

DAY - 16

SEAT NUMBER

0 7 1 8 5 5

2022

III

23

1030

V - 134

(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 the correct alternative and rewrite the following :

- (a) _____ is the only operating system from the following list. 1
- (i) MS point
 - (ii) Unix
 - (iii) MS Excel
 - (iv) Oracle
- (b) The maximum number of nodes in a binary tree of depth 6 is _____. 1
- (i) 64
 - (ii) 32
 - (iii) 63
 - (iv) 6
- (c) A derived class with several base classes is _____ inheritance. 1
- (i) Multiple
 - (ii) Hierarchical
 - (iii) Single
 - (iv) Multilevel

(d) An attribute which defines URL of document to be linked in <A> tag is _____ . 1

- (i) RFF
- (ii) VREF
- (iii) HREF
- (iv) ALT

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

- (a) Explain context switching at process level in multiprogramming system with example. 3
- (b) Explain memory representation of linked list with a suitable example. 3
- (c) Write any six rules for virtual functions. 3

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

- (a) Explain the function of the following file stream classes : 3
 - (i) ifstream
 - (ii) ofstream
 - (iii) fstream
- (b) What is a Record ? Write any two distinguishing points between a Record and Linear Array. 3
- (c) What is a Computer Virus ? State any four methods by which a virus can affect other programs. 3

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

- (a) Explain binary search algorithm. 4
- (b) Explain the following terms with respect to virtual memory : 4
 - (i) Page fault
 - (ii) Working set
 - (iii) Demand paging
 - (iv) Dirty bit

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

- (a) Define the following terms with respect to binary tree : 3
- (i) Depth of tree
 - (ii) Degree of node
 - (iii) Empty or Null tree
- (b) What is Destructor ? State any four characteristics of Destructor. 3
- (c) Explain the following HTML tags with an example of each : 3
- (i) <PRE>
 - (ii)

 - (iii) <SUB>

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

- (a) What is a Process ? Explain running ready and blocked process states of process management. 4
- (b) What is an Inheritance ? Explain any three types of Inheritance in brief with suitable diagrams. 4

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

- (a) Explain in brief the three major services provided by Operating System. 3
- (b) Writing any six important features of object oriented programming. 3
- (c) Draw a binary tree structure for expression : 3

$$E = (p - q) / [(r \# s) + t]$$

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

- (a) Explain call by value and call by reference with suitable examples. 4
- (b) Draw and explain paging model of memory management system. 4

5. Answer any two of the following :

(a) Write C++ program to find a factorial of integers from 1 to 5. 5

(b) Write a C++ program to count and print occurrence of the character 'M' in a given string of maximum 79 characters. 5

(c) Write HTML code for the following output : 5

□ Computer

A. Hardware

i. Printer

ii. Monitor

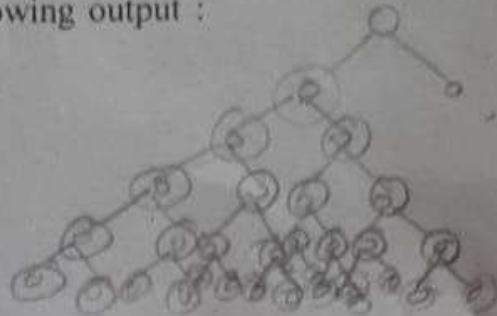
B. Software

i. C++

• arrays

• pointers

ii. Java



$$\begin{array}{r} 31 \\ \times 2 \\ \hline 62 \end{array}$$

OR

5. Attempt any two of the following :

(a) Write C++ program to read any integer and then check whether it's prime or not prime no. 5

(b) Write C++ program to generate and print first 15 terms of fibonacci series (1, 1, 2, 3, 5.....) 5

(c) Write HTML code for the following table : 5

		C++
	Java	HTML
VB	C	PASCAL