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SUBJECT CODE NO:- B-2170
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. T.Y (Sem-VI)
Examination November / December -2022
Electronics Paper- XIX (601)
(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.
- Q.1 Explain working of any five automatic switches as input devices and any five output devices with their symbols. 20
- OR
- What are delimiters, file types, identifiers and file numbers with reference to addressing of data files? Explain four types of address formats with suitable example.
- Q.2 Enlist five categories of PLC instructions. Explain five relay logic instructions with suitable Ladder diagram. 20
- OR
- Write short notes on any four of followings with one example each.
- A) JMP and JSR instructions
 B) BSL instruction
 C) ADD instruction
 D) EQU and NEQ instructions
 E) TOD and FRD instructions
 F) CTU instruction
- Q.3 Rewrite the followings by selecting correct answer from given options 10
1. The two vertical lines on the ladder are called as _____
 - a) Bus b) Bars c) Rails d) Tracks
 2. In PLC data addressing, the number after delimiter colon (:) is _____
 - a) Element b) Word c) Bit d) File
 3. There are _____ types of program files
 - a) 2 b) 3 c) 4 d) 5

4. One element of _____ data file has three words
 - a) Input
 - b) Output
 - c) Bit
 - d) Timer
5. There are _____ steps in processor scan cycle
 - a) 2
 - b) 3
 - c) 4
 - d) 5
6. In TON instruction, _____ bit will remain Logic 1 as long as its input rung condition is true
 - a) DN
 - b) TT
 - c) EN
 - d) None
7. In CTD instruction, _____ bit will set to logic 1 when accumulated value becomes equal to present value
 - a) CU
 - b) CD
 - c) DN
 - d) OV
8. For cascading of timers _____ bit of first timer is used as input contact for second timer
 - a) EN
 - b) DN
 - c) TT
 - d) None
9. SBR instruction is written at _____ of subroutine
 - a) Bottom
 - b) Middle
 - c) Bottom & Middle
 - d) Top
10. The subroutine can be nested up to _____ levels
 - a) 1
 - b) 2
 - c) 3
 - d) 4