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ONLINE FINAL EXAMINATION

COURSE NAME	**:**	**ENGINEERING SOFTWARE**
COURSE CODE	**:**	**DKE 2123**
EXAMINATION	**:**	**DECEMBER 2021**
DURATION	**:**	**3 HOURS**

INSTRUCTION TO CANDIDATES

1.   This question paper consists of **TWO(2)** parts :   PART A (60 Marks)

                                                                                              PART B (40 Marks)

2.   Please refer to the detailed instructions in this question paper.

3.   Answer ALL questions in the answer sheet which is A4 size paper (or other paper with the consent of the relevant lecturer).

4.   Write your details as follows in the upper left corner for each answer sheet:
       i.   Student Full Name
       ii.   Identification Card (I/C) No.
       iii.   Class Section
       iv.   Course Code
       v.   Course Name
       vi.   Lecturer Name

5.   Each answer sheet must have a page number written at the bottom right corner.

6.   Answers should be **neat and clear in handwritten form**.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

*This examination paper consists of **7** printed pages including front page*

PART A

This part contains of **SIX (6)** questions. Questions **Q1** to **Q4** will be based on C++ programming and Question **Q5** to **Q6** will be based on Matlab programming. Answer ALL questions in Answer Sheet.

QUESTION 1

a. List the steps for editing the coding C++.

(3 marks)

b. List the reserve word is using in C++ programming .

(4 marks)

c. Identify the type of data for a string and structure.

(3 marks)

QUESTION 2

a. Draw the block diagram of computing environment.

(3 marks)

b. Explain briefly the about C++ Programming.

(4 marks)

c. Identify where the applications are and system software allocate in computing environment.

(3 marks)

QUESTION 3

a. The function coding below has errors to execute. Rewrite the function coding to solve the error.

(6 marks)

```cpp
#include <iostream>
using namespace;
int main ()
{       int cardNo;
cout<<"********Welcome to Smart Parking System**********"<<endl;
cout>>"insert your parking card and your amout:"<<endl;
        cin<<cardNo;
        if (card <=10)
        {
                cout<<"Total Pay is Rm 2.00."<<endl;
else

        {
        cout<<"Total Pay is Rm 4.00."<<endl; }

return ;

}
```

b. Demonstrate the output function coding in **Question 3(a)**.

(4 marks)

QUESTION 4

Predict in the blank the correct syntax in a program shown below:

a. Program **Q4(a)**

(5 marks)

```
#include <iostream.h>
       (a)      : Nest
   {
       (b)      :

       (c)     Display
       {
       (d)      :

      int s;
       (e)      :
        void sum( int a, int b)
          {
            s =a+b;
          }
        void show( )
          {
        cout << "\nSum of a and b is:: " << s;
          }
       };

    };
```

b. Program **Q4(b)**

(5 marks)

```
#include <iostream.h>
 #include <conio.h>
     (a)     Value
     {
       (b)      :
         int val;
              (c)      :

         void set_values (int a)
        { val=a;}
     };
            (d)     Square: public Value
       {
         (e)        :
int square()
       { return (val*val); }
       };
```

```
int main ()

 {

 Square sq;

  sq.set_values (5);

   cout << "The square of 5 is::" << sq.square() << endl;

   getch();

  return 0;

  }
```

QUESTION 5

a. Define of syntax Matlab by each of the following general function below:

(8 marks)

      i)   whos:

      ii) clear:

      iii) cd:

      iv) dir:

      v) pwd:

      vi) echo:

      vii) format:

      viii) diary(filename):

b. Identify of syntax help function in Matlab.

(2 marks)

QUESTION 6

Create a coding in MATLAB to do following task:

a. Clear the variable b.

(2 marks)

b. Clear all information in the workspace.

(2 marks)

c. A logarithmically (log 10) spaced row vector k starting with 0.001 ending with 1500 and having 40 elements.

(6 marks)

[60 MARKS]

PART B

This part contains of **TWO(2)** questions. Questions **Q7** will be based on C++ programming and Question **Q8** will be based on Matlab programming.

Answer ALL questions in Answer Sheet.

QUESTION 7

    a. Construct a program to find LCM (Lowest Common Multiple) of given two numbers.

(8 marks)

    b. Construct a program to find prime factor of a number. If a factor of a number is prime number then it is its prime factor.

(12 marks)

QUESTION 8

    a. Construct a program to calculate volume of pyramid, cylinder, and cone using a Matlab function coding.

(15 marks).

    b. Based on **Q8 (a)**, Demonstrate the results.

(5 marks).

[40 MARKS]

END OF QUESTION PAPER