M.C.A. Third Semester (Second Year) (CGS)

15520 : File Structures & Data Processing : Paper - 3 MCA 2

P. Pages : 2 | AU - 3160

Time : Three Hours | Max. Marks : 80

Notes :
1. Due credit will be given to neatness and adequate dimensions.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of pen Blue/Black ink/refill only for writing the answer book.
5. Draw sketches / diagram with pen only.

1. a) Explain the uses of buffer and process of buffer management in detail. 7

   b) Explain the structure of Unix directory. Draw neat diagram of it. 7

OR

2. a) Explain in detail the organisation of Disks. 7

   b) Explain in detail opening of file operation. Give the meaning of each arguments. 7

3. a) What is portability ? Explain in detail various factors affecting portability. 7

   b) Enlist and explain the classes to manipulate buffers. 7

OR

4. a) Explain the following terms : 8
   i) Extensibility ii) Standardization
   iii) Metadata iv) Portability

   b) Enlist & explain classes to manipulate record structures. 6

5. a) What is data compression ? Explain any three methods of data compression. 7

   b) Explain the concept of inverted lists with example. States its advantages. 6

OR

6. a) Explain the concept of multiple key indexing with example. 6

   b) What is secondary key ? Explain retrieval of records using combination of secondary key by giving example. 7

7. a) Explain with example different consequential processing utilities in Unix ? 6

   b) Explain Heap sort with the help of example ? Also write class heap and insert method for building heap while reading the file. 7

OR

8.	a)	Explain polyphase merging for tape with example.	6
	b)	Write the features of merging as a way of sorting large files on disk.	7
9.	a)	Explain with example indexing with binary search trees.	7
	b)	Explain the searching method in B-tree with example.	6

OR

10.	a)	What is B* trees ? Explain in detail.	7
	b)	Explain any two collision resolution techniques with example.	6
11.	a)	How collision can be deleted for a file ? Explain in brief.	6
	b)	Explain the concept of hashing function and record distribution.	7

OR

12.	a)	Explain "Fold and Add" hashing algorithm.	6
	b)	What is Bucket ? Explain with example. Explain the effects of Buckets on performance. State the advantages of bucket hashing.	7

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