NATIONAL UNIVERSITY OF SCIENCES & TECHNOLOGY
School of Mechanical & Manufacturing Engineering (SMME)
Department of Mechanical Engineering

Time: 60 minutes　　　　　　　**One Hour Test**　　　　　　　Maximum Marks: 40

Program: BS Mechanical Engineering　　　　　　　　　　Class: ME-07 (A & B)
Course: EC-102 Computer Systems & Programming　　Instructor: Dr. Syed Omer Gilani

Name: _____　　　　　　Section: _____

Registration: _____　　　　Date: _____

Instructions:

1. Total time allowed is 60 minutes.

2. Notes and books are not allowed.

3. Calculator is allowed but exchange is prohibited.

4. Question papers must be submitted with answer sheets.

5. Anybody cheating or helping others to cheat will get his/her paper cancelled.

6. Attempt all questions.

1　Multiple Choice Questions

1. The if..else statement can be replaced by which operator?　　　　　　　　　　[2]

    (a) Bitwise operator.　　　　　　　　　(c) Multiplicative operator.

    (b) Conditional operator.　　　　　　　(d) None of the above.

    ANS
    Option b: In the conditional operator,it will predicate the output using the given condition.

2. In the following expression, which operation will execute first?　　　　　　　[2]

```cpp
#include <iostream>
using namespace std;
int main ()
{
        x = 2 + 3 * 5 / 3 - 5
        return 0;
}
```

(a) 2 + 3.

(b) 3 * 5.

(c) 5 / 3.

(d) 3 - 5.

ANS Option b: 3*5

3. In an arithmetic operation, if one operand is an integer and other is float then output will be: [2]

(a) Integer.

(b) Float.

(c) Double.

(d) None of the above.

ANS Option b: Float

4. What output will be generated if we execute following program?

```cpp
#include <iostream>
using namespace std;
int main ()
{
int  a = 100;
float b = 7 / 10 * a;
cout<<b<<endl;
return 0;
}
```

[2]

(a) 70.

(b) 100.

(c) 0.

(d) 1.

ANS:
Option c: 0

5. What is the output of following program?   [4]

```cpp
#include <iostream>
using namespace std;
int main ()
{
        int x, y;
        x = 5;
        y = ++x * ++x;
        cout << x << y;
        x = 5;
        y = x++ * ++x;
        cout << x << y;
        return 0;
}
```

(a) 749736.

(c) 367497.

(b) 736749.

(d) None of the above.

ANS:

Option a: 749736

Because of the precedence the pre-increment and post increment operator, we got the output as 749736

6. What is the output of following program? [4]

```cpp
#include <iostream>
using namespace std;
int main()
{
        int n = 15;
        for ( ; ;)
        cout << n;
        return 0;
}
```

(a) Error.

(c) Infinite times of printing n.

(b) 15.

(d) None of the above.

ANS:

Option c: There is no condition in the for loop, So it will loop continuously.

2 Short Question Answers

7. Explain the function of pre-processor directives. [4]

8. Explain the difference between break and continue statements. [4]

9. What is the use of the indentation in C++? [4]

3 Write a complete C++ program

10. Find the sum of first n terms of a geometric sequence using the following formula. [12]

$$S = \frac{a(1 - r^n)}{1 - r} \tag{1}$$

Let the variable values be $a = 1, r = 2, n = 8$

End of exam