



COMPUTER SCIENCE

(330)

Time : 3 Hours]

[Maximum Marks : 60

- Note :**
- (i) Answer all questions.
 - (ii) Marks allotted to each questions are given in the right-hand margin.
 - (iii) Use C++ programming language to answer programming questions.

- 1 Define the following terms briefly : 1×5=5
- (a) ALU
 - (b) Cache Memory
 - (c) Ring Topology
 - (d) E-commerce
 - (e) Desktop.
- 2 (a) Differentiate between the following : 2×3=6
- (i) Logical and Physical Record
 - (ii) System Software and Application Software
 - (iii) Asynchronous and Synchronous Transmission.
- (b) What do you understand by Internet and www ? Explain any **two** features of Java. 4
- 3 (a) Define the concept of object, class, inheritance and polymorphism. 4
- (b) (i) Declare variables to the following : 1
- name : string with 20 characters
 - age : non-decimal value
 - salary : decimal value
- and assign them values "Computer Science", 25, 5000.50 respectively.

(ii) Write a C++ statement(s) for each of the following : 3

(1) read the values of x, y and z

(2) write the sum of x, y and z

(3) write the values of x and y in one line and value of z after two blank lines

(iii) Evaluate the following expression : 1

$$5 + 4 / 3 * (5 - 3) / 2$$

(iv) Give the output of following program : 3

```
# include <iostream.h>
```

```
void main( )
```

```
int x, y
```

```
cin >> x;
```

```
for (y=0, y<10, y++)
```

```
if x == y
```

```
cout << y + x;
```

```
else
```

```
cout >> y;
```

```
}
```



4 (a) (i) Write a Structure for the record given below : 2

Username : string of 20 characters

Usage : non-decimal value

Call this structure USER

Create a variable S1 from the Structure USER and display it.

(ii) Write a statement that declares an enumerated data type called 1
Days with the values given below :

sun mon tue wed thu fri sat

(b) (i) What will be the value of Sum after the following program is executed : 3

```
void main( )
```

```
{
```

```
    int sum, i;
```

```
    sum=1;
```

```
    i=9
```

```
    do
```

```
    {
```

```
        i=i-1;
```

```
        sum = 2*sum;
```

```
    }
```

```
while (i>9);
```

(ii) Give the output for the following :

```
#include <iostream.h>

int a, b;

void simplify (int x, int & y);

void main( )
{
    int a=10;
    int b=7;
    simplify (a,b);
    cout<<a<<b<<"\n";
}

void simplify (int x, int & y)
{
    b=x;
    y=y+b;
    x=y;
    cout<<x<<y<<b<<"\n";
}
```

- 5 (a) (i) Give an example of initializing a two-dimensional array A of integers having 3 rows and 4 columns. List subscripts of all the elements. 2
- (ii) Write a program that will read 10 integer values in a one-dimensional Array A of 10 elements. Find out the maximum value from all the Array elements.



- (b) (i) Write the purpose of seekg() and tellp() functions. 1
- (ii) Create a class student having two objects name and marks. Create a method getdata() to input data from screen. Create another method putdata() to display data. Create a data file ABC.dat and write data using objects of the class student and close the file. 4

6 (a) Answer the following questions briefly :

- (i) List the header file for getchar() and strlen() functions. 1
- (ii) Create a function square() to find the square of a number and use it in main function to find the square of 25. 3
- (b) Discuss the concept of Inheritance. Give an example of base class and derived class. 3
- (c) Define a class STUD with following specifications : 3

Private members of class :

rollno - Non-decimal value

studname - string of 20 characters

Hindi, English, Maths, Total - Non-decimal value

totalmark() - a function to calculate total of Hindi, English, Maths

Public members of the class :

getdata() - a function to read values for rollno,

studname, Hindi, English, Maths; invoke

totalmark() to calculate total

showdata() - a function to display data members of class



(d) Define this Pointer. Find the output of the following program segment : 3

```
# include <stdio.h>

void main( )
{
    int a=25, b=10;
    int * c = &b;
    cout<<a<<"\n"<<&c<<endl;
    *c=a-5;
    cout<<b<<"\t"<<x<<endl;
}
```

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