



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

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

**TERBUKA**

COURSE NAME : COMPUTER PROGRAMMING  
COURSE CODE : BEC 10102  
PROGRAMME : BEJ / BEV  
TEST DATE : JUNE 2017  
DURATION : 2 HOUR 30 MINUTES  
INSTRUCTION : ANSWER ALL QUESTIONS

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

Q1 Spot the logic error in the following code and correct it:

```
for ( int j = 10, j > 0, j-- ) ;
{
    cout << j << endl ;
    if ( j = 1 )
    {
        cout << "BOOM!\n" ,
    }
}
```

(5 marks)

Q2 Create a do-while loop that reads integer values given by the user into an integer variable *x*, initialized to 0, then adds those values on to some variable named *totalVal* until *totalVal* reaches at least 20.

(12 marks)

Q3 Answer (a) to (c) based on the following array declaration:

```
const int array_size = 10;
double resistor[array_size];
```

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- (a) Write the C++ code/statement that initializes the resistor array with random numbers. (3 marks)
- (b) Construct the C++ code/statement that summing all the elements of the resistor array. Use a variable named *total* to store the sum. Initially, *total* is 0. (3 marks)
- (c) Construct the C++ code/statement to find the largest element in the resistor array. Use a variable named *max* to store the largest element. Initially *max* is *resistor[0]*. (4 marks)

- (d) Complete item (i) – (x) with the correct C++ code/statement.

```
#include <iostream>
using namespace std;

void reverse (const int ____ (i) ____, int ____ (ii) ____, int
size)
{for ( int i = 0, j = size - 1; i < ____ (iii) ____ ; i++; j-- )
    newList[j] = list[i];
}

void ____ (iv) ____ (const int ____ (v) ____, int size)
{for ( int i = 0; i < ____ (vi) ____ ; i++ )
    cout << ____ (vii) ____ << " ";
}

int main ()
{int size = 6;
 int list[ ] = {1, 2, 3, 4, 5, 6};
 int newList[6];
 reverse(list, newList, ____ (viii) ____ );
 cout << "The original array: ";
 printArray (list, ____ (ix) ____ );
 cout << endl;
 cout << "The reversed array: ";
 ____ (x) ____ (newList, 6 );
 cout << endl;
}
```



(10 marks)

- Q4** Design a pseudo code for a program that prompts the user to enter two positive integers and finds their greatest common divisor (gcd).

(10 marks)

- Q5** (a) What is the return type of the main function?

```
void main () {
}

```

(2 marks)

- (b) Given the following statement. Answer (i) to (ii).

```
int larger = max (3,4);
```

- (i) Write max function to find the largest between two integer values using the given function call.

(12 marks)

- (ii) Write its function prototype.

(5 marks)

- (c) Answer (i) and (ii) based on the given program below. Note that line number have been added on the left column for identifying certain parts of the program.

```

1.  | main(){
2.  |     function2(2);
3.  | }
4.  |
5.  | int function1(int a, b)
6.  | {
7.  |     cout<<a;
8.  | }
9.  |
10. | function2(){
11. |     n+=1;
12. |     function1(3,4);
13. | }

```

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- (i) Identify the errors in the program.

(3 marks)

- (ii) Fix the errors.

(5 marks)

- Q6** Write a C++ program that allow the user to enter a sequence of nonnegative integers. The user ends the list with a negative integer. At the end the sum of the nonnegative integers entered is displayed. The program prints zero if the user enter only negative integers. Use comment to explain your coding.

(16 marks)

- Q7** Convert the following switch statement into if...else statement

```

switch (major_code) {
    case 1:
        cout<<"Science Student";
        break;
    case 2:
        cout<<"Art Student";
        break;
    case 3:
        cout<<"Engineering Student";
        break;
    case 4:
        cout<<"Medical Student";
        break;
    default:
        cout<<"Code error";
}

```

(10 marks)