

DAY - 16

SEAT NUMBER

M 0 0 1 3 3

3

2020

III

11

1100

V - 234

(E)

**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.

(i) Public

(ii) Free

(iii) Shareware

(iv) Licenced

(b) _____ is collection of fields.

(i) File

(ii) Record

(iii) Array

(iv) Queue

(c) _____ operator cannot be overloaded.

(i) ++

(ii) +

(iii) ::

(iv) >>

1

1

1

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

(i) <td>

(ii) <th>

(iii) <tr>

(iv) <tt>

(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

$$Y = [(a - b - c) + (a + b - c)]^{3/2}$$

[Contd.]

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) Write C++ declaration 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.
- (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
Science	Practical	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 its 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>
```
