FUTURE VISION BIE

One Stop for All Study Materials

& Lab Programs

Future Vision

By K B Hemanth Raj

Scan the QR Code to Visit the Web Page

Or

Visit : https://hemanthrajhemu.github.io

Gain Access to All Study Materials according to VTU,
CSE – Computer Science Engineering,
ISE – Information Science Engineering,
ECE - Electronics and Communication Engineering
& MORE...

Join Telegram to get Instant Updates: https://bit.ly/VTU_TELEGRAM

Contact: MAIL: futurevisionbie@gmail.com

INSTAGRAM: www.instagram.com/hemanthraj_hemu/

INSTAGRAM: www.instagram.com/futurevisionbie/

WHATSAPP SHARE: https://bit.ly/FVBIESHARE

USN | | | | | | | | | | |

10IS63

Sixth Semester B.E. Degree Examination, June/July 2017
File Structures

Time: 3 hrs. Max. Marks:100

Note: ***Answer FIVE full questions, selecting at least TWO questions from each part.***

PART – A

1 a. With an example bring out the differences between physical file and logical file. **(04 Marks)**

b. Suppose it is needed to store a back up of a large file with 1 million records of 100 bytes records on a 7500 bpi tape that has an internal gap of 0.1" and with a blocking factor of 60. Calculate effective recording density. **(06 Marks)**

c. Bring out the differences between constant linear velocity and constant angular velocity. Justify how constant linear velocity is more suitable for audio CD. **(06 Marks)**

d. With suitable example, explain how seeking is done using CH streams. **(04 Marks)**

2 a. What are the different ways of adding structures to a file to maintain the identity of records? Explain each with an example. **(10 Marks)**

b. Design and develop a program in C++ to read a series of names, one per line, from a file and write out those names spelled in reverse order to another file. Do not use strrev ( ) function. **(10 Marks)**

3 a. Discuss the limitations of secondary key index. Explain "linking the list of reference" technique to overcome the limitation. **(10 Marks)**

b. Briefly explain with example how spaces can be reclaimed dynamically in fixed length record file. **(07 Marks)**

c. What are the limitations of keysort method? **(03 Marks)**

4 a. Apply K-way merge technique for merging large number of lists. Demonstrate with an example. **(10 Marks)**

b. Using co-sequential match based on a single loop, demonstrate intersection of two lists. **(10 Marks)**

PART – B

5 a. What is B-tree? With example explain the following operations in B-tree:
(i) Deletion (ii) Merging (iii) Redistribution. **(10 Marks)**

b. Construct a B-tree for the following set of keys : (order 4). Show every step clearly.
C G J X N S U O A E B H I F K L Q R T V **(10 Marks)**

6 a. Compare the strengths and weakness of B+ trees and B-trees. **(05 Marks)**

b. Write short notes on indexed sequential access. **(05 Marks)**

c. Explain the simple prefix B+ tree and its maintenance. **(10 Marks)**

7 a. What is Hashing? Write an hashing algorithm and explain with an example. **(10 Marks)**

b. Suppose you have a file with 8000 records, 2000 address bucket size 5, in which 20% of the records account for 80% of the access. When the file is loaded you load the active 20% of the records first. After the active 20% of the records are loaded and before the other records are loaded, what is the packing density of the partially filled file? Using this packing density compute the percentage of the active 20% that would be overflow records. Comment on the results. **(10 Marks)**

8 a. Explain how extendible hashing works. **(10 Marks)**

b. Write short notes on dynamic hashing and linear hashing. **(10 Marks)**

* * * * *