This Question Paper consists of 8 questions and 7 Printed pages.

Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐ Code No. **54/ASS/4**

Set **A**

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. **54/ASS/4-A** 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 :   1x5=5

   (a) EPROM

   (b) My Documents

   (c) Natural languages

   (d) Digitizing tablet

   (e) Custom software

2. Differentiate between the following :   2x3=6

   (a) Ring network and bus network

   (b) File and database

   (c) Simplex and full duplex

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

   (b) Explain the following :   1x2=2

      (i) Polymorphism

      (ii) Objects

4. (a) Write the difference && and || operator. 1

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

   (i) $\dfrac{b^2 - 4ac}{2a}$

   (ii) $\dfrac{4}{3}x^2$

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

```
if (x>y)

    z=x;

else

    z=y;
```

(d) Write a program to accept a number from the user and calculate & print the square and cube of the number. 4

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

```
void main()

{

    int x=7;

    cout<<++x<<","<<x++<<","<<x<<","<<++x;

}
```

5. (a) Write a program to accept an integer array of 10 size with searching element and search the element in an array using linear search technique. 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<4;i++)
    if(A[i]%2==1)
    A[i]=A[i]/2;
    else
    A[i]=A[i]*3;
    for(i=0;i<4;i++)
    cout<<A[i]<<",";
}
```

6. (a) Write a function in C++ Prime () which will take a number as parameter and   4
check whether the passed number is Prime or not, if its prime return 0 else 1.

(b) Write the difference between Local variable and Global variable. Also write an   3
example.

(c) Declare the structure employee containing following members empno, ename   3
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 less than
equal to 10000.

(d) Define the class Song with the following specifications :   3

Private members of the class :

songno   :   numeric

songname :   string of 25 characters

Singer   :   string of 50 characters

duration :   numeric

Public members of the class :

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

songno as 1, songname as NULL, singer as NULL and duration as 5.

•   show ( ) function to display all the members on the screen.

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

```
class Electronics

{

int no;

char devname[60];

public:

Electronics();

void in();

void disp();

};

class TV : public Electronics

{

char brand[10];

int price;

public:

TV();

void enter();

void show();

};
```

(i)   Which type of inheritance it is ?   1

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

(iii) Write the members which can be accessed by the object of class TV.   1

7. (a) Write the output of the given program :   3

```cpp
#include<iostream.h>
void main()
{
char  *ptr,str[]="Nation";
ptr=str;
for(int  i=0;str[i]!='\0';i++)
cout<<(ptr+i)<<endl;
}
```

(b) Differentiate between ios::out and ios::ate.   1

(c) Write a C++ program to read and display all the records from a binary file   4
     "store.dat" whose store area is greater than 1500.

```cpp
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;
}
float retarea()
{
return area;
}
};
```

8. Justify the following features of Java :

   (a) Distributed

   (b) Automatic Memory Management

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