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

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

Code No. 56/HIS/2

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. 56/HIS/2, Set 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 : 1×4=4

(a) Ink-jet printer

(b) Plotter

(c) Topology

(d) Windows Explorer

2. *(a)* Distinguish between the following : 2×3=6

(i) Interpreter and Compiler

(ii) PROM and EPROM

(iii) 3-GL and 4-GL

(b) Compare between physical and logical records. 2

(c) Compare between low-level and high-level language. 2

(d) Discuss various transmission modes. 2

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

(i) asin()

(ii) isalnum()

(b) Explain the following terms with example from C++ : 2×2=4

(i) Objects

(ii) Classes

(c) Write a C++ statement using conditional operator to display minimum among three numbers *a*, *b*, *c*. 2

(d) Explain the branch statement switch-case with illustration. 2

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

4. (a) Write a program in C++ to verify whether a number is prime or not. 3

(b) What do you mean by jump statement? Explain goto statement. 2

(c) What will be the value of counter after the following program is executed? 3

```
void main ()
{
        int count;
        int dig = 10;
        count = 11;
        while (dig <=20)
        {
             + + count;
             + + dig;
        }
        cout<<count;
}
```

(d) Write the output of the following program : 2

```
void main()
{
        float a=5·2;
        if(a==5·2)
            cout<<"Equal";
        else if(a<5·2)
            cout <<"Less than";
          else
            cout<<"Greater than";
}
```

5. *(a)* Predict the output of the following program : 2

```
int main()
{
        int a = 4, b = 4;
        switch(a)
        {
            case 3 : cout<<"\n a is 3";
                     break;
            case b : cout<<"\n a is 4";
                     break;
            default : cout<<"\n a is not 3 or 4";
         }
        return 0;
}
```

(b) Define a class student with the following specifications : 3

Private Members :

Name	String
Age	Numeric
Date of Birth	String
Stream	String

Public Members :

A constructor that initializes all numeric members with 0 and all strings with "\0"
getvalue()_that accepts the entire data
putvalue()_that displays the entire data

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

```
class Book
{
        char book_type[10];
        protected:
            float price;
            void cal_price(float);
        public:
            Book();
            char choice;
            void bookinput();
            void bookshow();

};
class MyBook : private Book
{
          char mbook_name[10];
          float weight;
          protected:
              int no_pages;
          public:
              void MyInput();
};
```

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

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

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

(d) Write a program to find the positions of biggest and smallest elements in an integer array of size 15. 3

6. *(a)* What do you mean by punctuators in C++? 1

(b) Declare a structure INSTITUTION having Discipline (string) like Engineering / Science / Arts, etc., Course (string) like Computer Science / Physics / Chemistry, Location (string) as its members. Thereafter create another structure ADMISSION having the following members :

Adm_No	of type integer
Student Name	of type string
Category	of type string
S_Address	an instance of INSTITUTION

Write a C++ statement to accept the value of course from the user. 2

(c) Give C++ statements to do the following : 2

(i) Create a character pointer

(ii) Make this character ptr hold the address of integer variable var

(d) Assuming the class BANK defined below, write a user defined function to read the objects of BANK from the binary file Bank.dat and display the records of only 'Salary' type or 'Current' type. 3

```
class BANK
{
        int Account_number;

        char Customer_name [15];

        char Opening_Date[15];

        float balance;

        char type [10];          //saving/current/salary
```

```
public :
        void enterdata()
        {
            cin>>Account_number;
            gets(Customer_name);
            gets(Opening_Date);
            cin>>balance;
            gets(type);
        }
        void showdata()
        {
           Cout<<Account_Number<<Customer_Name
           <<Opening_Date<<Balance<<type;
         }
         char []gettype()
         {
             return type;
          }
};
```

(e) Create a file to store name, roll number, marks of a student. Reopen the file for read operation and display values of these fields. 3

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