**1436**

**Code : 15MC51T**

*Register Number* | | | | | | | |

**V Semester Diploma Examination, April/May-2018**

# PROGRAMMING LOGIC CONTROLLER

**Time : 3 Hours ]** **[ Max. Marks : 100**

*Note :* (i) Answer any **six** questions from PART – **A**.

(ii) Answer any **seven** full questions from PART – **B**.



## PART – A

(Answer any **six**)

1. Explain the classification of PLC. **5**

2. Explain different PLC programming standards. **5**

3. Explain the different types of outputs used in PLC. **5**



4. Explain basic compare function in PLC. **5**

5. Explain PLC retentive function. **5**

6. Explain PLC High speed counter. **5**

7. Explain PLC Up/Down combination counter. **5**

8. Explain the operation of master control relay function. **5**

9. Explain how a jump with return instruction work. **5**

## PART – B

(Answer any **seven**)

10. (a) Explain the different discrete I/P modules that can be interfaced with PLC. 5

    (b) Compare between Relay logic control and Programmable logic control. 5

11. Explain the internal architecture of PLC with neat diagram. 10

12. (a) Construct the PLC ladder diagram for standard start-stop-seal circuit. 5

    (b) Construct the PLC ladder diagram for Forward-Reverse – stop with mutual interlocks circuit. 5

13. Construct the PLC ladder diagram and timing diagram to illustrate the one shot timer operation function for process control application. 10

14. Construct the PLC ladder diagram and timing diagram to illustrate the limited on time timer function for process control application. 10

15. Construct a PLC ladder diagram to illustrate the delay of start of the counting process. 10

16. Construct a PLC ladder diagram to illustrate the Rate-per-time-period program. 10

17. Applying the concept of shift registers, explain flashing arrow pattern and registers. 10

18. (a) Explain the operation of skip function. 5

    (b) Explain the Block Move function. 5

19. (a) Explain PID module 5

    (b) Explain SCADA system. 5