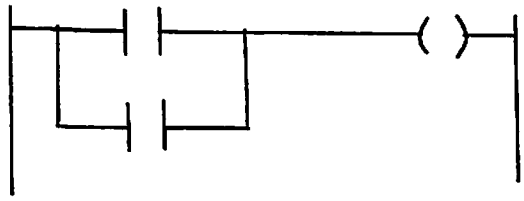
MF141 – PLC FINAL

NAME: _____

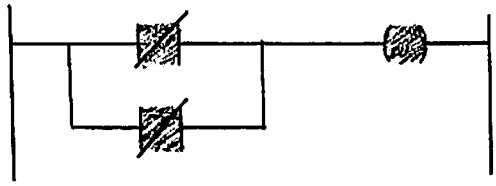
1) In the PLC address Local:1:I.Data.0, what does "Local" indicate?
   a. The physical location of the module
   b. The common language used for programming.
   c. Where the inputs are located.
   d. Where the outputs are located.

2) The following circuit represents which logic element?



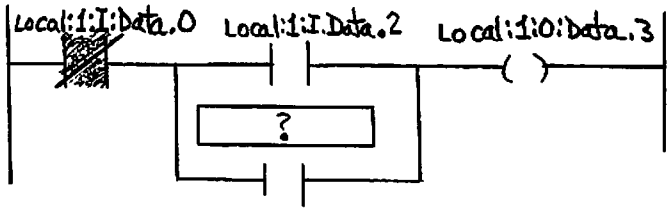
   a. AND
   b. OR
   c. NAND
   d. NOR

3) The following circuit represents which logic element?



   a. AND
   b. OR
   c. NAND
   d. NOR

4) What address should go in the box below to complete this sealed-in memory circuit?



a. Local:1:I:Data.2
b. Local:1:O:Data.2
c. Local:1:I:Data.3
d. Local:1:O:Data.3

5) What is the binary equivalent to the decimal number 45?
a. 100011
b. 1010010
c. 11100
d. 101101

6) Which of these is NOT one of the five commonly used numbering systems used by PLCs?
a. Hexadecimal
b. Octal
c. Duodecimal
d. Decimal

7) In PLC Binary logic, what number represents 'off', 'no' and 'false'?
a. 0
b. 1
c. 2
d. 10

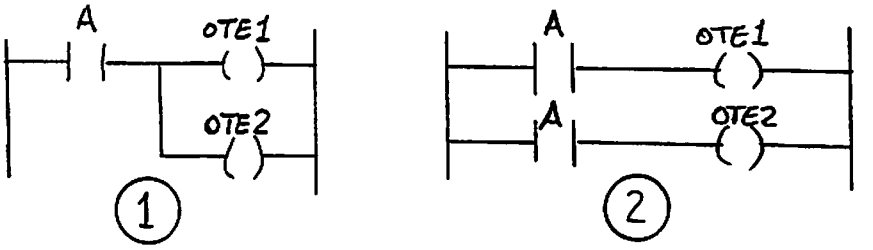
8) The CompactLogix screen showing the ladder logic program is called the _____.
a. Main Subroutine
b. Task Ladder
c. Main Program
d. Main Routine

9) How many inputs are allowed on a rung?
   a. 1
   b. 2
   c. 5
   d. As many as you need

10) How many outputs are allowed on a rung?
   a. 1
   b. 2
   c. 5
   d. As many as you need

11) _____ look and operate just like an OTE instruction. They use tags to provide additional logic for Program Memory Logic and for Program Interlocks.
   a. Tag References
   b. Internal Outputs
   c. External Instructions
   d. External Inputs

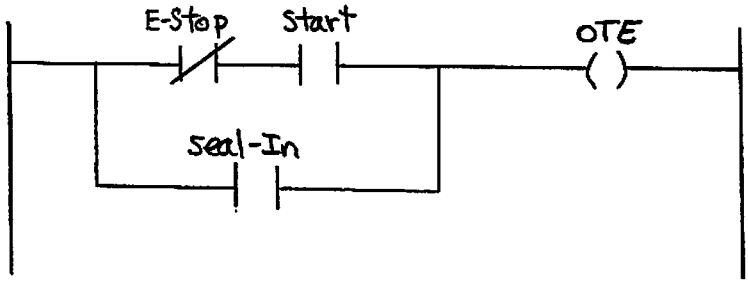
12) Which of these two ladder diagrams is considered 'legal' for normal ladder logic?



   a. 1
   b. 2
   c. Both will work just fine.
   d. Neither, an input can't feed two outputs.

13) Which of these is NOT an application in which input instructions are given output addresses?
   a. Sequencing operations
   b. Simultaneous operation of more than one output
   c. Motor control programs
   d. None of the above.

14) Once the following circuit is energized, what will happen when the E-Stop PB is pressed?



a. OTE de-energizes
b. Nothing
c. The start de-energizes
d. The E-Stop energizes

15) The following is an example of a(n) _____

temp[0]
temp[1]
temp[2]
temp[3]

a. BOOL Sequence
b. RTO List
c. MCR Sequence
d. PLC Array

16) A program interlock is NOT used in which of the following applications?

a. Seal-in Logic
b. Sequencing
c. Preventing motor damage if both directions are simultaneously selected.
d. Safety

17) A(n) _____ is used to drive a motor at varying speeds using analog or digital control signals.

a. VDC
b. DCV
c. VSD
d. MCR

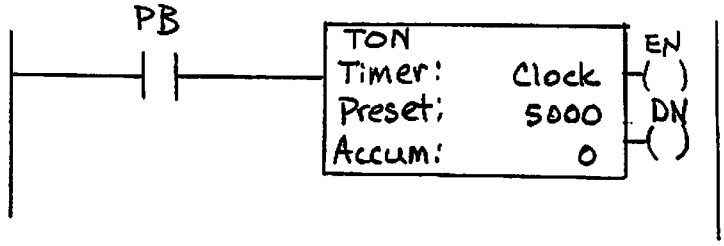
18) Which of these is NOT true for an RTO?

a. The timer resets whenever the input is de-energized.
b. The timer resumes timing from the retained value the next time it is energized.
c. The timer instruction must be reset by a separate reset instruction before it can operate again.
d. The timer is often used in pumping/filling applications.

19) What is the TIMEBASE for CompactLogix timers?

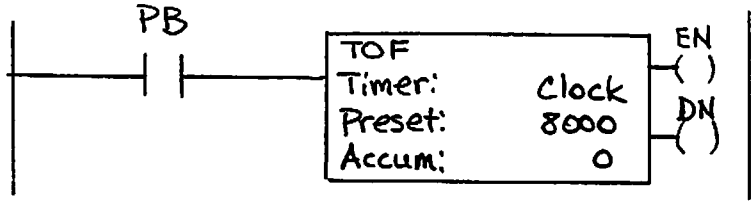
a. 0.01 sec
b. 0.001 sec
c. 0.1 sec
d. 1.00 sec

20) For the following PB-controlled TON, when is the EN bit energized?



a. Prior to the PB being pressed.
b. Whenever the count is reset.
c. When the count reaches the preset number.
d. As long as the PB is pressed.

21) For the following PB-controlled TOF, when does the DN bit energize?



a. As soon as the EN bit de-energizes
b. As soon as the PB is released
c. As soon as the accumulated value is reached
d. As soon as PB is pressed

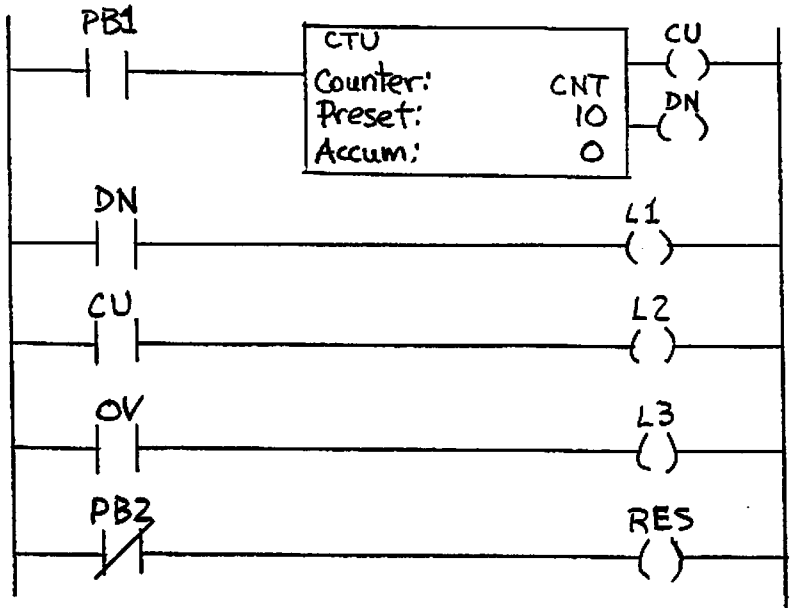
22) Which of these require use of a RES?

a. TON
b. Timer-1
c. RTO
d. TOF

23) Which of these is rarely used alone?

a. TOF
b. TON
c. CTU
d. CTD

24) In the following circuit, which lights (L) are lit when you press & release PB1 twelve times?



a. L1, L2, L3
b. L1 & L2 only
c. L1 only
d. L2 only

25) What is a common use for a S:FS?

a. To initialize a program at power up
b. To connect count-ups and count-downs
c. To detect a minor fault caused by a program error
d. To seal-in an output

26) What must be used with a JMP command?

a. JSR
b. JDN
c. LBL
d. MCR

27) Which is NOT a rule about using MCRs in ladder programs?

a. Inputs should never be put on the same rung as an MCR coil.
b. The same MCR coil is used on the first and last rungs of the Control Zone
c. Timers should not be placed in the Control Zone
d. Do not nest one Control Zone in another

28) Which is NOT true about the proper use of JSRs?

a. The JMP Subroutine must be specifically energized to begin the jump.
b. Only one RET instruction is allowed for each JSR.
c. The routine name field must contain the exact name of a previously saved subroutine.
d. JSRs are commonly used to access calculations in other subroutines.

29) The following PLC symbol --] [- - is also known as a(n):

a. XIO
b. XIC
c. OTE
d. N.C.

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