



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2015/2016**

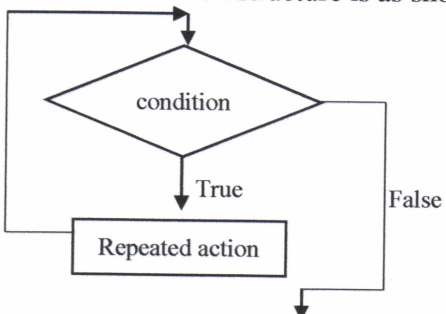
COURSE NAME : COMPUTER PROGRAMMING
COURSE CODE : BFC 20802
PROGRAMME CODE : BFF
EXAMINATION DATE : JUNE / JULY 2016
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : 1. ANSWER **ALL** QUESTIONS IN
SECTION A AND B.
2. CHOOSE ONLY **ONE (1)**
QUESTION IN SECTION C

THIS QUESTION PAPER CONSISTS OF **EIGHT (8)** PAGES

SECTION A

Q1 Please answer **T (True)** or **F (False)**.

(10 marks)

	Questions	TRUE	FALSE
a	ROM stands for Read-only memory.		
b	RAM & ROM enable a computer to send and receive data, instruction and information.		
c	Source code of the program can be compiled even syntax error is found, which is the advantage of using C++ language as compared to C language.		
d	Manipulator “endl” is used to advance the cursor to the beginning of the next line.		
e	Basic types of control structure are sequential, selection and repetition.		
f	The following code will not give an error. <pre> Int main () { const double G = 9.81; double weight, mass; cout << "This program calculates the weight of an object.\n"; cin >> mass; weight = mass * G; cout << "The weight of this object is" << weight << endl; return 0; } </pre>		
g	The flowchart for selection structure is as shown 		
h	Any of the expressions followed by a semicolon are variables.		
i	Binary numbers are 10101000023010.		
j	Flags is a variable that signals a condition.		

SECTION B

Instruction: Answer **ALL** questions.

Q2 State whether the following variable names are valid or invalid. If they are invalid, state the reason.

(6 marks)

No	Variable	Answer
a	¥total	
b	5hands	
c	total.gst	
d	peak_hour	
e	using	
f	char	

Q3 Given $x = 55$, what are the values of each of the following expressions.

(4 marks)

No	Expression	Answer
a	$x\%5$	
b	$(x/5)\%10$	
c	$x/55$	
d	$x/(55\%10)+x$	

Q4 Convert the following *if* statement to flowchart.

(5 marks)

```
if(x==1)
    cout<<x;
else
    cout<<y
```

Q5 Trace all errors in the following program.

(5 marks)

```
1 //Program 2
2 #include <iostem>
3 #include <iomanip>
4 using namespace std;
5 int main()
6 {
7 double num1, num2 total;
8 num1 = 3;
9 num2 = 1.32;
10 total = num1 + num2
11 cout >> "Total:";
12 cout << setprecision(2) << total;
13 return 0;
14
```

Q6 Define the output and draw a flow chart for the following program.

(10 marks)

Program Code	Output
<pre> #include <iostream> using namespace std; int main() { int count = 5; cout << count << endl; count++; cout << count << endl; ++count; count -= 6; cout << count << endl; cout << count++ << endl; cout << --count << endl; cout << count++; cout << endl; count = count * 3; cout << count << endl; return 0; } </pre>	

Q7 Write a single C++ statement or line that accomplishes each of the followings:

(a) Assign the division operator of variables P and A to variable σ .

(1 mark)

(b) Print the message "Total for three digits".

(1 mark)

(c) Instead of $a = a + 1$, we can write using increment operator as _____.

(1 mark)

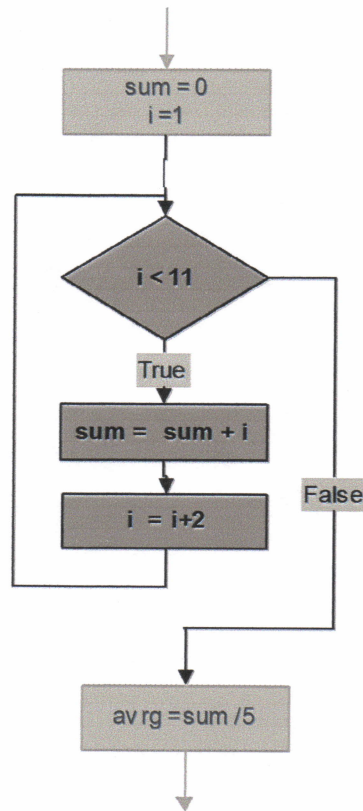
(d) Input four integer values from the keyboard into integer variables a , b , c and d .

(1 mark)

(e) Add x with 2, square root it and stored into y .

(1 mark)

Q8 Based on the given flowchart, identify the output of the average of odd numbers from 1 to 9. Construct the algorithm based on the flow chart. (10 marks)



Q9 Define the conditional statement and give a suitable example for it. (5 marks)

Q10 Write a C++ program to find the output of the following series:

$$\text{sum} = R - \frac{x^3}{5!} + \frac{x^5}{7!} + \frac{x^7}{9!} + \frac{x^n}{(n+2)!}$$

(10 marks)

SECTION C

- Q11** Construct a flowchart and write a complete C++ code which will ask user to key in the pH level of a water sample to find out its pH range and biological effects according to **Table 1** to decide whether a solution is very acidic, acidic, neutral, alkaline, or very alkaline.

(30 marks)

- Q12** Create a flowchart and write a complete C++ code that calculates the loan information of a car loan as shown in **Table 2**. The flowchart and C++ code should be able to provide the user to enter the amount and the number of years of the loan. Each loan will be charged with 3% interest per year.

(30 marks)

-END OF QUESTIONS -

FINAL EXAMINATION

SEMESTER / SESSION : SEM II / 2015/2016
 COURSE NAME : COMPUTER PROGRAMMING

PROGRAMME CODE : BFF
 COURSE CODE : BFC 20802

Table 1

pH range	Type of solution	Biological effects
0-2	Very acidic	All fish die
3-6	Acidic	most fish die
7	Neutral	Optimum for most fish
8-11	Alkaline	Most fish die
12-14	Very alkaline	All fish die

Table 2

Enter the amount of loan: **90000**
 Enter the number of years: 7

LOAN INFORMATION:

Total Interest : RM 18900.00
 Total Payment : RM 108900
 Monthly Payment : RM 1296.43