

SULIT



BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK
KEMENTERIAN PENDIDIKAN MALAYSIA

JABATAN TEKNOLOGI MAKLUMAT DAN KOMUNIKASI

PEPERIKSAAN AKHIR
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DFC2013: PROGRAMMING FUNDAMENTALS

TARIKH : 08 APRIL 2015
MASA : 2.30 PM - 4.30 PM (2 JAM)

Kertas ini mengandungi **DUA PULUH (20)** halaman bercetak.

Bahagian A: Objektif (20 soalan)

Bahagian B: Struktur (2 soalan) & Esei (2 soalan)

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALANINI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

SECTION A : 30 MARKS
~~BAHAGIAN A : 30 MARKAH~~

INSTRUCTION:

This section consists of **TWENTY (20)** objective questions. Mark your answers in the OMR form provided.

ARAHAN :

*Bahagian ini mengandungi **DUA PULUH (20)** soalan objektif. Tandakan jawapan anda dalam borang OMR yang disediakan.*

Error in compiling process because invalid used of backslash.

Ralat semasa mengkompil aturcara kerana menggunakan symbol backslash yang salah.

CLO1
C1

- Identify the correct error for the above statement.

Pilih ralat yang betul bagi pernyataan di atas.

- A. Run Time Error
Ralat Masa Larian
- B. Syntax Error
Ralat Sintak
- C. Logical Error
Ralat Logical
- D. Statement Error
Ralat Pernyataan

CLO1
C2

2. Trace the following code and identify the type of error that will occur.

Perhatikan kod berikut dan kenalpasti apakah jenis kesalahan yang akan berlaku.

```
#include <iostream.h>
void main()
{
    int b, c;
    c=b / 0;
    cout<< c;
}
```

CLO1
C1

3. Which of the following syntax is used for commenting a code in c++?

Yang manakah di antara berikut adalah fungsi untuk komen dalam c++.

- A. /*this is a comment*/
- B. //this is a comment//
- C. \nthis is a comment\n
- D. /*this is a comment

CLO1
C2

4. Which of the following is **TRUE** on the difference between a variable and a constant?

*Di antara berikut yang manakah **BENAR** tentang perbezaan antara pemboleh ubah dan pemalar?*

- A. Value of variable is permanent but value of constant is changeable.
Nilai bagi 'variable' adalah kekal tetapi nilai bagi 'constant' boleh diubah.
- B. Value of variable is changeable but value of constant is permanent
Nilai bagi 'variable' adalah boleh diubah tetapi nilai bagi 'constant' kekal
- C. You cannot make changes to both of it
Anda tidak dapat membuat perubahan kepada kedua-duanya
- D. A variable must be declared with a value, not a constant
Pembolehubah mesti diisytiharkan bersama satu nilai bukan satu nilai tetap

CLO1
C1

5. The following are types of control structures **EXCEPT**

- A. do..while
- B. while
- C. while do
- D. for

CLO1
C2

6. Choose the correct syntax to write the condition statement in C++ based on the statement below.

Kenalpasti cara yang betul untuk menulis pernyataan syarat di dalam C++.

If sum is equal to 32 and the total is equal to 2

- A. if (sum ==32) || (total ==2)
- B. if (sum ==32) && (total ==2)
- C. if (sum =32) && (total =2)
- D. if (sum =32) || (total =2)

CLO1
C2

7. If grade has the value of 60, what will the following code display?

Jika gred mempunyai nilai 60 , apakah yang akan dipaparkan oleh kod berikut?

```
if ( grade >= 60 )  
    cout << "Passed";
```

- A. 60
- B. "grade"
- C. Passed
- D. cout << "Passed";

- CLO2 8. How many repetitions will occur for the following looping control structure?

C1

Berapa kaliakah pengulangan yang akan berlaku bagi struktur gelung kawalan berikut?

```
for (int count=0; count<=20; count++)
```

- A. 18
- B. 19
- C. 20
- D. 21

- CLO2 9. Choose a correct output for the program below.

C2

Pilih output yang betul bagi aturcara di bawah.

```
#include<iostream.h>
main ()
{
    for (int a=1; a<=3; a++)
    {
        cout<<endl;

        for(int b=1; b<=a+0; b++)
            cout<<"* \t";
    }
}
```

- A. *
* *
* * *
- B. * * *
* *
*
- C. * *
* * *
*
- D. *
*
*

CLO2 10. Choose a correct declaration of a **structure**.

C1

Pilih perisytiharan struktur yang betul.

- A. struct {int a;}
- B. struct a_struct {int a;}
- C. struct a_struct int a;
- D. struct a_struct {int a;};

CLO2 11. Identify the **CORRECT** syntax to access the 25 element for the array named **scores** with 25 elements.

C2

Kenalpasti cara yang BETUL untuk mencapai elemen ke 25 bagi satu tatasusunan bernama scores yang mengandungi 25 elemen.

- A. scores+25
- B. scores[24]
- C. scores[25]
- D. scores[last]

CLO2 12. Analyze and find the value of number[0][1] and number[2][1] for two dimensional array below.

C3

Kenalpasti elemen bagi number[0][1] dan number [2][1] bagi tatasusunan dua dimensi di bawah.

```
int number[3][2]={1,2,3,4,5,6};
```

- A. 3, 5
- B. 2, 3
- C. 3, 6
- D. 2, 6

CLO1

C1

13. Which of the following statement is **INCORRECT** for function declaration?

- Antara yang berikut kenyataan yang manakah yang **SALAH** mengenai pengisytiharan fungsi :*
- function declaration is also called a function prototype
pengisytiharan fungsi juga dikenali sebagai fungsi prototaip
 - function declaration is terminated by the semicolon
pengisytiharan fungsi berakhir dengan semikolon
 - function declaration is similar to function call
pengisytiharan fungsi adalah sama dengan fungsi memanggil
 - function declaration must have the return type of the function
pengisytiharan fungsi mesti mempunyai jenis pulangan data bagi fungsi tersebut

CLO1
C2

14. Which of the following is the correct method to pass a variable to a function which will change the content of the variable.

Pilih kaedah yang betul untuk menghantar pembolehubah kepada fungsi yang mana ia akan menukar nilai pembolehubah.

- by value / menggunakan nilai
- by number / menggunakan nombor
- by structure / menggunakan struktur
- by reference / menggunakan rujukan

CLO2
C1

15. Identify prototype function from the program code below ?

Kenalpasti fungsi prototaip bagi kod aturcara di bawah?

```
#include <iostream>
using namespace std;
void printmessage ()
{
    cout << "I'm a
function!";
}
int main ()
{
    printmessage ();
    return 0;
}
```

- void printmessage()
- print message()
- I'm a function
- int main

CLO2
C2

16. Which one of the following is a function definition?

- A. int (int a, int sum)
B. calculate(int a, int sum)
C. double test1
D. int getscore(int a)

CLO2
C317. Analyze the program code below and fill in the blanks with a **CORRECT** answer.

Analisis kod program di bawah dan isikan tempat kosong dengan jawapan yang BETUL.

```
#include <iostream.h>
int addition (int a, int b)
{
    int r;
    r=a+b;
    return _____;    (i)
}
int main ()
{
    int z;
    z = _____ (5,3);    (ii)
    cout << "The result is " << _____ << endl;    (iii)
    return 0;
}
```

- A. i. r
ii. addition
iii. z
- B. i. a, b
ii. addition
iii. z
- C. i. r
ii. a, b
iii. z
- D. i. a, b
ii. r
iii. addition

CLO2

C1

18. Which of the following is a correct declaration of a pointer?

- A. int ptr*;
- B. int *ptr;
- C. int &ptr;
- D. int ptr&;

CLO2

C2

19. Determine the correct syntax to initialize a pointer to receive a value.

Tentukan kaedah yang betul untuk menilaiawalkan penuding bagi menerima nilai.

- A. int *a;
int add=200;
a=&add;
- B. int &a;
int add=200;
a=*add;
- C. int *a;
int add=200;
*a=add;
- D. int &a;
int add=200;
add=*a;

CLO2
C3

20. Analyze the following code and identify the correct output.

Analisis kod berikut dan kenalpasti output yang betul.

```
#include<iostream.h>
void main()
{
float *pointer[5];
float HPNM[5]={3.66,3.52,3.02,2.89,3.98};

for (int i=0;i<hpnm.length;i++)
    pointer[i]=&HPNM[i];

for (int a=0;a<pointer.length;a++)
    cout<< *(pointer[a])<<" ";
}
```

- A. 3.66 3.52
- B. 3.66 3.52 3.02
- C. 3.66 3.52 3.02 2.89
- D. 3.66 3.52 3.02 2.89 3.98

SECTION B : 70 MARKS
BAHAGIAN B : 70 MARKAH

INSTRUCTION:

This section consists of **FOUR (4)** questions. Answer **ALL** questions.

ARAHAH:

Bahagian ini mengandungi **EMPAT (4)** soalan. Jawab **SEMUA** soalan.

QUESTION 1**SOALAN 1**

CLO1
C1

- a) List two types of error in a programming language.

Senaraikan dua jenis error di dalam Bahasa pengaturcaraan

[2 marks]
[2 markah]

CLO1
C1

- (b) (i) Identify the most suitable data types for the following variables.

Kenalpasti jenis data yang paling sesuai bagi pembolehubah berikut.

Variables	Data Type
money	
age	
name	
grade	

[2 marks]
[2 markah]

- (ii) By using the answers in (b)(i), write the syntax to declare the variables.

Dengan menggunakan jawapan (b)(i), tuliskan sintak pengisytiharaan bagi pembolehubah.

[2 marks]
[2 markah]

CLO1
C2

- c) Based on the given statement below , answer Question 1(c) i and ii

Berdasarkan kenyataan yang diberi, jawab Soalan 1(c)i dan ii

```
do
{
    Statement block;

} while (expression);
```

- i) Identify the type and the name of control structure.

Kenalpasti jenis dan nama struktur kawalan

[2 marks]
[2 markah]

- ii) Differentiate between selection and looping control structure.

Berikan perbezaan di antara struktur kawalan pilihan dengan struktur kawalan ulangan.

[2 marks]
[2 markah]

CLO2
C2

- d) Describe the function of **continue**.

Terangkan fungsi pernyataan continue.

[2 marks]
[2 markah]

CLO2
C3

- e) Complete the syntax for switch...case statement below

Lengkapkan sintak bagi kenyataan switch...case di bawah

```
switch (_____)
{
    case exp_1:
        statement 1;
        break;
    _____
    statement 2;
    _____;
    default:
        _____;
}
```

[2 marks]
[2 markah]

QUESTION 2**SOALAN 2**CLO2
C1

- (a) i. Write an array declaration of LIST as an
- integer*
- array with 8 elements.

Tuliskan pengisytiharaan LIST sebagai tatasusunan berjenis integer yang mempunyai 8 elemen.

[2 marks]
[2 markah]

- ii. Write an array declaration of HPNM as a
- double*
- array with 3 rows and 4 columns.

Tuliskan pengisytiharaan HPMN sebagai tatasusunan berjenis double yang mempunyai 3 baris dan 4 lajur.

[2 marks]
[2 markah]CLO2
C2

- (b) Based on the syntax below, change the last element of value 10.

Berdasarkan sintaks di bawah, kenalpasti dan umpuukkan nilai 10 ke dalam elemen yang terakhir.

```
int Poli[2][3]={1,2,3,4,5,6};
```

[2 marks]
[2 markah]CLO2
C3

- (c) Based on the
- struct*
- definition below, declare struct variables/object.

Berdasarkan definisi struct di bawah, isytihar pembolehubah struct.

```
struct employer
{
    int icno;
    string employerID;
};
```

[2 marks]
[2 markah]

CLO1 (d) List two types of function.

C1

Senaraikan dua jenis fungsi.

[2 marks]
[2 markah]

CLO1 (e) State one difference between passing by value and passing by reference?

C2

Nyatakan satu perbezaan di antara passing by value dan passing by reference?

[2 marks]
[2 markah]

CLO2 (f) Complete the program segment by using appropriate statements for P, Q, R and S.

C1

Lengkapkan kenyataan di bawah menggunakan pernyataan yang sesuai untuk P, Q, R dan S.

```
#include <iostream.h>
int square(int); //Function prototype
int main()
{
    int x = 10;
    int y = _____P_____(x); //call within statement
    cout<<"The result is "<<_____Q_____<<endl;
    return 0;
}
int square(int z)
{
    z = z*z;
    return _____R_____;
}
OUTPUT: _____S_____
```

[4 marks]
[4 markah]

CLO2
C3

(g) i. Write the declaration of pointer, Ptr_int as an integer pointer.

Tuliskan pengisytiharaan bagi penuding, Ptr-int sebagai penuding berjenis integer.

[2 marks]
[2 markah]

ii. Based on the program fragment, initialize num with n.

Berdasarkan keratan program, umpukkan n kepada num.

```
double *num;  
double n;
```

[2 marks]
[2 markah]

QUESTION 3**SOALAN 3**

CLO1

C1

- (a) Define compiler and debugger in C++ programming

Takrif "compiler" dan "debugger" dalam pengaturcaraan C++.[3 marks]
[3 markah]

CLO1

C1

- (b) Describe global and local identifier in C++ programming

Terangkan pengistiharan setempat dan sejagat dalam pengaturcaraan C++[3 marks]
[3 markah]

CLO1

C2

- (c) Using one
- cout***
- command, write a short program to display the message “ I love programming c++” in three lines as the output.

*Dengan menggunakan satu arahan ***cout***, tuliskan program ringkas untuk memaparkan mesej “ I love programming c++ ” dalam tiga baris seperti paparan output.*[3 marks]
[3 markah]

CLO1

C1

- (d) What is the use of break statement in selection control structure?

Terangkan kegunaan penyataan break dalam struktur kawalan pilihan?[3 marks]
[3 markah]

CLO1
C2

- (e) Based on the program segment below, identify the output if the user input data for age = 25.

Berdasarkan program di bawah, kenalpasti output jika pengguna masukkan data age=25.

```
# include <iostream.h>
void main()
{
    int age;
    cout<<"Please enter your age : ";
    cin>> age;
    if (age >= 60 )
        cout<<"old ";
    if (age >= 30)
        cout<<"adult";
    if (age >=20)
        cout<<"youth";
    if (age >=5)
        cout<<"children";
    else
        cout<<"baby";
}
```

[3 marks]
[3 markah]

CLO2
C2

- (f) Convert program coding below using **switch..case** statement

```
#include<iostream.h>

main()
int month;
cout<<"Enter month";

if (month == 1)
    cout<<"Januari";
else if (month == 2)
    cout<<"Februari";
else if(bulan == 3);
    cout<<"Mac";
```

[3 marks]
[3 markah]

QUESTION 4**SOALAN 4**

Answer the questions (a) and (b) based on the following declaration.

Jawab soalan (a) dan (b) berdasarkan pengisytiharan berikut:

```
int m = 50;  
double n = 55.5;
```

- CLO2 a) Rewrite the declaration for **n** as pointer of type float.

C1

*Isyiharkan semula **n** sebagai penuding berjenis 'float'*

[1 marks]
[1 markah]

- CLO2 b) i. Declare a pointer name **add** of type integer and assign that value to **m** variable.

*Isyiharkan satu penuding **add** yang berjenis integer dan berikan nilai kepada pembolehubah **m**.*

- ii. Write a command to display the value in **add**.

*Tuliskan arahan untuk memaparkan nilai **add**.*

- iii. Declare a pointer **add** of type double.

*Isyiharkan satu penuding **add** berjenis 'double'.*

- iv. Write a command to display the address of the **add** pointer.

*Tuliskan arahan untuk memaparkan alamat bagi penuding **add**.*

[5 marks]
[5 markah]

CLO1

C1

- c) State the function component for label 1, 2 and 3 .

Nyatakan komponen fungsi bagi label 1,2 dan 3.

```
#include <iostream.h>
void cetak(int); -----> 1
void main( )
{
    int x = 6;
    cetak(a);-----> 2
    void cetak (int b). -----> 3
    {
        cout << b;
        return;
    }
}
```

[3 marks]

[3 markah]

Question (d) and (e) are based on given program.

Soalan (d) dan (e) merujuk kepada pernyataan di bawah.

The program below is used for sum of two numbers. Modify the program by using the

TWO (2) functions as below:

*Program di bawah digunakan untuk membuat penambahan dua nombor. Ubahsuai program tersebut menggunakan **DUA (2)** fungsi di bawah:*

```
#include <iostream>
using namespace std;
int main ()
{
    int r;
    int a = 5;
    int b = 3;
    r = a+b;
    cout << "The result is" << r;
}
```

CLO2

C1

- (d) Create calling function named **addition()** function by **pass the value** method in **main()**.

*Fungsi memanggil bernama **addition()** dengan kaedah **pass by value** di dalam **main()** .*

[2 marks]

[2 markah]

CLO2 (e) Create function definition for **addition()** to sum of two integer numbers.

C3 *Cipta definisi fungsi addition() untuk menjumlahkan dua nombor integer.*

[4 marks]
[4 markah]

CLO2 (f) Trace the output based on the segment code below.

C2 *Jejak output berdasarkan kod segment di bawah.*

```
#include<iostream.h>
void main()
{
    int Total=88;
    int *Tptr;
    Tptr = &Total;

    cout<<"Value of Total = "<<Total<<endl;
    cout<<"Value of Total = "<<*Tptr;
}
```

[3 marks]
[3 markah]

SOALAN TAMAT

