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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2014/2015**

COURSE NAME : COMPUTER PROGRAMMING
COURSE CODE : BNP 30102
PROGRAMME : 3BNB
EXAMINATION DATE : DECEMBER 2014/JANUARY 2015
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

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- Q1** (a) In computer programming, there are terms called *linker* and *compiler*. Discuss the differences between them. (6 marks)
- (b) Draw a flowchart for development steps of C++ programming from source code to execution file. (6 marks)
- (c) Briefly explain the following computer programming terms. (8 marks)
- (i) A program
 - (ii) Programming language
 - (iii) Programmer
 - (iv) Computer programming

- Q2** (a) The following C++ program has some errors. Identify the errors and rewrite the program.

```

/*
Calculate and display the average of three input values
*/
include <iostream>;
using namespace std;

int main(
{
char a, /* first input value */
    b, /* second input value */
    c /* third input value */
    average; /* average of three inputs */

cout>>"Enter three integer numbers"
cin>>;
cin>b;
    cin>>c;
    average=(a+b+c)÷3;
cout<< "Average = " >>Average;
return 0.

```

(13 marks)

- (b) Draw a full flowchart for the program in **Q2(a)**.

(7 marks)

- Q3** (a) Construct C++ code that can generate student grade based on the given requirements:

```

if student's grade is greater than or equal to 85
  Print "A"
else if student's grade is greater than or equal to 70
  Print "B"
else if student's grade is greater than or equal to 60
  Print "C"
else if student's grade is greater than or equal to 40
  Print "D"
else
  Print "F"

```

(14 marks)

- (b) Explain briefly **THREE (3)** types of control structures.

(6 marks)

- Q4** (a) You are required to develop C++ based program that may calculate *power* and *voltage* based on the equation below:

$$\text{voltage} = \text{energy} / \text{charge}$$

$$\text{power} = \text{voltage} \times \text{current}$$

Draw a flowchart for the program based on the given descriptions.

(7 marks)

- (b) Develop a C++ program for **Q4(a)**.

(13 marks)

- Q5** (a) Develop a C++ program to choose the larger number between two integer numbers. Use funtions format as part of the program. The program output should be as below:

The smaller number between 7 and 2 is 7

(14 marks)

- (b) Discuss the differences between *user-defined functions* and *pre-defined functions*.

(6 marks)

— END OF QUESTION —