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

Roll No. ☐☐☐☐☐☐☐☐☐☐☐   Code **No. 59/OSS/2**

SET [C]

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-**[C] 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)   Taskbar

(b)   FTP

(c)   Sorting

(d)   Telnet

2   (a)   Explain Data Transmission Modes briefly.   **2**

(b)   Describe the funcitons of the following input devices :   **3×2=6**

(i)   Keyboard

(ii)   Scanner

(iii) Mouse

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

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

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

   (i) getchar( )

   (ii) putchar( )

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

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

   (i) Data hiding

   (ii) Polymorphism

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

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

4 (a) 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);
}
```

(b) 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;
}
```

(c) Write a program in C++ to calcualte the sum of all numebrs in an array of size 10.   **3**

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

5 (a) 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

(b) 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.

(c) Write a program to find the maximum of all numbers in an integer array of size 15. **3**

(d) Predict the output of the following program : **2**

```cpp
#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);
}
```

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

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.

(b) Give a C++ statement to do the following : **2**

(i) Create an integer pointer ptr.

(ii) Make ptr hold the address of integer char variable var.

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

```
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;
    }
};
```

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

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