END SEMESTER EXAMINATIONS (DECEMBER 2021/JANUARY 2022) - QUESTION PAPER - PART A

COURSE CODE : ICE 4302
COURSE NAME : Industrial Automation
SEMESTER : V
DATE OF EXAM : 1/1/2022
DURATION : 45 + 5 minutes

Instructions for Students:
(1) ANSWER ALL THE QUESTIONS.
(2) EACH QUESTION CARRIES 1 MARK.
(3) YOU ARE INSTRUCTED TO INFORM THE INVIGILATOR AFTER SUBMISSION OF THIS FORM IN THE CHAT SECTION.

* Required

* This form will record your name, please fill your name.

1

STUDENT NAME: *

2

REGISTRATION NUMBER: *

The value must be a number

3

In a down counter Accumulator is less or equal to zero and load =1 then down bit ?
(1 Point)

- 1
- 0
- No change
- 2

4

From process we are getting 78V AC the required conversion is 0 to 5V DC and the module is 8 bit module. What will be the CPU signal
(1 Point)

- 102
- 51.5
- 204
- 408

5

In IS safety what is the maximum loop resistance allowed
(1 Point)

- ◯ 300
- ◯ 230
- ◯ 260
- ◯ 180

6

In PLC scan cycle how the programming scanning process will take place
(1 Point)

- ☐ Top to bottom
- ☐ Left to right side
- ☐ Right to left
- ☐ Bottom to top

7

List the alternate programming languages available in PLC
(1 Point)

- [ ] Ladder logic
- [ ] Sequential Function Charts
- [ ] Function Block Diagram
- [ ] Structured Text
- [ ] Instruction List
- [ ] Finite state machine
- [ ] Above all

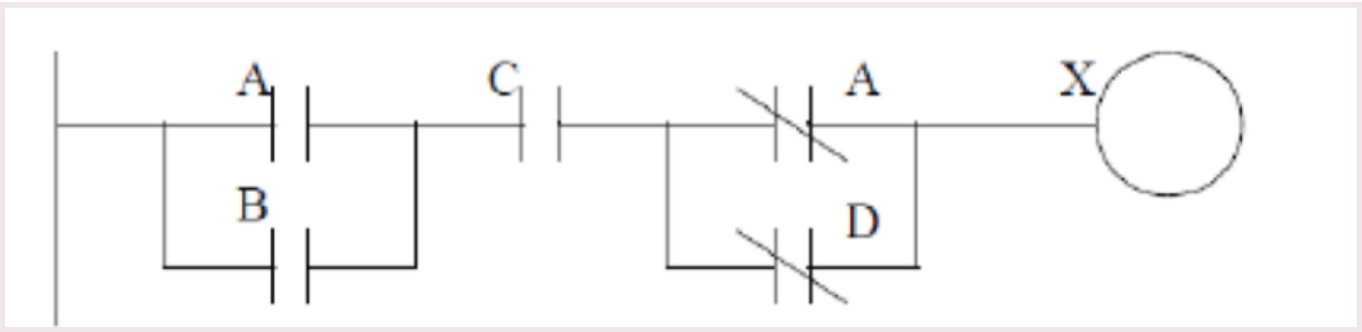
8

User can turn on the input and out put irrespective of hardware status
(1 Point)

- ◯ Force mode
- ◯ normal mode
- ◯ stimulation mode
- ◯ Industry mode

9

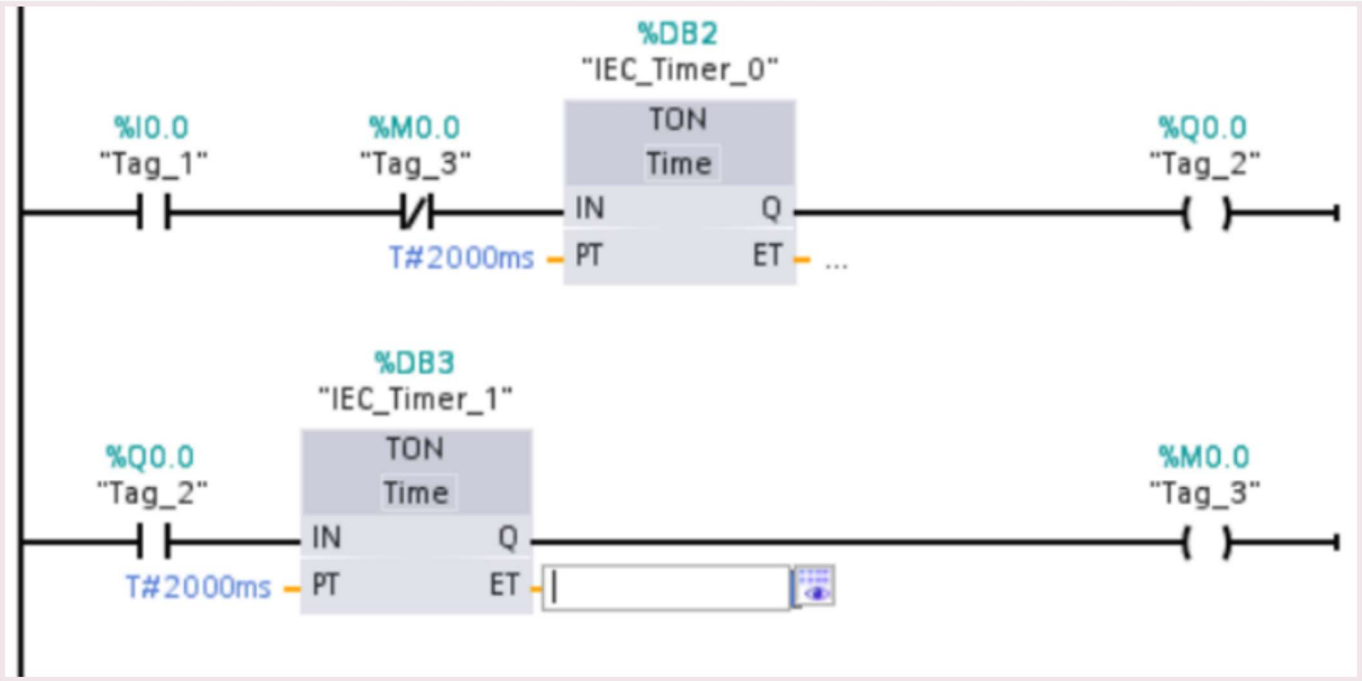
When X will be high
(1 Point)



- A=0 B=0 C =1 D=0
- B=1 C =1 D=0 A =1
- B =0 C =1 D =1 A=1

10

From the following program, if I0.0 is always at 1 then how much time M0.0 will be at 1.
(1 Point)



- 2 sec
- 4 sec
- 6 sec
- 8 sec
- none of the above

11

Which priority technique is more safe for a industrial process
(1 Point)

- ON
- OFF
- ON-OFF
- Fail safe

12

if A and B are energized together update the output
(1 Point)

- X is turned on and Y is turned ON
- X is turned off and Y is turned Off
- X is turned off and Y is turned ON
- X is turned on and Y is turned off

13

In PLC I/O module which module will come first
(1 Point)

- Channel
- Network
- Power card
- Input socket

14

In what type of module an input device supplies current to the input module, that is, the input module is the sink for the current
(1 Point)

- Sourcing input module
- Sinking input module
- Sourcing output module
- Sinking output module

15

In timers block when TT bit will be active
(1 Point)

- input is enables
- output bit is ready
- Preset value is equal to accumulator
- none of the above

16

In what type of module an input device receives current from the input module, that is, the input module is the source of the current
(1 Point)

- Sourcing input module
- Sinking input module
- Sourcing output module
- Sinking output module

17

if the process variable and set point are same controller will not take action
(1 Point)

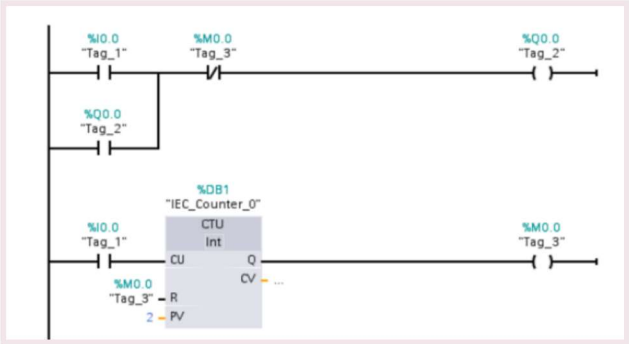
- Yes
- No
- Wait for system to react
- Wait for system to stable

18

write polling address is an example of
(1 Point)

- common practice command
- generic command
- Device specific command
- universal command

19



If I0.0 (push button) pushed two times then Q0.0 is _____and the value in accumulator ofcounter _0 is _____in the following program.
(1 Point)

- 0, 2
- 0 , 0
- 1, 0
- 1, 2
- 1 ,1

20

What will be status of accumulator when load switch is active in counter down (assume counter count value is 8)
(1 Point)

- 0
- 8
- 7
- 1

21

maximum how many devices can be connected in multi drop connection
(1 Point)

- 15
- 14
- 18
- 20

22

How many auxiliary comments are there in PLC
(1 Point)

- 4
- 3
- 5
- 6

23

In FSK module the average value of the signal need to mateine
(1 Point)

- High
- Low
- Zero
- 100

24

In ADD block when output coil will get activated --------
(1 Point)

- Carry
- Task completed
- During the task execution
- when enable bit is high

25

Which one is the PLC programming language?
(1 Point)

- MMI
- FBD
- HMI
- None of the above

26

If the current flows to the output module from an output load, the output module is referred to as Sinking output
(1 Point)

- Sourcing input module
- Sinking input module
- Sourcing output module
- Sinking output module

27

DD source file for HART devices resemble files written in
(1 Point)

- English
- Local language
- C program
- Emended

28

In HART protocol during which mode 3 to 4 update will occur
(1 Point)

- Normal
- Master slave
- Burst
- Hyper

29

During PLC scan cycle after processor computes the signal the values will be stored in
(1 Point)

- PII
- PIQ
- Output module
- Memory

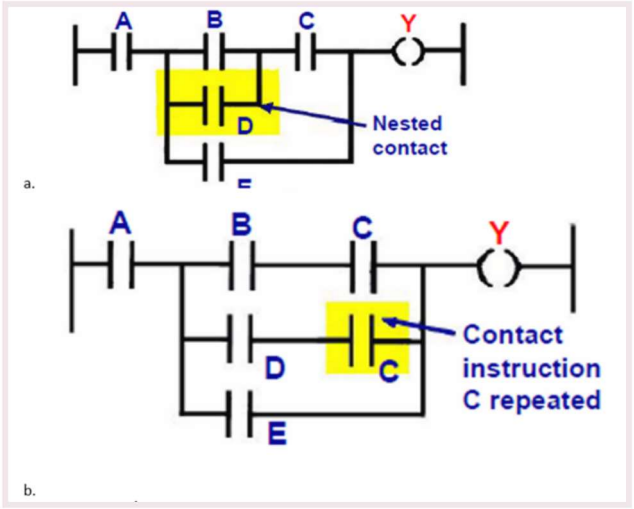
30

In the positive edge timer enable input change from 1 to 0 then ACC value will incremented by
(1 Point)

- 1
- 0
- No change
- 2

31

which nesting technique is correct
(1 Point)



- A only
- B only
- A and B
- None of the above

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For the following SXT
(1 Point)

```
LD I0.0
OR Q0.0
OUT M0.0
LD M0.0
ADN I0.1
OUT Q0.0
```

Conclusion:

(i) "An output Q0.0 is high when input I0.0 is momentarily activated"

(ii) "No output when I0.1 is activated"

- ◯ Both are True
- ◯ True: False
- ◯ False: True
- ◯ Both are False