups DOMAIN Controls					X
Create Runtime Application on a HMI / Laptop				X	X
UpLoad/Download to HMI's Over RS232, Ethernet and EtherNet/IP				X	X
Communications:					
Setup RS232, RS422, RS485 over Modbus, 3964R and Open ASCII Protocol					X
Setup and Ethernet, EtherNet/IP over Modbus TCP/IP or UDP					X
Motors & Drives:					
Configure MicroMaster, LENZE or PowerFLex using BOP (Local Key Pad)				X	X
Configure MicroMaster, LENZE or PowerFLex using Profibus, RS232 or DeviceNet				X	X
Diahnose Data Exchange with Profibus and Device Net				X	X
Configure Motor Jog using HMI				X	X
E-Stop Circuitry					X