

Code: CS4T3

**II B.Tech - II Semester – Regular / Supplementary Examinations  
October - 2020**

**FILE STRUCTURES  
(COMPUTER SCIENCE & ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

**PART – A**

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) Where do File Structures fit in Computer Science?
- b) Write advantages and disadvantages of CD-ROM.
- c) List advantages and disadvantages of different types of field structures.
- d) Name the strategies for record deletion in files.
- e) What is the role of indexing in file structures?
- f) Define Binary Search Trees.
- g) Define underflow and tell what happens when we encounter in B-trees?
- h) Show how blocks splitting and merging is done due to insertions and deletions in sequence set?
- i) What is collision? And list methods used for collision resolution.
- j) Define hashing and list the effects of Deletions and Additions on performance.
- k) Write a Copy Program from one file to another file in C++.

## PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain directory structure of UNIX. 8 M
- b) Describe the Physical Organization of Secondary Storage Disks and discuss its Strengths and Weaknesses. 8 M
3. a) Explain the organization of field structures and record structures. 8 M
- b) Explain Algorithm for Co-sequential Match with an example. 8 M
4. a) Explain Search and Insertion in BST indexes. 8 M
- b) What is Multilevel Index? Explain Multilevel B-Tree Indexing with suitable example. 8 M
5. a) Compare the strengths and weaknesses of simple prefix B+ trees and B trees. 8 M
- b) Describe operations on a sequence set of blocks that maintain records in order by key. 8 M

6. a) Discuss Simple Hashing Algorithm with example. 8 M

b) Illustrates distribution of seven records among 10 addresses. Using Linear Probing (Use Hash function  $H(X)=\text{Key Mod } 10$ ) 8 M