SARDAR PATEL UNIVERSITY
Programme & Subject: B.sc (Instrumentation)
Semester: VI
Syllabus with Effect from: November/December - 2013

Paper Code: US06CINS04	**Total Credit: 3**
Title Of Paper: Programmable Logic Controller (PLC) - II	

Unit	Description in detail	Weighting (%)
I	**Advanced Programming Techniques** Introduction, Ladder Program Execution Sequence, Flip Flops, R - S Flip Flop, One Shot, D Flip Flop, T Flip Flop, J - K Flip Flop, Counters, Sequencers, Timers, Flashers, Timed One Shot, Timed Sequencer, Master Control Relays and Control Zones	25%
II	**Mnemonic Programming Code** Introduction, AND Ladder Rung, Entering Normally Closed Contacts, OR Ladder Rung, Simple Branches, Complex Branches	25%
III	**Wiring Techniques** Introduction, PLC Power Connection, Input Wiring, Inputs Having a Single Common, Isolated Inputs, Output Wiring, Relay Outputs, Solid State Outputs	25%
IV	**Analog I/O** Introduction, Analog (A/D) Input, Analog (D/A) Output, Analog Data Handling, Analog Input Potential Problems	25%

Basic Text & Reference Books:-

- Programmable Logic Controllers (Programming Methods and Applications) By John R. Hackworth & Frederick D. Hackworth, Jr.
- Automatic manufacturing system using PLCs By Jack Hugh
- Programmable Logic Controller By Petruzella
- Introduction to programmable logic controller By Thomas Hughes