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**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2016/2017**

COURSE NAME : C++ PROGRAMMING  
COURSE CODE : BWB 10203  
PROGRAMME CODE : BWQ  
EXAMINATION DATE : JUNE 2017  
DURATION : 3 HOURS  
INSTRUCTION : ANSWERS ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF SEVEN (7) PAGES

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(j) Consider the following source code.

```
=====
1   cin >> num;
2   if (num > 9)
3   {
4       cout << num;
5       num = 0;
6   }
7   else
8   cout << "Num is zero" << endl;
=====
```

Suppose the input is 10. The output of the code is: 100

(3 marks)

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## SECTION B – Short answer

Q2 Refer the following C++ code:

```
=====
1.  #include <iostream>
2.  using namespace std;
3.  int main()
4.  {
5.    int r=0;
6.    const PI=3.14;
7.    cout << "Enter radius value of a circle: ";
8.    cin >> radius;
9.    while (r!=0);
10.   r++;
11.   do
12.   {
13.     luas = PI*radius*radius;
14.     cout <<"\nThe size of a circle is: " <<luas <<endl;
15.     cout <<" Enter another radius value: ";
16.     cin >> r;
17.   }
18.   return 0;
19. }
```

=====

- (a) The above program has errors. Find the errors by specifying the line numbers and explain the reasons. (5 marks)
- (b) If the errors has been corrected, what would be the output of the above program? (2 marks)
- (c) How many times block { .. } is repeated? (2 marks)
- (d) If the conditional repetition structure has changed to while (r<=3), how many time the block { .. } is repeated? (2 marks)
- (e) Remove two commands in lines 15-16 in block { .. } . What will happen? Explain. (4 marks)

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**Q4** Identify the following programs either it has an error or not. If the program has an error, Locate the error, classify it as either a syntax, compile-time, link-time, runtime or a logical errors. Explain the error and correct it.

(a) 

```
#include<iostream>
using namespace std
int main()
{ int n = 22;
  int m += 33;
  cout<< n << endl;
  cout<< m <<endl;
}
```

(3 marks)

(b) 

```
if (n<0)
  cout<<"n is negative\n";
  cout<<"Is that ok?\n";
else
  cout<<n is non-negative\n";
```

(3 marks)

(c) 

```
while (n<20);
  cout<<n++<<endl;
```

(3 marks)

(d) 

```
for (int i=1, i<=8, i++)
  cout<<1.0/i<<endl;
```

(3 marks)

(e) 

```
#include<iostream>
using namespace std;
int main()
{ float x =sqrt (-1.01)
  cout<<"x is: "<<x<<endl;
}
```

(3 marks)

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**SECTION C – Choose ONE (1) question. Write a complete program.**

- Q5** A company named Best Options is doing analysis of its 10 best sales representatives. The analysis is important for the company to search for the best salesperson among them. That particular salesperson will be awarded a token of appreciation from the company. A computer program is required to assist the company in doing the analysis. Write a C++ source code to do the following:
- (a) Declare three arrays namely `Staff_ID` of type integer, `Staff_Name` of type string, and `Sales` of type double. The array size is 10.
  - (b) Prompt the user to enter the salesperson's name, ID and their respective sales. Then read the input into the corresponding arrays.
  - (c) Print the name, ID and the amount of sales of the salesperson with the highest sales.
- (25 marks)
- Q6** Write a program that has **TWO (2)** functions. The function named `display ()` will receive an array of age [10] from main body. Then, the program will evaluate and display the status of age based on input from user. If age is less than or equal to 18, the program will store to children array. However, if the age is greater than 19, the program will store to adult array. The program also has to calculate and display the total numbers of each array.
- (25 marks)

**TERBUKA****-END OF QUESTIONS –**