UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020

COURSE NAME	:	COMPUTER PROGRAMMING
COURSE CODE	:	BNR 20803
PROGRAMME CODE	:	BND / BNE / BNF
EXAMINATION DATE	:	DECEMBER 2019 / JANUARY 2020
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER ALL QUESTIONS

TERBUKA

THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES

Q1 **(a)** Build a complete C++ programming code using **if – else** statement to read THREE (3) floating numbers, then display the total and the biggest number.

(5 marks)

(b) Build a complete C++ programming code using **switch** statement to read 1 grade, and Display the word based on table **Q1(b)**.

(5 marks)

(c) Write a complete C++ programming code based on Figure Q1(c) using **for loop** statement to count up with enter the **n_start** and **n_stop** number. Display the "**COUNT UP**" for count up number and "**is odd**" for odd number.

(5 marks)

(d) Write a complete C++ programming to display positive factorial.

(5 marks)

Q2 **(a)** Write a complete C++ programming to do dividing, adding, multiplying, and subtracting using 4 **sub-function**.

(10 marks)

(b) Write a complete C++ programming using **function** to differentiate odd and even numbers.

(10 marks)

Q3 Equations below are used to solve a mathematical problem. Answer questions **Q3(a)** and **Q3(b)**.

$$a=1, b =2, c = 2, y = 1$$
$$x = 2a + 3b * 4c$$
$$y *= 8b - ++c$$
$$z = x / 2 + y$$

(a) Write a complete C++ programming code to produce the output value of z for the equation.

(5 marks)

(b) Provide the output value of z with work path.

(5 marks)

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(c)   Predict the output for the function given below.

```
int main()
{
      int i=3;
      float j=15;
      cout<< i++ ;
      cout<< ++i ;
      cout<< j++;
      cout <<j-i;
      cout << i+j;
      return 0;
}
```

(5 marks)

(d)   Explain the following program, which compiles without warning, but have problem when execute.

(5 marks)

```
int fast(int x)
{
      if(x==1)
      return 1;
      return x * fast(x-1);
}

int main(int argc, char**argv)
{
      int n = fast(0);
      return 0;
}
```

Q4   (a)   function is a group of statement that is used to perform a task. Every C++ program has at least one function, which is **main( )**, and all the most trivial program can define additional function. Discuss the categories of function in C++ programming.

(4 marks)

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(b) Based on a given program below, predict the display output.

(6 marks)

```
int main( )
{
   int  a1  =  25 a2 = 10 ;
   int  *b1 , *b2 ;
   b1 = &a1 ;    // address for a1  =  0x28ff04
   b2 = &a2 ;    // address for a2  =  0x28ff00
   *b1 = 10 ;
   b1 = b2 ;
   *b1 = 25 ;
   cout  <<  " \nvalue a1 : " <<  a1 ;
   cout  <<  " \nvalue a2: " <<  a2 ;
   return 0 ;
}
```

(c) Give **ONE (1)** example C++ program to count down from 10 to 0 using **while** statement.

(5 marks)

(d) Give **THREE (3)** advantages of using control structure.

(5 marks)

Q5 **(a)** Explain the function of **call by reference** in C++ program.

(5 marks)

(b) Build a C++ program that receive input score, calculate total and average in sub-function and then display average score in **main( )** function.

(5 marks)

(c) Develop a flowchart based on question **Q5(b)**.

(5 marks)

(d) Write a complete C++ programming using **for** statement and **array** function. The program adding **SIX (6)** integers, display total and average.

(5 marks)

- END OF QUESTIONS -

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