

- Q.1 A) Select the correct alternative and rewrite the following.** [4]
- a) _____ data structure does not require contiguous memory allocation.
i) Array ii) Stack iii) Queue iv) Linked List
- b) Object oriented programming uses _____ approach of programming.
i) Linear ii) Non-Linear iii) Top Down iv) Bottom up
- c) The valid attribute of <A> is _____
i) NAME ii) SRC iii) BGCOLOR iv) HEIGHT
- d) The elements of the binary tree are _____
i) Homogenous ii) Non-homogeneous iii) Similar iv) Identical
- B) Answer any two of the following.** [6]
- a) What is Data structure? Define array and pointer array in data structure.
- b) Explain pass by reference in C++.
- c) Define the following terms in data structure :
i) File ii) Record iii) Key-field
- Q.2 A) Answer any two of the following.** [6]
- a) Explain in brief any six data structure operation.
- b) Write any 3 advantages and 3 disadvantages of HTML.
- c) What are linked lists ? Show a linked list with suitable example having six nodes with a properly labeled diagram.
- B) Answer any one of the following.** [4]
- a) Write declaration for each of the following in C++
i) An array of 8 float values.
ii) A pointer to an array of 8 double values.
iii) A function that returns float value
iv) An object of the class test.
- b) Explain local and global variables / data in C++ using examples.
- Q.3 A) Answer any two of the following.** [6]
- a) Differentiate between procedural programming approach and Object oriented programming approach,
- b) Explain the following HTML tags,
i) <marquee> ii) <hr> iii)
- c) Draw binary tree diagram for the following expression;
 $E = (2A + 5) (5F - D)^3$
- B) Answer any one of the following.** [4]
- a) Explain bubble sort algorithm with an example.
- b) Describe how member function of a class can be defined outside the class and inside the class definition.
- Q.4 A) Answer any two of the following.** [6]
- a) Explain scope resolution operator in C++ with an example.
- b) Explain function overloading in C++.
- c) What is a class? Explain general form of class declaration.

B) Answer any one of the following.**[4]**

- i) Write function declaration and call statement for the following function definition.

```
int calculate(int a, int b)
{
    return(a*b);
}
```

- ii) Explain the following library methods:

a) strlen ()

b) clrscr ()

- b) Explain binary search algorithm with an example.

Q.5 Answer any two of the following.**[10]**

- a) Write a C++ program to initialize an array of 10 integers. The program must find and print the smallest integer from the array.
- b) Write a program in C++ to read a string from the user [max. 80 characters). The program must count and print the total words in the given string.
- c) Write the HTML code for the following table as output :

Roll No.	Name	Marks		Total
		CS 1	CS 2	
1	RINA	75	70	145
2	RONAK	80	90	170
3	TINA	70	85	155

OR

- a) Implement a class temperature to convert degree Fahrenheit value to degree Celsius value. [Hint: $C / 5 = F - 32 / 9$, where C is temperature in degree Celsius and F is temperature in Fahrenheit degree]
- b) Implement a point class for two dimensional points (x,y). Include a function dist () to return points distance from origin (0, 0) and a display() function to print result.
- c) Write the exact output of the following HTML Code with font specifications in brackets.

```
<HTML>
<HEAD>
<TITLE> Computer Step </TITLE>
<BODY>
<H2> <U> Title : Megastar Company Ltd. </U></H2>
<P>Address: Surya Complex, Delhi</P>
<H4>Deals in: </H4>
<UL>
<LI>Software
<LI>Hardware
<LI>Peripherals
</UL>
</BODY>
</HTML>
```