KOLEJ YAYASAN PELAJARAN JOHOR
FINAL EXAMINATION

COURSE NAME	**:**	**ENGINEERING SOFTWARE**
COURSE CODE	**:**	**DKE 2123**
EXAMINATION	**:**	**NOVEMBER 2020**
DURATION	**:**	**3 HOURS**

INSTRUCTION TO CANDIDATES

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

                                                                                               PART B (40 Marks)

2.   Candidates are not allowed to bring any material to examination room except with the
       permission from the invigilator.

3.   Please check to make sure that this examination pack consist of:
       i.   Question Paper
       ii.   Answering Booklet

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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. Answer ALL questions in **Answering Booklet.**

QUESTION 1

a. List the step for executable the c++ coding to machine language.

(3 marks)

b. Identify the type of component hardware computer.

(4 marks)

c. Identify the type of data for a number with fractional.

(3 marks)

QUESTION 2

a. Draw the block diagram of computing enviroment.

(3 marks)

b. Describe briefly the history of computer language.

(4 marks)

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

(3 marks)

QUESTION 3

a. The function coding below have errors to execute. Rewrite   the function
    coding for solve an error.

(6 marks)

```
#include <iostream<
using namespace stding;
int main ()
{       int pinNo;
        cout<<"*******welcome to ATM system**********"<<endl;
        cout<<"insert your ATM card:"<<endl;
        cout<<"insert your 6 PIN NO:"<<endl;
        cin<<pin;
        if (pin==343434)
        {
                cout<<"your PIN NO is corect....."<<endl;         }
        else

        {

                cout>>"Wrong PIN NO...."<<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 the workspace.

(2 marks)

c. A logarithmically (log 10) spaced row vector k starting with 0.001 ending with 1000 and having 50 element.

(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. Answer ALL questions in **Answering Booklet.**

QUESTION 7

    a. Construct a program to find greatest common divisor (GCD) or highest common factor (HCF) 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 calculatate area of trapezoidal, cylinder, and circle using a Matlab function coding.

                                                  (15 marks).

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

                                                    (5 marks).

                                                    [40 MARKS]

END OF QUESTION PAPER