

**Programmable Logic Controller  
Important 10 Mark question**

**Unit I**

1. Draw the block diagram of PLC and explain its principle of operation.
2. Draw and explain the block diagram of PLC system.

**Unit II**

1. Explain briefly about relay O/P module and TTL O/P module.
2. What are the advantages and disadvantages of output modules?

**Unit III**

1. Explain the working of an automatic star-delta starter using PLC ladder diagram.
2. Explain ON delay timer and OFF delay timer with simple examples.

**Unit IV**

1. Explain the various types of network topologies.
2. Discuss about the various layers in communication protocol.

**Unit V**

1. Explain the operation of DAS with a generalized block diagram.
2. Explain closed loop control and PID control of an industrial control system.