

“RT Embedded Systems Design” Program Acceptance Exam

Exam Structure:

“American style” questions

Instructions:

- ✓ Exam duration: 45 min
- ✓ Number of questions: 20
- ✓ To mark the correct answer on page with questions.
- ✓ Only one answer is correct or several if it defined in the question.
- ✓ Auxiliary material:
 - Closed

Grade policy:

Width of the questions defined in the task definition.

Good Luck

Student Name: _____

ID Number: _____

Date of exam: _____

Question 1

Which from following address modes is impossible?

- A. Operand addressing.
- B. Immediate addressing.
- C. Registered addressing.
- D. Indirect addressing.

Question 2

What are the flags that simple CPU conditional (status) register includes? Choose the correct answer.

- A. Zero, carry, overflow, negative flags
- B. Zero, overflow, carry, positive flags
- C. Zero, overflow, carry flags
- D. Negative, positive, borrow, overflow flags

Question 3

What is an accumulator in the CPU?

- A. The register which holds data to output device.
- B. The register which holds next instruction to be executed.
- C. The register which contains memory address of data being referenced.
- D. The register that hold temporary data that CPU need to process.

Question 4

What is software I/O polling?

- A. Checking by CPU the status of I/O in order to determine their readiness for receiving or sending data.
- B. Configuration by CPU the registers of I/O.
- C. Checking by CPU status of I/O after that interruption occurs.
- D. Both A and B.

Question 5

Interrupt in system is used by:

- 1. Host to interrupt data transfer.
- 2. Peripheral device to request host intervention.
- 3. For arbitration between two system masters.
- 4. Peripheral to interrupt host from working with other peripheral.

Question 6

```
int    nVal;
```

```
int *pnVal;
```

```
pnVal = &nVal;
```

```
nVal = 10;
```

```
*pnVal = 5;
```

What is the value of nVal:

- a. 10
- b. 5
- c. 0
- d. unknown value

Question 7

```
int *pInt = 0x0f000000;  
char *pChar = 0x0f000004;
```

Which of the answers is correct:

- a. “pChar > pInt” is true
- b. “pChar == pInt + 1” is true
- c. both a,b
- d. none

Question 8

```
int X[N];  
  
int *pX = X;  
  
1.X[2] = 100;  
  
2.*(X+2) = 100;  
  
3.*(pX+2) = 100;  
  
4.pX[2] = 100;
```

Which of the above operations is the same?

- a. 1&2
- b. 1&2&3
- c. all
- d. none

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