

**FILE STRUCTURES: AN OBJECT ORIENTED APPROACH**

(Information Technology)

Time: 3 hours

Max. Marks: 70

**PART – A**  
(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- What are the differences between procedure oriented and object oriented programming languages?
  - Write a C++ program to exchange two values using functions.
  - What are the advantages and disadvantages of overloading?
  - What are the differences between overloading and overriding?
  - What is late binding? What are its advantages and disadvantages?
  - What are the properties of binary tree?
  - What is file?
  - What are the characteristics of secondary storage devices?
  - What is the need for sorting of external files?
  - What is buffer?

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT - I**

- 2 (a) What are the differences between static and dynamic memory allocations?  
(b) Illustrate static storage class with the help of example.

OR

- 3 (a) What are the limitations of pointers?  
(b) How pointers can be used to access the members of a class?

**UNIT - II**

- 4 (a) How the ambiguity associated with overloading is resolved?  
(b) What are the control structures supported by C++? Explain them.  
(c) What is copy constructor?

OR

- 5 (a) What is constructor overloading?  
(b) Write a C++ program to overload + operator to perform matrix addition.

**UNIT - III**

- 6 (a) What are the differences between compile time and runtime polymorphisms?  
(b) What is pure virtual function?  
(c) Illustrate virtual function with the help of example.

OR

- 7 (a) What are the different access specifiers supported by C++? Illustrate them with examples.  
(b) What is virtual base class? Give an example.

**UNIT - IV**

- 8 (a) What is the effect of block size on the performance of the disk?  
(b) What is the difference between physical and logical file.  
(c) What is seeking? How it is supported in C++?

OR

- 9 (a) What is the need for storage as hierarchy? Explain.  
(b) What is the need for buffer management? How it helps in improving the performance? Explain how it is implemented in any operating system.

**UNIT - V**

- 10 (a) What are the methods for adding structure to files?  
(b) How the buffer class hierarchy is supported by C++?

OR

- 11 (a) How record blocking can be used to improve sequential search?  
(b) What are the UNIX tools for sequential processing?

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