

**Q.1 A) Select correct alternative and rewrite the following:**

1. The time required to move R/W head to the particular track is called ----- 01
  - i. Latency time
  - ii. Seek time
  - iii. Waiting time
  - iv. Response time
2. ----- data structure does not require contiguous memory allocation. 01
  - i. Array
  - ii. String
  - iii. Pointer array
  - iv. Linked list
3. Object oriented programming uses ----- approach of programming. 01
  - i. Linear
  - ii. Non-linear
  - iii. Top down
  - iv. Bottom up
4. The valid attribute of <A> is ----- 01
  - i. NAME
  - ii. SRC
  - iii. BGCOLOR
  - iv. HEIGHT

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

1. What is Virtual Memory? Explain any two elements of virtual memory. 03
2. What is Data structure? Define array and pointer array in data structure. 03
3. Give function of following tags with an example of each: 03
  - i. <IMG>
  - ii. <EM>
  - iii. <HR>

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

1. Give three differences between WORM and VIRUS. 03
2. Write an algorithm to find the smallest element in an array. 03
3. Define the following terms in C++ 03
  - i. Data abstraction
  - ii. Operator overloading
  - iii. Data encapsulation

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

1. What is system call? List any two system calls for memory management, process management and information management. 04
2. What is virtual function in C++? Give any six rules to write virtual functions. 04

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

1. Explain multiuser and time sharing operating system. 03
2. Define 03
  - i. Tree
  - ii. Binary tree
  - iii. Extended binary tree
3. What is function overloading? Give examples of function overloading. 03

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

1. Write an algorithm for binary search method. Explain algorithm with suitable example. 04
2. What are constructor and destructor in C++? Give example of constructor and destructor in a class. 04

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

1. What is file system? List and explain types of file systems used in OS. 03
2. With suitable example explain how tree can be represented in memory? 03
3. What is inheritance? Explain any two types of inheritance with memory. 03

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

1. Give features of windows 98 operating system. 04
2. What is linked list? How they can be represented in memory? 04

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

1. Write a program in C++ to accept two integer values in main function, pass them to a function great ( ) using call by value and find greater number, function great ( ) should not return any value. 05
2. Write a program in C++ to accept three integers from keyboard and find greatest number by using condition control. 05
3. Write HTML code to display following output. 05

```
<HTML>
<HEAD><TITLE>abc</TITLE></HEAD>
<H1 ALIGN = "CENTER"> KBC Restaurant </H1>
<TABLE BORDER = 2>
<TR>
<TH ROWSPAN ="2">
<FONT SIZE = "5"> Pav Bhaji </FONT>
</TH>
<TH> with cheese </TH>
<TH>35</TH>
</TR>
<TR>
<TH>without cheese</TH>
<TH>25</TH>
</TR>
</TABLE>
</BODY>
</HTML>
```

OR

1. Write a program in C++ to accept a string from keyboard and copy string into another string without using the library functions. 05
2. Write a program in C++ to find area of circle using class. 05
3. Write a program in HTML for the following output. 05
  - i. Arts
    - A. History
    - B. Geography
  - ii. Science
    - I. Computer science
    - II. Physics
  - iii. Commerce
    - o English
    - o Accounts