


<b>Philadelphia University</b> <b>Faculty of Engineering</b> <b>Department of Computer Engineering</b>		<b>Date:- 14/11/2016</b> <b>Allowed time:- 50 Minutes</b>
<b>Programming Language (630263)      First Exam</b>		
<b>Student Name: - .....</b> <b>ID: - .....</b>		

**Instructor:**    **Dr. nasser Halasa**       **Dr. Ali Khawaldeh**       **Eng. Sultan Al-Rushdan**

**Lecture Time:**    **11:10 حتم**       **13:10 حتم**       **15:10 حتم**       **9:45 نر**       **14:15 نر**

**Question 1:** choose the correct answer for the following questions: **5 marks**

- 1- The value of the expression `17%3` is
 

A). 1	B). 2	C). 3	D). 4
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- 2- Suppose that x and y are int variables which of the following is a valid input statement?
 

A). <code>cout&lt;&lt;x&lt;&lt;y;</code>	B). <code>cin&gt;&gt;x&gt;&gt;y;</code>	C). <code>cin&gt;&gt;x&gt;&gt; cin&gt;&gt;y</code>	D). <code>cin&lt;&lt;x&lt;&lt;y;</code>
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- 3- Which of the following is a valid variable name.
 

A). <code>var_1</code>	B). <code>var 1</code>	C). <code>var!</code>	D). <code>1_var</code>
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- 4- The output of the statement `cout<<pow(3.0,2.0)+5<<endl;`

A). 11.0	B). 12.0	C). 13.0	D). 14.0
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- 5- Suppose that alpha and beta are int variables the statement `alpha=beta--` is equivalent to the statement(s)
 

A). <code>alpha=beta;</code> <code>beta=beta-1</code>	B). <code>beta=beta-1</code> <code>alpha=beta</code>
C). <code>alpha=beta-1</code>	D). <code>alpha=1-beta</code>

**Question 2:** Find the errors(logical or syntax) in the following codes then correct them assume all required libraries are included **3 marks**

Code	Correction
<pre>void main {   int x_val=5 ; y_val=6;   cout&lt;&lt;x_val&lt;&lt;"  "&lt;&lt;y_val; }</pre>	
<pre>void main() {   double a=3.5;   double b=1.5;   double c=a%b;   cout&lt;&lt;"c"&lt;&lt;c&lt;&lt;endl }</pre>	
<pre>char c='a'; if(c='b')     cout&lt;&lt;"c"&lt;&lt;c&lt;&lt;endl;     cout&lt;&lt;"c is not a"&lt;&lt;endl; else     cout&lt;&lt;"c is a"&lt;&lt;endl;</pre>	

**Question 3:** Perform the following tasks.

**2 marks**

Write if statement that perform the following equation

$$y = \begin{cases} x^2 + 7 & , \quad x \leq -7 \text{ or } x = 0 \\ 3x - 5 & , \quad \text{otherwise} \end{cases}$$

Write the instructions that declare and calculate find the average of three integer numbers

**Question 4:** What is the output of the following codes:

**5 marks**

```
void main()
{
    int a = 500, b = 100, c;
    if(!a >= 400)
        b = 300;
    c = 200;
    cout<<b<<"\n"<<c<<endl;
}
```

```
void main()
{
    int k, num = 30;
    if(num%2)
        k = 200;
    else
        k = 300;
    cout<<"k="<<k;
}
```

```
void main()
{
    int x=4, y=7;
    bool z;
    z = x!=4 || y == 2;
    cout<<"z="<<z<<endl;
}
```

```
void main()
{
    int x=4, y=7;
    int z=x++*--y;
    cout<<"x="<<x<<endl;
    cout<<"y="<<y<<endl;
    cout<<"z="<<z<<endl;
}
```

```
void main()
{
    int x=8, y=7;
    if(x!=8 || y<10)
    {
        cout<<"hello\n";
        x=4;
    }
    if(x==4)
        cout<<"hi\n";
}
```

**Question 5:** Write a program that calculate the value of Z according to the following equation

$$Z = R^2 + (\omega L - \frac{1}{\omega C})^2$$

The program should display Error message if the user enter a negative value for R or L or C or  $\omega$ . Use the appropriate data types for your variables. **5 marks**