Ministry of Higher Education & Scientific Research
University of Technology
Communication Eng. Department
2nd Semester - Final Examination (2016/2017)

Subject: **Computer Science** II   Date: /   / 2017
Division: **Wireless & Optical**   Time: **3 Hrs.**
Year: **First**   Examiner: **Dr. Salwa A. Alagha**

Attempt   **Five**   questions only

Q1:

A. Fill in the blanks: (**choose 5 only**)

1. With (floor) function in C++, we use _____ standard function.

2. In C++, the total size in bytes for array (double B[7][3]) in the memory is equal _____.

3. With (cout) function in C++, we use _____ standard function.

4. With (strncat) function in C++, we use _____ standard function.

5. In C++, the total elements for array (int A[5][3]) is equal _____.

6. To copy string 1 over string 2, we use _____ function.

7. With $\sqrt{\dfrac{1}{x}}$ function in C++, we use _____ standard function.   (**5 marks**)

B. Write a program in C++ language to find the multiplication of elements of the 1D array B, which have 30 elements entering from keyboard.   (**5 marks**)

Q2:

A. Write a program in C++ language to find and print the transpose of array size (3×4).

$$A = \begin{bmatrix} 2 & 8 & 1 & 4 \\ 3 & 5 & 22 & -4 \\ -5 & -9 & 33 & -8 \end{bmatrix}$$

(**5 marks**)

B. Write a program in C++ language to create Min function to find the minimum number between two numbers.   (**5 marks**)

Q3:

A. Write a program in C++ language to obtain and print on the screen, the counter from 5 to 8 increment by 0.3, by using **do-while statement**.   (**5 marks**)

B. Write the result of C++ program that appearing on the screen of computer after execution:

(**5 marks**)

```
# include<iostream.h>
# include<conio.h>
main()
{
float x=8, M=1;
do{
cout<<x<<endl;
M*=x;
x - =0.7;
} while (x>=1);
cout<<"The multiplication is = "<<M;
getch();
}
```
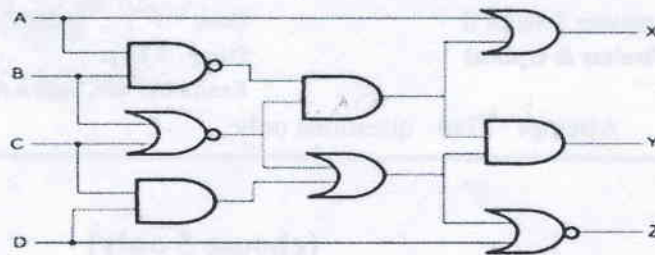
Q4:

A. Write a program in C++ language to obtain and print on the screen the output of the logic circuit below, then shift A to 7 bits to left, and shift C to 4 bits to right].

(5 marks)

B. Write a program in C++ language to obtain and print the sum of elements of array, which values of elements equal to cubic index of array one dimension size 10. **(5 marks)**

Q5:

A. Write a program in C++ language to print on the screen these sentences:

love Iraq

Iraq is our country.We love Iraq

We love our country.We love Iraq

, by using these strings in the program (Iraq is our country.), (We love Iraq). **(5 marks)**

B. Write a program in C++ language to obtain and print on the screen, the value of (Y) for equation below, for values of x: (5 - 10), by using **while statement**. **(5 marks)**

$$Y = \frac{6}{x^4} + \frac{9}{x^6} - \frac{12}{x^8} + \frac{15}{x^{10}}$$

Q6:

A. Re-write the C++ program below after correcting the errors. **(5 marks)**

```
#include<iostream>
#include<conio.h>
main
{
float y;
for(i=1 ; 1<=10 , i++);
y=i/3+√i;
cout<<"y is equal = ">>y<<endl;
{
getch();
}}
```

B. Write a program in C++ language to obtain the equation below for value of x:(20 - 60), and print the result of (Y) on screen, by using **for statement**. **(5 marks)**

$$Y = \sum_{60}^{20} \cos^{-1} x - \sqrt{\frac{x-2}{2}} + \log x * |x^3 - 3|$$

Good Luck