

B.Tech II Year I Semester (R13) Supplementary Examinations June 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 M)
- (a) What is a constructor? What is the use of it?
  - (b) Write about the scope resolution operator.
  - (c) In what order destructors are called in inheritance.
  - (d) How function overloading gain the flexibility?
  - (e) Give the general form of template function.
  - (f) Give the definition of binary search tree.
  - (g) Define file structure.
  - (h) Differentiate between disk and tape.
  - (i) What is metadata? What is the name given to the place where metadata is stored in a file?
  - (j) List the reasons for data compression.

Part – B

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

**UNIT - I**

- 2 (a) How to create array of objects? Explain with an example.  
(b) Give a brief note on the pointer.

(OR)

- 3 Explain in detail about static class members.

**UNIT - II**

- 4 (a) Can we overload a constructor? If so give an example.  
(b) How to derive a class from multiple base classes?

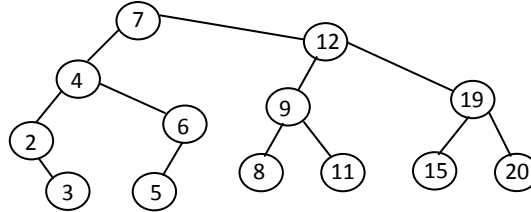
(OR)

- 5 Explain the following:
- (a) Copy constructor.
  - (b) Function overloading with default arguments.
  - (c) Function overloading and ambiguity.

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## UNIT - III

- 6 (a) Differentiate early binding and late binding.  
(b)



For the binary search tree given above, give the outcome after Inorder, preorder and postorder traversals.

(OR)

- 7 (a) Define virtual function. Write a program for calling a virtual function through a base class reference.  
(b) What is a pure virtual function? Give the general form to declare it.  
(c) Define abstract class.

## UNIT - IV

- 8 (a) Describe the process of linking a *logical file* within a program to an actual *physical file* or device.  
(b) Describe the purpose of object-oriented toolkit. Also explain its major problem.
- (OR)
- 9 (a) Describe the buffering strategies for performance.  
(b) In a block-addressable disk with 20,000 bytes/track and a subblock, interblock gap equivalent to 300 bytes/block, if we want to store a file containing 100-byte records, how many records can be stored per track if blocking factor is 10.

## UNIT - V

- 10 (a) What is a field? Explain the four field structures.  
(b) Give the description of methods in I/O buffer class hierarchy.
- (OR)
- 11 Explain key sorting with an example. What are its advantages and disadvantages?

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