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
C1

(a) List **TWO (2)** phases in Programming Life Cycle.

*Senaraikan **DUA (2)** fasa dalam Programming Life Cycle.*

[2 marks]

[2 markah]

CLO2
C2

(b) Explain the compiling process in a program and give **ONE (1)** example of language using compiler.

*Terangkan proses kompil dalam program dan berikan **SATU(1)** contoh bahasa yang menggunakan pengkompil.*

[2 marks]

[2 markah]

CLO1
C1

(c) List **TWO (2)** types of comments used in C++ programming

*Senaraikan **DUA (2)** jenis komen yang digunakan dalam pengaturcaraan C++.*

[2 marks]

[2 markah]

CLO1
C2

(d) Differentiate between numeric and non-numeric data type. **Give TWO (2)** differences for each data type.

*Bezakan antara jenis data numerik dan bukan numerik. **Beri DUA (2)** perbezaan bagi setiap jenis data.*

[4 marks]

[*4 markah*]

CLO2
C3

(e) Based on **Figure B1**, list the elements labeled as A, B and C.

*Berdasarkan pada **Rajah B1**, senaraikan elemen-elemen yang dilabelkan sebagai A, B dan C*

```
#include <iostream>  ◄——  A
const double PI = 3.142;
using namespace std;
int main()  ◄——  B
{
        int r;
        double circumference;
        cout << "Please enter the radius :" ;
        cin >> r;

        circumference = 2*PI*r;

        cout << The radius entered is: " << r
        >> endl:
        cout << The circumference calculated
        is: " << circumference << endl;

        system("pause");

        return 0;  ◄——  C
}
```

Figure B1 / *Rajah B1*

[3 marks]

[*3 markah*]

CLO1
C1

(f) Write down the syntax **for** looping control structure.

*Tulis sintaks bagi pernyataan **for** dalam struktur kawalan bergelung.*

[2 marks]

[*2 markah*]

```cpp
#include<iostream>
void main()
{
int i=1;
        while ( i <= 10 )
        {
                cout << i << endl;
                i++;
        }
}
```

Figure B2/ *Rajah B2*

CLO2
C2

(g) Based on **Figure B2,** convert while statement into for loop.

*Berdasarkan **Rajah B2**, tukarkan pernyataan gelung while kepada gelung for.*

[2 marks]

[*2 markah*]

CLO2
C3

(h) Based on **Figure B3**, demonstrate the output of the execution program if the **number** inserted is **3**.

*Berdasarkan **Rajah B3**, demonstrasikan hasil selepas program dilaksanakan jika nombor yang dimasukkan adalah 3.*

```cpp
#include <iostream>
void main()
{
    int num, duplication =1;
    cout<<"Enter a number: ";
    cin>>num;
    for (int i=1; i<=3; i++)
    {
        duplication = i * num;
        cout<<i<<" x " <<num <<" = " <<duplication <<endl;
    }
}
```

Figure B3/ *Rajah B3*

[3 marks]

[*3 markah*]

CLO3
C4

(i) Based on flowchart in **Figure B4**, transform a complete C++ program by using switch case statement.

*Berdasarkan carta alir dalam **Rajah B4**, tukar ke pengaturcaraan C++ yang lengkap dengan menggunakan switch case.*
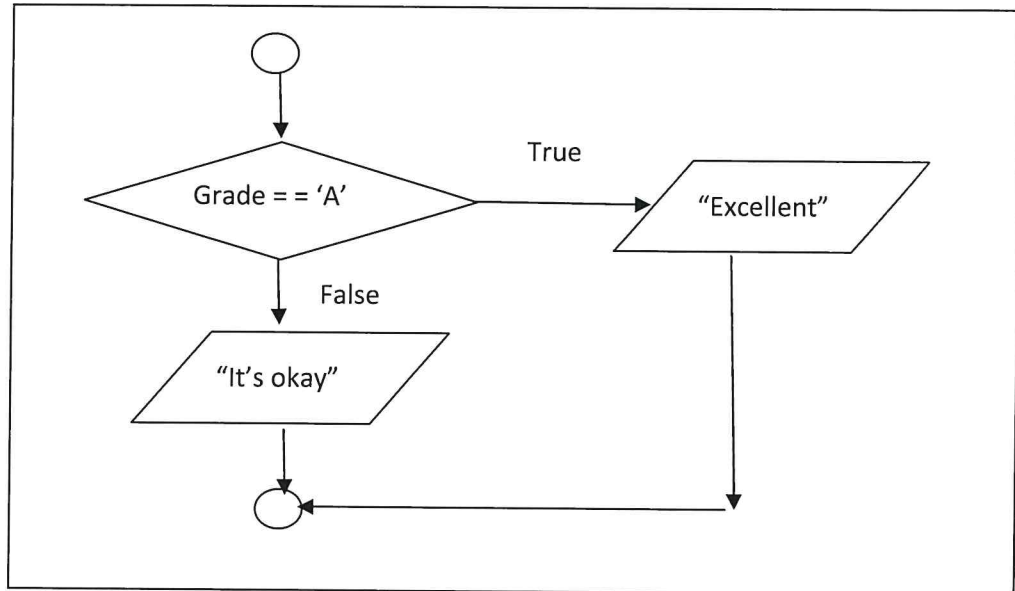

Figure B4/*Rajah B4*

[5 marks]

[*5 markah*]

QUESTION 2

SOALAN 2

CLO2
C1

(a) Declare a pointer named pNum. Assign the address of array named price to pointer pNum.

Isytihar penuding bernama pNum. Peruntukkan alamat tatasusunan bersama price kepada penuding pNum.

[2 marks]

[*2 markah*]

```
#include<iostream>
void main()
{
        int marks[ ]={95,85,75,80,65};
        cout<<"marks[0]   :  "<<marks[0];
        cout<<"\nmarks[1]   :  "<<marks[1];
        cout<<"\nmarks[2]   :  "<<marks[2];
        cout<<"\nmarks[3]   :  "<<marks[3];
        cout<<"\nmarks[4]   :  "<<marks[4];
}
```

Figure B5/ *Rajah B5*

CLO2
C3

(b) List the output for **Figure B5** shown above.

*Senaraikan output bagi **Rajah B5** di atas.*

[5 marks]

[*5 markah*]

CLO3
C2

(c) Determine the **CORRECT** declaration based on the instruction in **Figure B6**:

*Tentukan pengisytiharan yang **BETUL** berdasarkan arahan pada **Rajah B6**:*

1) Declare an array alpha of 15 elements of type int.
2) Access the value of tenth element of array alpha.
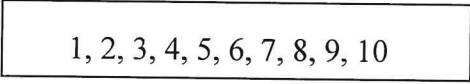
Figure B6/ *Rajah B6*

[2 marks]

[*2 markah*]

CLO3
C3

(d) Use an array to produce the output as in **Figure B7** by using a complete C++ program:

*Gunakan tatasusunan bagi menghasilkan output seperti **Rajah B7** dengan menggunakan pengaturcaraan C++ yang lengkap:*

> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Figure B7/ *Rajah B7*

[6 marks]

[*6 markah*]

CLO2
C1

(e) List the advantages of function.

Senaraikan kelebihan fungsi.

[2 marks]

[*2 markah*]

```
#include<iostream>
using namespace std;
void func1();

void main()
{
        cout<<"\n\n Calling function ";
        func1();
        cout<<"\n\n Back to calling function ";
        cout<<"\n\n Back here! ";
        func1();
        cout<<"\n\n Back to calling function ";
}
void func1()
{
        cout<<"\n\n Called function ";
}
```

Figure B8/ *Rajah B8*

CLO2
C3

(f) Identify the output for **Figure B8** above.

*Kenalpasti output bagi **Rajah B8** di atas.*

[6 marks]

[*6 markah*]

CLO2
C4

(g) Write a function named **circle** that **returns float value** and accept **one float parameter** which is **radius**. Next, write the **formula** to calculate the area of circle in the circle function.

*Tuliskan fungsi bernama **circle** yang memulangkan **nilai float** dan menerima **satu parameter float** iaitu **radius**. Tuliskan **formula** untuk mengira luas bulatan di dalam fungsi circle.*

[5 marks]

[*5 markah*]

```
int addition( int a, int b)
{
        sum=a+b;
    return sum;
}
```

Figure B9/ *Rajah B9*

CLO3
C1

(h) Based on the function definition in **Figure B9**, write a function prototype and give the output if the value of **a=2** and value of **b=5**.

*Berdasarkan takrifan fungsi dalam **Rajah B9**, tulis fungsi prototaip dan berikan output jika nilai **a=2** dan nilai **b=5**.*

[2 marks]

[2 markah]

SOALAN TAMAT