EE – 608: Programmable Logic Controller

Credit	L	T	P
3	**2**	**1**	**-**

UNIT-I
The PLC: A look inside, General PLC programming Procedure, Devices to which PLC Input and Output Modules are connected: Input On/Off Switching Devices, Input Analog Devices, Output On/Off Devices, Output Analog Devices.

UNIT-II
Programming On/Off inputs to Procedure on-off outputs, Relation of Digital Gate to Contact/Coil logic, Creating Ladder Diagrams from Process Control Descriptions: Introduction, Ladder diagrams and sequence listings, Large Process Ladder diagram construction, Flowcharting as a programming Method.

UNIT-III
Register Basics: Introduction, General characteristics of Registers, Module addressing, Holding Registers, Input registers and Output Registers. PLC Timer Functions: Introduction, examples of Timer Function Industrial Applications, Industrial Process Timing Application. PLC Counter Functions: Introduction, PLC Counters with examples.

UNIT-IV
PLC Arithmetic Functions: Introduction, PLC addition and subtraction, repetitive clock, PLC multiplication, division and square root, Trigonometric and Log function. PLC Number Comparison: Introduction, Basic comparison Function, its application. Numbering System: Intro to Decimal, Binary, BCD, Octal and Hexadecimal number system.

UNIT-V
The PLC SKIP and Master Control Relay Functions, JUMP Functions, PLC data move system, PLC FIFO function, One Shot(ONS) and Clear (CLR). Controlling Robot: Intro, basic two axis robot with PLC sequencer control, Industrial three-axis Robot with PLC control.

TEXT/REFFERENCE BOOKS

1. Programmable Logic Controllers: Principles and Applications, Fifth Edition, Prentice Hall, 2006
2. PLC Programming For Industrial Automation by Kevin Collins