

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

Roll No. 

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Code No. 59/OSS/2

SET 

<b>A</b>
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## COMPUTER SCIENCE (330)

Day and Date of Examination \_\_\_\_\_

Signature of Invigilators 1. \_\_\_\_\_

2. \_\_\_\_\_

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### 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.
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## COMPUTER SCIENCE

(330)

Time : 3 Hours]

[Maximum Marks : 60

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- 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.
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- 1** Define the following : **4×1=4**
- (a) FTP
  - (b) Sorting
  - (c) Arithmetic Logic Unit
  - (d) Taskbar
- 2** (a) Describe the functions of the following input devices : **3×2=6**
- (i) Keyboard
  - (ii) Scanner
  - (iii) Mouse
- (b) Explain the Data Processing Cycle. **2**
- (c) Classify Computer Language. **2**
- (d) Discuss Digital Transmission and Analog Transmission. **2**
- 3** (a) Name the header files to which following built-in function **2×1=2**  
belong :
- (i) getchar( )
  - (ii) isalpha( )



- (b) Explain the following terms with examples from C++. 2×2=4
- (i) Abstraction
  - (ii) Encapsulation
- (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) Write a function in C++ to calculate and display the sum of digit of a number. 2

The number is passed as argument to the function.

- 4 (a) What is the difference between = and ==operator ? Give an example in support of your answer. 2

- (b) 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);
}
```



- (c) 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;
}
```

- (d) Write a function VERIFY ( ) in C++ that accepts a character as an argument and checks whether it is a digit or not. 3

- 5 (a) 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);
}
```



(b) 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

(c) 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.
- (d) Write a program to find the smallest number in an integer array of size 15. **3**
- 6** (a) Which statement is used to create an alias of a datatype ? **1**
- (b) 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 form the user.
- (c) Give a C++ statement to do the following : **2**
- (i) Create an integer pointer ptr.
- (ii) Make ptr hold the address of integer variable var.



- (d) 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;
    }
};
```

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

