This Question Paper consists of **6** questions and **7** printed pages.

Roll No. | | | | | | | | | | | | |

Code No. 59/OSS/2

SET **B**

COMPUTER SCIENCE
(330)

Day and Date of Examination _____

Signature of Invigilators 1. _____

2. _____

General Instructions :

1 Candidate must write his/her Roll Number on the first page of the Question Paper.

2 Please check the Question Paper to verify that the total pages and total number of questions contained in the Question Paper are the same as those printed on the top of the first page. Also check to see that the questions are in sequential order.

3 Making any identification mark in the Answer-Book or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.

4 Write your Question Paper Code No. **59/OSS/2, Set-B** on the Answer-Book.

COMPUTER SCIENCE

(330)

Time : **3** Hours] [Maximum Marks : **60**

Note : (i) Answer **all** questions.

(ii) Marks allotted to each question are given on the right-hand side.

(iii) Use C++ programming language to answer the programming questions.

1 Define the following : **4×1=4**

(a) Topology

(b) Arithmetic Logic Unit

(c) Taskbar

(d) FTP

2 (a) Explain the Data Processing Cycle. **2**

(b) Classify Computer Language. **2**

(c) Can the FTP Server be connected without having an account on it ? How ? **2**

(d) Describe the functions of the following input devices : **3×2=6**

(i) Keyboard

(ii) Scanner

(iii) Mouse

3 (a) Write a function in C++ to calculate the sum of digits of a number. **2**

(b) Explain the following terms with examples from C++. **2×2=4**

(i) Class

(ii) Object

(c) Write a C++ statement using Conditional Operator to display maximum between three numbers a, b, c. **2**

(d) Explain the branch statement if-else with illustration. **2**

(e) Name the header files to which following built-in function belong : **2×1=2**

(i) getchar( )

(ii) putchar( )

4 (a) Write a function CHECK ( ) in C++ that accepts an alphabet as an argument and checks whether it is a digit or not. **3**

(b) What is the difference betwen = and ==operator ? Give an example in support of your answer. **2**

(c) Find the syntax error from the following program. Justify each error. **2**

```
#include<iostream.h>
void display (float p)
{
  cout<<'The argument is'<<p;
}
void main ( )
{
  float q = 11.1;
  display (p);
}
```

(d) Write the output of the following program : 3

```
#include<iostream.h>
int p=4
int change (int & v, int n=1)
{
    v=v*n;
    n=v--/4;
}
void main ()
{
    int p=50, q=10;
    change  (::p, q);
    cout<<p<<"####"<<q<<endl;
    change(p);
    cout<<p<<"####"<<q<<endl;
    change(q,10);
    cout<<::p<<"####"<<q<<endl;
}
```

5 (a) Write a program to find the largest number in an integer array of size 15, containing only positive numbers. 3

(b) Predict the output of the following program : 2

```
#include<iostream.h>
#include<ctype.h>
#include<stdio.h>
void main()
{
    char Text[ ]="#GO2D";
    for (int i=0; Text[i]!='\0';i++)
    {
        if(!isalpha(Text[i]))
            Text[i]='*';
        else
            Text[i]=Text[i+1];
    }
    puts(text);
}
```

(c) Define a class ISL with the following specifications : **3**

Private Members:

Match_index	Numeric
Venue	String
Date	String
Team1	String
Team2	String

Public Members:

- A constructor that initializes all numeric members with 0 and all strings with "ABC"
- Accept( )_that accepts the entire data
- Display( )_that displays the entire data

(d) Consider the following class definition and answer the questions that follow : **3**

```
class  Toys
{
    char toy_type[10];
    protected:
        float price;
        void cal_price(float);
    public:
        Toys ( );
        char choice;
        void toyinput ( );
        void toyshow ( );
};
```

```
class MyToys : protected Toys
{
    char mtoy_name[10];
    float weight;
    protected:
        int no_wheels;
    public:
        void MyInput( );
};
```

(i) Which type of inheritance is shown in the above example ?

(ii) Which all data members are accessible from MyInput( ) ?

(iii) Name the member functions which are accessible from the object of class MyToys.

6 (a) Explain the two methods to open a data file in C++. **3**

(b) Which statement is used to create an alias of a datatype ? **1**

(c) Declare a structure ADDRESS having HouseNo(int), Locality(string), Street (string) and City(string) as its members. Thereafter create another structure ADMISSION having the following members : **2**

Adm_No	of type integer
Name	of type string
Category	of type string
S_Address	an instance of ADDRESS

Write a C++ statement to accept the value of Locality from the user.

(d) Give a C++ statements to do the following : **2**

(i) Create an integer pointer fptr.

(ii) Make fptr hold the address of float variable var.

(e) Assuming the class HEALTH STATION defined below, write a user defined function to read the objects of HEALTH STATION from the binary file Hospi.dat and display the records of only 'cardiology' department. **3**

```
class HEALTH_STATION
{
        int Patient_Id
        char Patient_Name[13];
        char OPD_Date[10];
        float fees;
        char Dept[20];
    public:
        void enterdata()
    {
        cin>Patient_Id;
        gets(Patient_name);
        gets (OPD_Date);
        cin>>fees;
        gets(Dept);
    }
    void showdata()
    {
   Cout<Patient_I<<Patient_Name<<OPD_Date<<fee<<Dept;
    }
    char[ ]getdept ()
    {
        return Dept;
    }
};
```