

B.Tech II Year I Semester (R13) Regular & Supplementary Examinations December 2015

FILE STRUCTURES: AN OBJECT ORIENTED APPROACH

(Information Technology)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What is a constructor? Differentiate various types of constructors
 - What is the use of scope resolution operator in C++? Give example.
 - In what order destructors are called in inheritance?
 - What are the differences between overloading and overriding?
 - What is late binding? What are its advantages and disadvantages?
 - What is a generic function? What keyword is used to create a generic function?
 - What are the properties of magnetic tape?
 - What are the characteristics of secondary storage devices?
 - What is metadata? What is the name given to the place where metadata is stored in a file?
 - What are the problems with sequential access of files?

PART – B

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

UNIT – I

- 2 (a) In what order constructors and destructors are called? Illustrate with a C++ program.
(b) Illustrate static storage class with the help of example.

OR

- 3 (a) Explain the dynamic memory management functions giving their syntax.
(b) What is friend function? Give example.

UNIT – II

- 4 (a) Can we overload a constructor? If so give an example.
(b) Write a C++ program to overload '+' operator to perform addition of complex numbers.

OR

- 5 (a) What is the difference between normal base class and virtual base class? Demonstrate with example.
(b) What are default arguments? Explain with example.

UNIT – III

- 6 (a) Demonstrate the difference between compile time and runtime polymorphism with an example.
(b) Define virtual function. Write a program for calling a virtual function through a base class reference.

OR

- 7 Write a C++ program to perform creation, insertion, traversal, and deletion operations on binary search trees.

UNIT – IV

- 8 (a) Describe the process of linking a logical file within a program to an actual physical file or device.
(b) List and describe UNIX System calls for File I/O.

OR

- 9 (a) What is the need for storage as hierarchy? Explain.
(b) Describe the buffering strategies for performance.

UNIT – V

- 10 (a) How the free space is identified in disks and made contiguous?
(b) What are the methods for organizing records in files?

OR

- 11 (a) How classes are used to manipulate records in a file?
(b) How the buffer class hierarchy is supported by C++?
