

IV B.Tech I Semester Supplementary Examinations, April/May 2005
LOGIC AND DISTRIBUTED CONTROL SYSTEMS
(Electronics & Control Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. (a) How do you operate RUN and ENABLE in PLC timer?
(b) Why do you want FORCE mode in PLC operation? Explain.
2. (a) Describe both counter and timer execution in a PLC ladder diagram.
(b) Describe the function of PLC input module with opto-isolator.
3. (a) How do you get high output in the PLC-ADD and SUB function? Explain.
(b) Explain the operation of
 - i. PLC PID block diagram
 - ii. PLC PID block level function of industrial operation
4. (a) Explain the ladder counter function in PLC operation?
(b) Distinguish between PLC and field control station operation.
5. What is HART protocol? Discuss its characteristics and applications.
6. (a) Why do you want to replace RS 486 instead of TIA / EIA 232 C? Explain.
(b) Explain the basic principle of:
 - i. RS 232C communication
 - ii. LAN communication between two CPU's.
7. (a) Explain the generalized architecture of a DCS with a neat sketch.
(b) Explain the DCS communication in Subnet level.
8. (a) What is Redundancy? Explain the different types of Redundancy operation with LCU.
(b) explain the operation of:
 - i. Operator interface.
 - ii. Engineer interface.
