# COMPUTER SCIENCE
## PAPER - I (D-9)

| Time : 3 Hours | 4 Pages | Max. Marks : 50 |

**Instructions :** (1) All questions are compulsory.

(2) Figure to the right indicate full mark.

(3) Use of any type of calculator not allowed.

(4) Draw a neat diagram wherever necessary.

1. **(A)** Select correct option from the following and rewrite sentences :

(a) LINUX is _____ type of software.     1

    (i) Public

    (ii) Free

    (iii) Shareware

    (iv) Licenced

(b) _____ is collection of fields.     1

    (i) File

    (ii) Record

    (iii) Array

    (iv) Queue

(c) _____ operator cannot be overloaded.     1

    (i) + +

    (ii) +

    (iii) : :

    (iv) >>

(d) _____ tag is used to create a row in table.

    (i)   &lt;td&gt;

    (ii)  &lt;th&gt;

    (iii) &lt;tr&gt;

    (iv) &lt;tt&gt;

(B) Answer **any two** of the following

    (a) Explain any three features of Windows-98 Operating System.   3

    (b) Explain Bubble sort algorithm with suitable example.   3

    (c) Explain general structure of HTML Page.   3

2.  (A) Answer **any two** of the following

    (a) Explain friend function in C++ with example.   3

    (b) Explain linked representation of Binary Tree in memory with suitable example.   3

    (c) Explain memory map of single user operating system.   3

  (B) Answer **any one** of the following

    (a) Define Operating System. In which categories operating system provide it's services ?   4

    (b) What is Constructor and Destructor ? Explain each with the help of suitable example.   4

3  (A) Answer **any two** of the following

    (a) Explain Internal and External fragmentation in memory management of operating system.   3

    (b) List any six data structure operations.   3

    (c) Define following terms in C++ file handling   3

        (i) ifstream

        (ii) ofstream

        (iii) fstream

  (B) Answer **any one** of the following

    (a) What is a Virus ? Write any three infecting methods of Virus.   4

    (b) Define Binary Tree. Draw a Tree diagram for following expression   4

$$Y = [(a - b - c) + (a + b - c)]^{1/2}$$

4. (A) Answer **any two** of the following

    (a) Explain time sharing related to process management of operating system.    3

    (b) Explain how a member function is defined outside class with examples.   3

    (c) Wrie C++ decleration for the following    3

        (i) Array of 10 integers

        (ii) Pointer to character variable

        (iii) Object of the class test

  (B) Answer **any one** of the following

    (a) Define Linked List. Draw and explain labeled diagram of linked list with 5 nodes. https://www.maharashtrastudy.com

    (b) What is Polymorphism ? Explain how it is achieved by    4

        (i) Compile time

        (ii) Run time

5. (A) Solve **any two** of the following

    (a) Write a C++ program to accept 10 integers in an array and find its sum and average.    5

    (b) Write a C++ function to find surface area of a sphere.    5
    (Hint Surface area of sphere $= A = 4\pi r^2$)

    (c) Write code in HTML for following table    5

| Subject | | Paper-I | Paper-II |
|---|---|---|---|
| Computer | Theory | 50 | 50 |
| Sciecne | Practial | 50 | 50 |

HSC Exam Scheme.

**OR**

5. Answer **any two** of the following

    (a) Write a C++ program to accept a sentence of 80 characters and count number of words in a sentence.    5

    (b) Write a class based C++ program to accept two integers and find it's G.C.D. (Greatest Common Divisor)    5

(c) Write the exact output of the following HTML Code with font specification  **5**

```
<HTML)
<BODY>
<TABLE border = "3" Cellspacing="10">
<TR>
<TH Colspan = "3" > STREAM </TH>
</TR>
<TR>
<TD> < A href = "Science.html">
SCIENCE </A> </TD>
<TD> <A href = "Commerce.html">



COMMERCE </A> </TD>
<TD> <A href = "Arts.html">
ARTS </A> </TD>
</TR>
</TABLE> </BODY> </HTML>
```

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