

**327652(27)**

**B. E. (Sixth Semester) Examination, April-May 2020**

**(New Scheme)**

**(EI Branch)**

**PROGRAMMABLE LOGIC CONTROLLER**

***Time Allowed : Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

***Note : Attempt all question. Part (a) is compulsory in each question. Attempt any two out of part (b), (c) and (d) in each question.***

**Unit-I**

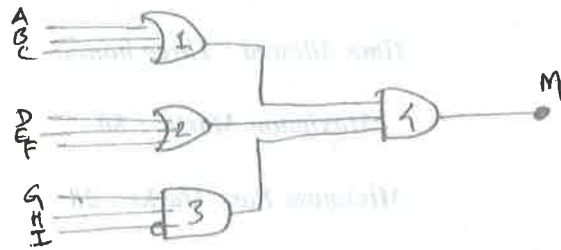
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|--|---|
| 1. (a) What is ISO slots?                  | 2 |
| (b) Draw and explain block diagram of PLC. | 7 |

[ 2 ]

- (c) Enlist the advantages and disadvantages of PLC. 7
- (d) Describe power supply section of PLC. 7

**Unit-II**

2. (a) What is PLC scanning? 2
- (b) Explain PLC registers in detail. 7
- (c) Make a ladder diagram for given gate diagram : 7



- (d) Create a ladder diagram for process fan is to run only when all of the following conditions are met :
- (i) Input 1 is off.
  - (ii) Input 2 is ON or input 3 is ON or both 2 and 3 are ON.
  - (iii) Input 5 4 6 are both ON.
  - (iv) One or more of inputs 7, 8 or 9 is ON. 7

[ 3 ]

**Unit-III**

3. (a) What is Counter? 2
- (b) Explain off delay timer with example. 7
- (c) Write the number comparison functions with application. 7
- (d) Write short notes on : 7
- (i) Division and square root function
  - (ii) PLC trigonometric and log function

**Unit-IV**

4. (a) What are the differences between jump and strip functions? 2
- (b) Discuss BCD or multibit data processing in detail. 7
- (c) Explain MCR function and its application. 7
- (d) Describe a process requiring the nesting of two subroutines. 7

**Unit-V**

- 5 (a) What is SCADA? 2
- (b) Compare DCS and PLC with application. 7
- (c) Explain DAS with advantages. 7
- (d) Describe basic block of DCS. 7