UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2014/2015

COURSE NAME	:	COMPUTER PROGRAMMING
COURSE CODE	:	BFC 20802
PROGRAMME	:	BACHELOR OF CIVIL ENGINEERING WITH HONOURS
EXAMINATION DATE	:	JUNE 2015 / JULY 2015
DURATION	:	2 HOURS
INSTRUCTION	:	1. ANSWER **ALL** QUESTIONS IN SECTIONS A AND B
		2. CHOOSE ONLY **TWO (2)** QUESTIONS ONLY IN SECTION C

THIS QUESTION PAPER CONSISTS OF **ELEVEN (11)** PAGES

SECTION A

Instruction: Please answer **T (True)** or **F (False)**.

(10 marks)

No.	Questions	Answer	
		True	**False**
Q1	Hardware and software are the major components of computer.		
Q2	Computer not only executes machine language but also human language.		
Q3	Reserved words in C++ can be used for any other purpose.		
Q4	int and double are reserved words in C++		
Q5	" \n " is used for horizontal tab		
Q6	Hierarchy chart, flowcharts or pseudo code are design tools to create a model of the program.		
Q7	Decisions made by a computer must be very simple since everything in the computer ultimately reduces to either true (1) or false (0).		
Q8	Statements and declarations must end with semicolons.		
Q9	cout used to displays output on the computer screen.		
Q10	C++ contains three different loop structures: the *while* loop, the *do...while* loop and *if* loop.		

SECTION B

Instruction: Answer **ALL** questions.

Q1   Write the expression of C++ language which is equivalent to the following mathematic expressions:

(5marks)

No	Mathematical Expression	Answer
1	BFC 20802	
2	1985UtHM	
3	Seven_eleven	
4	One*nine	
5	integer	

Q2   Write a single C++ statement or line that accomplishes each of the following:

(5 marks)

(a)   Print the message "Enter two numbers".
(b)   Assign the multiplication of variables b and c to variable a.
(c)   State that a program performs a payroll calculation (i.e., use text that helps to document a program.
(d)   Input three integer values from the keyboard into integer variables a, b and c.
(e)   Add y with 2, double it and stored into x.

Q3   List the phases of Software Development Life Cycle (SDLC), in order from start to end.

(5 marks)

Q4   Identify and correct the error(s) in each of the following:

(10 marks)

(a)   if (age >= 65);

```
    cout << "Age is greater than or equal to 65" << endl;
else
    cout << "Age is less than 65 << endl";
```

b)   if (age >= 65)

```
    cout << "Age is greater than or equal to 65" << endl;
else;
    cout << "Age is less than 65 << endl";
```

c)   cout >> "Hello world!";

d)   RETURN 0;

e)   while (y > 0)

```
{
  cout << y << endl;
  ++y;
}
```

Q5   Write a single C++ statement or line that accomplishes each of the following:

(a)   Write an expression that uses a relational operator to return TRUE if the variable *George* is not equal to *Sally*.

(b)   Write a WHILE loop that will display the *numbers* from 100 to 110.

(c)   Write an IF...ELSE statement that displays "Yes" if a variable *miles* is greater than 21, and displays "No" otherwise.

(d)   Write an expression involving a logical operator that is TRUE if *limit* is 55 and *speed* is greater than 55.

(e)   Print a message that prompt "Welcome to C++ programming!".

(5 marks)

Q6   Identify and correct the error(s) in each of the following:

(a)
```
#include <isostream>
using namespace std;
int Main()
{
    int age=10;
    cout<<" You are "<<age<<" years old.\n";
    cout<<" You are too young to play the game.\n";
    system("PAUSE");
    return 0;
}
```

(2 marks)

(b)
```cpp
#include <iostream>
using namespace;
int main()
{
    int age==10;
    cout<<" You are "<<age<<" years old.\n";
    cout<<" You are too young to play the game.\n";
    system("PAUSE");
    return 0;
}
```

(2 marks)

(c)
```cpp
#include <iostream>
using namespace std;
int main()
{
    int age=10;
    cout<<" You are <<age<<" years old.\n";
    cout<<" You are too young to play the game.\n";
    system("PAUSE");
    return;
}
```

(2 marks)

(d)
```cpp
#include <iostream>
using namespace std;

int main()
{
int x;
do{
cout<<"Enter a number:";
cin>>y;
cout<<"\n
```

```
}while (x>0);
        system("PAUSE");
        return 0.0;
}
```

(2 marks)

(e)   ```
#include <iostream>
using namespace std;

int main()
{
int x;
Do{
        cout<<"Enter a number:";
cin>>x;
        cout<<"\n";
        }while(x=0);

system("PAUSE");
return 0;
}
```

(2 marks)

**Q7**     Given the following C++ program:

```
#include <iostream>
using namespace std;
int main()
{
   int x = 100;
   while (x <= 110)
   {
        cout << x << " ";
        x+=2;
   }
system ("PAUSE");
return 0;
}
```

(a)   Rewrite the above code segment by using *do…while* statement.

(2 marks)

(b)   What is the output of the above code segment?

(2 marks)

(b)   How many times the loop repeats?

(1 mark)

Q8   Write outputs for the following statement in C++ program:

(a)   int main()
        {
        int n;
        n = 66;
        cout << n << endl;
        return 0;
        }

(1 mark)

(b)   int i = 0;
        while (i < 3)
        {
        i += 1;
        cout << i <<endl;
        }

(1 mark)

(c)   Given n = 4, what is the output for:

        cout<<++n;

(1 mark)

(d)   int n = 5;

       if (n= = 0)
       cout << n<<" is zero" << ".\n";
       else
       cout << n<<" is not zero" << ".\n";

                                                                (1 mark)

(e)   int i = 5;
       while (i > 0)
       {
       --i;
       cout << i << endl;
       }

                                                                (1 mark)

SECTION C

Instruction: Choose **TWO (2)** questions only.

Q1   <u>TABLE 1</u> shows a list of message to be displayed for withdrawal process at ATM machine. Draw a flowchart and write a **C++ program** that will read in the requested amount, display the message based on the amount and display amount if the request accepted.

(20 marks)

Q2   Write a program using **Switch...Case** concept to execute the basic calculation such as addition (+), minus (-), multiplication (*) and divide (/). User needs to input two integers and select one of the basic calculations. Draw a flow chart and write the full program based on sample output as shown in **FIGURE Q2**. Draw flow chart before write the code.

(20 marks)

Q3   Determine the largest number from two integer numbers which is a parameter list of a function. Draw a flow chart and develop a C++ program as shown in **FIGURE Q3** where you need to invent:

   a. 2 prototype function: comparison(int x, int y) and display(int z)
   b. main () function that needed to ask an input of two numbers from user.
   c. after that, call the comparison(int x, int y) function which accept two integer numbers and make a comparison to find the smallest number. Finally, print the smallest number using the display (int c) function.

(20 marks)

Q4   Draw a flow chat and write the full program of C++ code to display output as shown in **FIGURE Q4**. Use function call to execute function displayFunc_X and displayFunc_Y.

(20 marks)

-END OF QUESTION -

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```
masukkan nilai a:9

masukkan nilai b:3

masukkan pilihan operasi asas:/

a / b =3
------------------------------------
Process exited with return value 0
Press any key to continue . . .
```

FIGURE Q2

```
Masukkan Nombor pertama: 5
Masukkan Nombor kedua: 9

Nombor yang terkecil ialah: 5

------------------------------------
Process exited with return value 0
Press any key to continue . . .
```

FIGURE Q3

displayFunc_C	displayFunc_D
* * * *	*
* * *	* *
* *	* * *
*	* * * *

FIGURE Q4

TABLE 1

Requested Amount (RM)	Message
0 – 49	Amount is too small.
50 - 1000	Request accepted. Display amount
> 1000	Amount is over the limit.