

Total No. of Printed Pages: 2

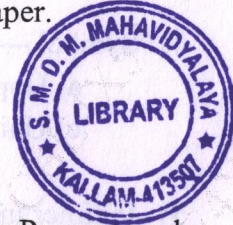
SUBJECT CODE NO: - Y-2236
FACULTY OF SCIENCE AND TECHNOLOGY
B. Sc. (PATTERN-2013) (T.Y SEM VI)
Examination April / May - 2024

Electronics Paper- XIX (A) (Programmable logic Controllers)

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.



N. B

- 1) Attempt all questions
- 2) All questions carry equal Marks

- Q.1**
- a) Explain the function of Programming unit, Input/output section, Power supply and Processor units in detailed 10
 - b) Explain in detail timer instructions TON and TOF with suitable example 10
- OR**
- a) Write a labeled ladder program for a water pumping system. This system consists of 3 Float switches, two storage tanks and one motor. Explain the construction and working and execution of ladder program by drawing the neat diagram 10
 - b) Explain in detail data compare instructions EQU and LES with suitable example. 10
- Q.2**
- a) Write a note on discrete Input modules 10
 - b) Explain how to Troubleshoot I/O interfaces 10
- OR**
- Write short notes on any four questions**
- a) Explain PLC Input addressing with suitable example 5
 - b) Explain in detail Counter instruction CTD with suitable example 5
 - c) Explain in detail Jump instruction with suitable example 5
 - d) Explain NAND and NOR function using ladder logic circuit 5
 - e) Explain in detail data transfer instruction MOV with suitable example 5
 - f) Explain BSR instruction in detail with suitable example 5
- Q.3 Attempt the following questions** 10
- 1) The ladder diagram read as;
 - a) From left to right and top to bottom
 - b) From right to left and top to bottom
 - c) From left to right and bottom to top
 - d) From right to left and bottom to top

- 2) A normallycontact opens when the device that controls it is energized
- a) Open b) Closed c) Up d) Down
- 3) In PLC, counter word address (instruction) corresponds to
- a) C1 b) C2 c) C3 d) C5
- 4) Symbol ----(U)----- represents
- a) Upper Output b) UnLatch Output
c) Unit input d) Unit Output
- 5) In timer instruction of PLC enable bit (EN) is reset
- a) When the rung condition is true
b) When the rung condition is false
c) When the rung condition is not known
d) When the rung condition is unknown
- 6) Numbers to be compared by compare instructions can be from
- a) Timers b) Specific memory locations
c) Counters d) Constant values
- 7) A Force operation is used to test anmodule
- a) Input b) Output
c) Both a and b d) None of the above
- 8) When several steps are programmed into a sequencer, the data is loaded into consecutive memory location known as
- a) Module groups b) Storage blocks
c) Files d) All of the above
- 9) What is long form of PLC
- a) Programmable Logic Control b) Pulse Logic Control
c) Programmable Level Control d) Pulse Level Control
- 10) Which of the following is arithmetic instruction
- a) EQU b) ADD c) NEQ d) LES