SULIT

KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN TINGGI

JABATAN TEKNOLOGI MAKLUMAT & KOMUNIKASI

PEPERIKSAAN AKHIR

SESI II : 2024/2025

DFC20303 : PROGRAMMING FUNDAMENTALS

TARIKH : 26 MEI 2025
MASA : 8.30 PAGI - 10.30 PAGI (2 JAM)

Kertas ini mengandungi **DUA PULUH EMPAT (24)** halaman bercetak.
Bahagian A: Objektif (30 soalan)
Bahagian B: Struktur (2 soalan)

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SECTION B: 55 MARKS

BAHAGIAN B: 55 MARKAH

INSTRUCTION:

This section consists of **TWO (2)** structured questions. Answer **ALL** questions.

ARAHAN:

*Bahagian ini mengandungi **DUA (2)** soalan berstruktur. Jawab **SEMUA** soalan.*

QUESTION 1

SOALAN 1

CLO1 (a) (i) Identify **TWO (2)** rules for naming an identifier in C++.

*Kenal pasti **DUA (2)** peraturan dalam menamakan pengecam dalam C++.*

[2 marks]

[*2 markah*]

CLO1 (ii) Give the answer to fill the blank in Figure B1(a)(ii).

Berikan jawapan bagi i,ii dan iii di dalam Rajah B1(a)(ii).

```
#___i___ <iostream>
using namespace std;
int __ii___;
{
int a=5;
int b=2;
int ___iii___;
sum= a+b;
cout << "The sum is: "<< sum << "\n";
__iv_____;
}
```

Figure B1(a)(ii) / *Rajah B1(a)(ii)*

[4 marks]

[*4 markah*]

CLO1 (b) (i) Identify **TWO (2)** types of operators used in programming.

*Kenal pasti **DUA (2)** jenis operator yang digunakan dalam pengaturcaraan.*

[2 marks]

[*2 markah*]

CLO1 (ii) Differentiate between input and output statements.

Bezakan antara pernyataan input dan output.

[2 marks]

[*2 markah*]

CLO1 (iii) Prepare a program to display the output as in Figure B1(b)(iii).

Tulis aturcara untuk memaparkan output seperti Rajah B1(b)(iii).

```
I Like
        Programming Fundamentals

Very much!!!
```

Figure B1(b)(iii) / *Rajah B1(b)(iii)*

[4 marks]

[*4 markah*]

CLO1 (c) (i) Name **TWO (2)** types of repetition control structure in C++.

*Namakan **DUA (2)** jenis struktur kawalan pengulangan dalam C++.*

[2 marks]

[*2 markah*]

CLO1 (ii) Identify the syntax for if else statement in the selection structure.

Kenalpasti sintaks bagi penyataan if else bagi struktur pilihan.

[2 marks]

[*2 markah*]

CLO1

(iii) Based on the program given in Figure B1(c)(iii), fill in the blank with the suitable answer to get the output as below:

Berdasarkan kepada program yang diberi dalam Rajah B1(c)(iii), isikan tempat kosong dengan jawapan yang sesuai untuk mendapatkan keluaran seperti di bawah:

```
#include <iostream>
using namespace std;
int main ()
{
int i,n;
for (___i____; ___ii_____; __iii____) {
cout << i << ", ";
}
cout << "FIRE!!!\n";
for (___iv____; ___v_____; ___vi____) {
cout << n << ", ";
}
cout << "RUN!!!\n";
return 0;
}
```

Figure B1(c)(iii) / *Rajah B1(c)(iii)*

Output:

```
10, 9, 8, 7, 6, 5, 4, 3, 2, 1, FIRE!!!
2, 4, 6, 8, 10, RUN!!!
```

[6 marks]

[*6 markah*]

CLO1

(iv) Rewrite the following program code using ***switch case*** statement based on Figure B1(c)(iv).

Tulis semula program berikut menggunakan kenyataan ***switch case*** *berdasarkan Rajah B1(c)(iv).*

```
if(operator = ='+')
{
        cout<<"Add"<<endl;
}

else if(operator = ='-')
{
        cout<<"Subtract"<<endl;
}

else
{
cout<<"Wrong operator!"<<endl;
}
```

Figure B1(c)(iv) / *Rajah B1(c)(iv)*

[4 marks]

[*4 markah*]

QUESTION 2

SOALAN 2

CLO1 (a) (i) Identify **THREE (3)** components of an array.

*Kenalpasti **TIGA (3)** komponen dalam tatasusunan.*

[3 marks]

[*3 markah*]

CLO1 (ii) Differentiate between array and structure.

Berikan perbezaan antara tatasusunan dan struktur.

[4 marks]

[*4 markah*]

CLO1 (iii) Produce the outputs for Figure B2(a)(iii) shown below. Assume that the address of variable is 0x6ffe14.

Hasilkan keluaran bagi Rajah B2(a)(iii) di bawah. Andaikan alamat bagi pembolehubah adalah 0x6ffe14.

```
int  var = 20;  // actual variable declaration.
int  *ip;       // pointer variable

ip = &var;    // store address of var in pointer variable

cout << "Value of var variable: ";
cout << var << endl;

// print the address stored in ip pointer variable
cout << "Address stored in ip variable: ";
cout << ip << endl;

// access the value at the address available in pointer
cout << "Value of *ip variable: ";
cout << *ip << endl;
return 0;
```

Figure B2(a)(iii) / *Rajah B2(a)(iii)*

[4 marks]

[*4 markah*]

CLO1

(iv) Produce a structure named employee which can stored information based on Figure B2(a)(iv) for 10 employees.

Hasilkan struktur yang bernama employee yang boleh menyimpan maklumat berdasarkan Rajah B2(a)(iv) di bawah bagi 10 orang pekerja.

EMPLOYEE REGISTRATION
Name:
Staff Number:
Salary:

Figure B2(a)(iv) / *Rajah B2(a)(iv)*

[4 marks]

[*4 markah*]

CLO1

(b) (i) Name parts of the functions in programming.

Namakan bahagian-bahagian fungsi dalam pengaturcaraan.

[3 marks]

[*3 markah*]

(ii) Clarify the difference between pass by value and pass by reference.

Jelaskan perbezaan di antara penghantaran secara nilai dan penghantaran secara rujukan.

[2 marks]

[*2 markah*]

CLO1

(iii) Show the lines for Function Prototype, Function Definition and Function Call based on the program code in Figure B2(b)(iii).

Tunjukkan baris bagi Prototaip Fungsi, Pengisytiharan Fungsi dan Panggilan Fungsi berdasarkan kod program dalam Rajah B2(b)(iii).

Line 1	#include<iostream>
Line 2	using namespace std;
Line 3	void Print();
Line 4	
Line 5	int main()
Line 6	{
Line 7	Print();
Line 8	}
Line 9	void Print()
Line 10	{
Line 11	cout<<"You're great"<<endl;
Line 12	}

Figure B2(b)(iii)/ *Rajah B2(b)(iii)*

[4 marks]

[*4 markah*]

CLO1

(iv) Write a function named circle that returns a float value and takes one float parameter, which represents the radius of a circle. Inside the function, calculate and return the area of the circle using the given formula shown in Figure B2(b)(iv).

Tulis sebuah fungsi bernama circle yang mengembalikan nilai float dan mengambil satu parameter float, yang mewakili jejari bulatan. Di dalam fungsi, kira dan kembalikan luas bulatan menggunakan formula yang diberikan dalam Rajah B2(b)(iv).

```
area = 3.142 * radius * radius
```

Figure B2(b)(iv)/ *Rajah B2(b)(iv)*

[3 marks]

[*3 markah*]

SOALAN TAMAT