Ministry of Communication	Sample Exam
and Information Technology	Hours
Information Technology Institute	Open Book Exam

Q. 1 True or False

- 1. In C Programming language, any function can call any function except *main* it could not be called by any other function.
- 2. Control always return to the caller when the function terminates normally
- 3. If you don't initialize an array of integers, the elements of that array will be set by zero values.
- 4. We can't change the array size during the program execution



Using array is better than declaring variable because it saves memor

- 6. Array of character may not end with null character if we are going to deal with it character by character
- 7. We can change the array size during the program execution.

Q. 2 Select the correct answer(s)

```
    char *ch;
    *ch = 'c';
    printf("%c", *ch);
```

The output of this program will be:

- a) 'c'
- b) Address of ch
- c) The program may not execute properly

```
2. for(I < 5; I = 0; I++) {
    printf("%d", I);
}
```

If I is an integer and initialize to 1. What will be the output?

- a) 1234
- b) 12345
- c) 15
- d) Nothing
- e) The compiler will generate an error
- 3. int *ptr;
 int ar[2];
 ptr = ar;
 ptr++;
 ar++;
 - a) ptr equals ar
 - b) ptr doesn't equal ar
 - c) the compiler will generate an error
- 4. In the array below, how can you access the element which has the value 4: int $Arr[3][3] = \{ \{1, 2, 3\}, \{4, 5, 6\}, \{7, 8, 9\} \};$
 - a) Arr[0][0]
 - b) Arr[0][1]

- c) Arr[1][0]
- d) Arr[1][1]
- 5. A structure is a collection of variables of:
 - a) Different data types scattered throughout memory.
 - b) The same data types scattered throughout memory.
 - c) The same data type placed next to each other in memory.
 - **d)** Different data types placed next to each other in memory.
- 6. it is recommended to use do while loop when
 - a) The terminating condition occurs unexpectedly
 - b) The body of the loop will be executed at least once
 - c) The program will be executed at least once
 - d) The body of the loop will be executed a predefined number of times
- 7. Which of the following are correct ways to refer to the variable ch, assuming the address of ch has been assigned to the pointer fingerch?
 - a) * fingerch;
 - b) int *fingerch;
 - c) *finger;
 - d) *ch;
- 8. What does the following program segment do? int numb;

```
do {
    scanf("%d", &numb);
} while (numb < 1 && numb > 10);
```

- a) Reads an integer in the range [1, 10]
- b) Reads an integer out of range [1, 10]
- c) Reads an integer other than 1 and 10
- d) Non of the above
- 9. Which of the following is best suited for representing a Matrix with 3 Rows and 3 Columns?
 - a) One-Dimensional Array
 - **b)** Two-Dimensional Array
 - c) Three-Dimensional Array

All of the above

- 10. Which of the following best describes the purpose of function prototype?
 - d) Prototype is an instruction for the compiler to include the stdio.h header file

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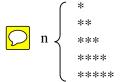
- e) A prototype makes a forward declaration of a function, so subsequent code referring to that function can be linked to it by the linker
- 1) A prototype makes a forward declaration of a function, so subsequent code referring to that function can be checked by the compiler for the correct number and type of arguments of that function
- g) A prototype is used to call a function
- 11. int $myArray[] = \{1,2,3,10,20,30\};$

Referring to the sample code above, what dimension will automatically be calculated for my Array?

- a) 6
- b) 7
- c) 12
- d) This is not a valid array initialization and will not compile
- 12. When you run the following piece of code, the output will be:

Q. 3 Design and implement the following functions using C Programming Language

1. Write a function that draw the following on the screen



Where n is given by the user

2. Write a function that calculates the division of two integer numbers. The user can enter any integer number for both numbers (No Restriction on any one).

After finishing the function, write 2 sentences for the user on how to use the function (the parameters, and the return type).

Best Wishes