Punjab Technical University
Master of Computer Application Examination

MCA 1st Semester FILE STRUCTURES 2005
(Effective from the admitted batch of 2004 – 2005)

Time: Three hours Maximum: 100 marks

First question is compulsory.
Answer any FOUR from the remaining
Answer all part of any question at one place.

1. a) Differentiate between logical and physical record
b) what is an Index?
c) what is fragmentation?
d) what is the data compression
e) what is stream file?
f) write B Tree properties.
g) Diff b/w file access and file organization.

2. a) Explain about inverted files
b) Explain Internal and external fragmentation

3. a) Explain about buffer management
b) Explain about replacement strategies.

4. How do you maintain simple prefix B+ tree with the following assumptions.
a) Changes localized to single blocks in sequence set
b) Changes involved in multiple blocks in a set

5. a) Explain about indexed sequential file organization
b) How do u retrieve special subset of records from a data file using combination of secondary keys

6. a) Explain Hashing? Explain about hashing functions
b) Explain Hashing algorithm

7. a) Explain why no of comparisons is not adequate for measuring performance of in sorting large files
b) Construct a B-tree for the set of key values that fit in one node id file so that the steps involved in the following tasks
c) Find records with key 19 2) insert us 3) Delete 45

8. a) Explain about extendable hashing
b) How to design file structure for CD ROM