

**R09**

Code: 9A02805

B.Tech IV Year II Semester (R09) Advanced Supplementary Examinations, July 2013

**PLC & DCS-ITS APPLICATIONS**

(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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- 1 (a) With block diagram, explain the layout and various connections of PLC system.  
(b) Explain in detail various I/O modules of programmable logic controllers.
- 2 Explain in detail the following:
  - (a) PLC input instructions.
  - (b) PLC outputs.
  - (c) Operational procedures.
- 3 Explain in detail the operational steps of spray process system and draw ladder logic diagram flow chart for its control problem.
- 4 Explain the following in detail:
  - (a) Single and group input registers.
  - (b) Single and group output registers.
- 5 With an industrial application example explain the timer and counter functions of PLC.
- 6 Discuss in detail the following data handling functions of PLC.
  - (a) SKIP.
  - (b) JUMP.
  - (c) MOVE.
  - (d) FIFO.
- 7 What is meant by distributed control systems? Explain in detail different architectures of DCS.
- 8 Explain the role of distributed control systems in power plants.

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