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

Roll No. ⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚

# 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.

4. Write your Question Paper Code No. 53/HIS/1, Set Ⓐ 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 in the right-hand margin.

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

**1.** Define the following :                                              1×5=5

*(a)*    Control unit

*(b)*    Start button

*(c)*    Operating system

*(d)*    Registers

*(e)*    4 GL's languages

**2.** Differentiate between the following :                              2×5=10

*(a)*    Peer-to-peer architecture and Client-server architecture

*(b)*    FTP and TELNET

*(c)*    Star network and Bus network

*(d)*    Shell connection and Leased connection

*(e)*    Logical record and Physical record

**3.** *(a)* Describe briefly the various benefits (any *two*) of OOP.   2

*(b)* Explain the following :   1×2=2

  *(i)* Polymorphism

  *(ii)* Objects

**4.** *(a)* Write the difference between n=1 and n==1.   1

*(b)* Write the equivalent C++ expression for the following algebraic expressions :   2

  *(i)* $\dfrac{2AB\ \ 2BC\ \ 2CA}{2A}$

  *(ii)* $3\ 14r^2$

*(c)* Write the given code using conditional operator :   2

```
        if (x % 2==0)
                cout<<"Even";
        else
                cout<<"Odd";
```

*(d)* Write a program to accept two numbers from the user and swap the number without using third variable.   4

*(e)* Write the output of the given program (assume that all header files are included) :   2

```
        void main()
        {
                int x=7, y=3;
                cout<<++x<<","<<x++<<endl;
                cout<<y– –<<","<<– –y;
        }
```

**5.** *(a)* Write a program to accept an integer array of 10 size and print the minimum element in an array.     4

*(b)* Write the output of the given program (assume that all header files are included) :     2

```
void main()
{
        int a [5]={2,3,4,5};
        for(int i=0; i<5; i++)
        if(A[i]%2==0)
        A[i]=A[i]/2;
        else
        A[i]=A[i]  3;
        for(i=0; i<5; i++)
        cout<<A[i]<<",";
}
```

**6.** *(a)* Write a function in C++ Fact() which will take a number as parameter and return the factorial of passed number. (Example : if input is 5!=5×4×3×2×1=120 or 6!=6×5×4×3×2×1=720)     4

*(b)* Write the difference between call by value and call by reference. Also write the example.     3

*(c)* Declare the structure employee containing following members empno, e-name and salary. Write a program to implement this to accept 10 records of the employees and display the records of the employees whose salary is greater than 10000.     3

*(d)* Define the class Hotel with the following specifications :     3

Private members of the class :

| | | |
|---|---|---|
| Hotno | : | numeric |
| Hotname | : | string of 25 characters |
| E-mail | : | string of 50 characters |
| Charges | : | numeric |

Public members of the class :

Constructor function to initialize the data members of the class with the following data :

Hotno as 10, Hotname as "livasa", e-mail as "abc@livasa.in" and charges as 500

Out() function to display all the members on the screen

(e) Consider the following classes declaration and answer the following questions :

```
class baker
{
int bno;
char bname60];
public:
baker();
void input();
void output();
};
class bread : protected baker
{
char type[10];
float price;
public:
bread();
void accept();
void display();
};
```

(i) Which type of inheritance it is? 1

(ii) Which class constructor will be called first when the object of class bread will be declared? 1

(iii) Write the protected members of class bread. 1

**7.** *(a)* What is pointer? Explain with the help of an example. 3

*(b)* Differentiate between ios::out and ios::app. 1

*(c)* Write a C++ program to read and display all the records from a binary file "store.dat" corresponding to the following class store : 4

```
class store
{ int stno;
char stname[50];
float area;
public:
void indata()
{
    coutt<"enter details\n";
    cin>>stno;
    cin>>stname;
    cin>>area;
}
void outdata()
{
    cout<<stno<<stname<<area;
}
};
```

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