

Certification Test

eLM.MotionWorks.01.ProIntro (IEC Pro Intro eLM)



Date: _____

Student Name: _____

Company Name: _____

Address: _____

Phone: _____

eMail: _____

Taking the Certification Test

Each question will have **only one correct answer**. Please record all answers on this answer sheet. The order of the questions in the test roughly follows the order of topics. All questions are equally weighted. A passing score is 88% (3 wrong).

Returning the Certification Test

Option 1: Fax this page to **Yaskawa Technical Training Services** at (847) 887-7185.

Option 2: E-mail the answers to all questions to training@yaskawa.com. Be sure to include all of the contact information listed above.

Receiving Your Score

You may review your answers only if a passing score is received. When the test is taken during the training class, you will receive your score in class as soon as it can be graded.

Answer Sheet:

1	17		
2	18		
3	19		
4	20		
5	21		
6	22		
7	23		
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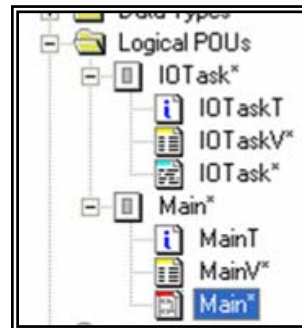
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General Info

1. Can MotionWorks IEC – Express and MotionWorks IEC – Pro both be installed in one PC at the same time?
 - A. Yes
 - B. No
2. Customer “X” already has a license for MotionWorks IEC – Express. Can the customer upgrade to the Pro version and use the same license?
 - A. Yes
 - B. No
3. When *Express* projects are opened in *Pro*, the project is converted to the *Pro* format. How can the project be opened again with *Express*?
 - A. *Express* converts the *Pro* project back to *Express* format.
 - B. Open a copy of the *Express* project that was saved before converting to the *Pro* format.
 - C. Click “Undo”
4. You are trying to copy a POU from *Express* to *Pro*, but it doesn’t seem to be working. In fact, you can’t edit anything in *Pro*. What is likely to be the problem?
 - A. The unlicensed version of *Pro* prevents editing
 - B. POUs cannot be copied from *Express* to *Pro*, only from *Pro* to *Express*.
 - C. Only the instructions within a POU can be copied, not the entire POU
 - D. *Pro* was opened after *Express* and therefore is “Restricted”

5. What is the “MainV” item in the project tree, displayed in the image to the right?
 - A. Task Definition for the “Main” POU
 - B. Local Variables for the “Main” POU
 - C. “Main” POU code page
 - D. “Main” POU information
 - E. Subfolder for grouping POUs
 - F. “Main” Global Variables list



6. Where is the ladder contact width changed in *Pro*?
 - A. Extras – Options menu
 - B. Tools – Options menu
 - C. Edit – Options menu
7. What is the requirement for a project to be used in Project Comparison?
 - A. Project must be zipped ahead of time
 - B. Project must be opened from within windows explorer
 - C. Project must complete a successful MAKE
 - D. Both projects must be opened simultaneously in separate instances of *Pro*

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8. After running Project Comparison, What tab of the Project Comparison Window is used to display differences in variables and code?
- A. Worksheets
 - B. Properties
 - C. Build
 - D. Errors
 - E. Infos
 - F. Compare Variables
 - G. Compare Code

Multi-Task

9. How many tasks can run in the MP2300Siec when using *MotionWorks IEC – Pro*?
- A. 1
 - B. 4
 - C. 8
 - D. 16
 - E. 31
 - F. 32
10. To insert a new task, where do you right-click?
- A. The “Task” folder
 - B. The “Logical POU” folder
 - C. The “Resource” folder
 - D. The “Task: CYCLIC” task
 - E. The “New Task” folder
11. When creating a new program POU in *Pro*, what task does the POU automatically run in by default?
- A. “Default” task
 - B. “Main” task
 - C. “Task” task
 - D. “IOTask” task
 - E. None of the above

12. What “task type” is selected when the task should execute one time when the controller turns on?
- A. Startup
 - B. Initial
 - C. Warm Start
 - D. Cold Start
 - E. SPG
 - F. Default
 - G. Boot
 - H. Cyclic
 - I. Event
 - J. System
13. How are program instances moved from one task to another (with the resource dialogue window closed)?
- A. Click and drag the program instance from one task to another
 - B. The program instance must be deleted from one task and re-created in another
 - C. A program instance may not be moved from one task to another
 - D. Move one task as a sub-task of another
14. If the Mechatrolink-II communication cycle is set to 3 ms, what is the minimum “interval” for a cyclic task?
- A. 62.5 microseconds
 - B. 0.5 ms
 - C. 1 ms
 - D. 1.5 ms
 - E. 2 ms
 - F. 3 ms
 - G. 4 ms
 - H. 5 ms
 - I. 6 ms
 - J. No minimum
15. Cyclic tasks named “TaskA”, “TaskB”, and “TaskC” are assigned intervals of 4, 2, and 2, respectively. They are also assigned priorities of 10, 3, and 2, respectively. Which task is executed first?
- A. TaskA
 - B. TaskB
 - C. TaskC
16. If a cyclic task has the Interval set to 2 ms and priority set to 4, what is the recommended setting for Watchdog Time?
- A. 1 ms
 - B. 2 ms
 - C. 4 ms

17. Where in *MotionWorks IEC – Pro* is I/O assigned to a task?

- A. In the Hardware Configuration
- B. In the Task folder
- C. In the Physical Hardware folder

18. Which tasks may be used for I/O assignment?

- A. "IOTask" task only
- B. "Default" task only
- C. "Task" task only
- D. "IOTask" or "Default" task
- E. Any available task
- F. None of the above

Sequential Function Chart (SFC)

19. Under what circumstances is it recommended to use the SFC programming language?

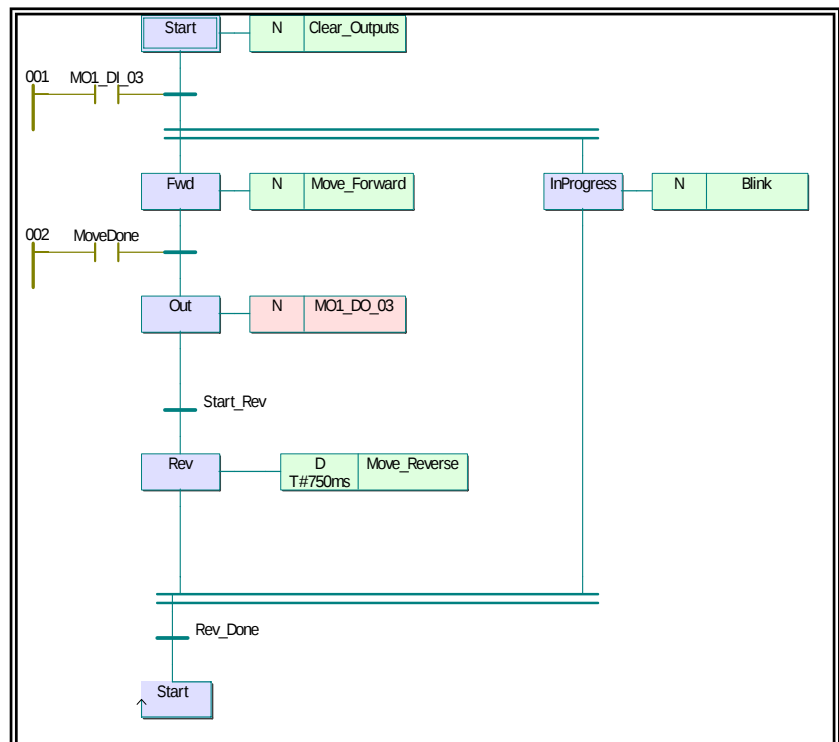
- A. When the machine follows a sequence of operations
- B. When the machine operates in different "states"
- C. When the programmer prefers using the SFC language
- D. When the program will be used as a troubleshooting tool
- E. A, B, C
- F. B, C, D
- G. C, D, A
- H. D, A, B

20. Which is/are classified as a "Step" in the figure to the right?

- A. Move_Forward
- B. Out
- C. Rev_Done
- D. A, B
- E. B, C
- F. A, B, C

21. Which is/are classified as a "Detail-type" transition in the figure to the right?

- A. MoveDone
- B. InProgress
- C. D T#750ms
- D. Rev_Done
- E. Blink

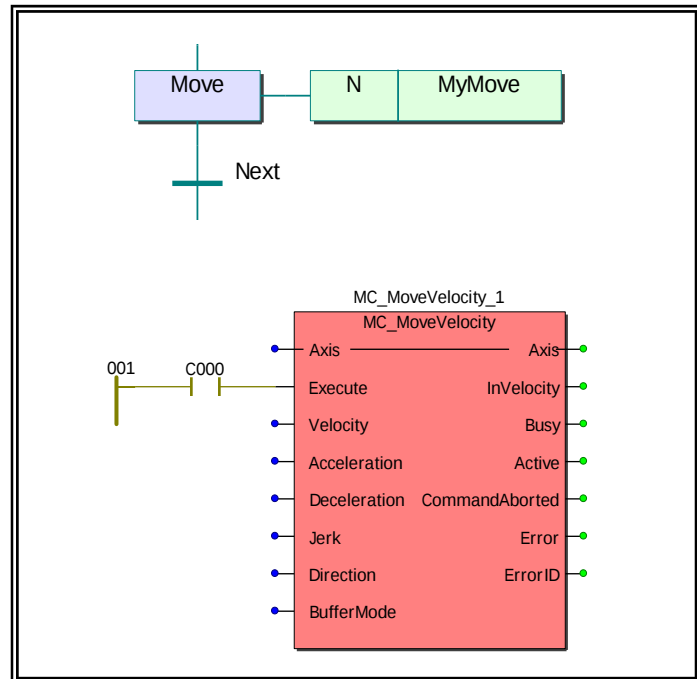


22. What does the “D” represent in the figure above?

- A. Detail-type transition
- B. Delay before the action
- C. Delay before the next step
- D. Delay before the next transition
- E. DINT data type returned

23. The MC_MoveVelocity function block is part of the **action** code page shown to the right. What is the correct entry for the C000 contact so that the Execute input will be TRUE while the step is active

- A. TRUE
- B. FALSE
- C. Any BOOL variable
- D. N
- E. Fwd
- F. Step
- G. Move
- H. MyMove
- I. Next
- J. N.X
- K. Fwd.X
- L. Step.X
- M. Move.X
- N. MyMove.X
- O. Next.X



24. What datatypes are valid for variable-type actions?

- A. BOOL
- B. INT
- C. DINT
- D. LREAL
- E. All of the above

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25. The ladder diagram is part of the **transition** code page shown on the right. What is the correct entry for the C004 coil so that the transition will be TRUE when that coil is TRUE?

- A. TRUE
- B. FALSE
- C. Any BOOL variable
- D. N
- E. Fwd
- F. Step
- G. Move
- H. MyMove
- I. Next
- J. N.X
- K. Fwd.X
- L. Step.X
- M. Move.X
- N. MyMove.X
- O. Next.X

