

USN

--	--	--	--	--	--	--	--	--	--

06IS63

Sixth Semester B.E. Degree Examination, May/June 2010
File Structures

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Describe the relation between the physical file and the logical file. (04 Marks)
 b. Briefly explain the different basic ways to organize the data on a disk. (10 Marks)
 c. Calculate the space required on tape, if we want to store the 1 million 100 bytes records on a 7250 bpi tape, that has an internal block gap of 0.2 inches and with a blocking factor of 60. Hence calculate the space required. (06 Marks)
- 2 a. What are the different ways of adding structures to a file to maintain the identity of records? Explain each with examples. (10 Marks)
 b. Define the following terms :
 i) File-access method ii) Meta-data iii) RRN iv) Template class. (04 Marks)
 c. Design an algorithm for sequential – search. (06 Marks)
- 3 a. Define data compression. Explain irreversible compression techniques. (06 Marks)
 b. Explain the key-sorting techniques and their limitations. (06 Marks)
 c. What is meant by an index? Explain the operations required to maintain the index files. (08 Marks)
- 4 a. Explain the object-oriented model for implementing co-sequential process. (10 Marks)
 b. Briefly explain the different methods used to sort files on a tape. (10 Marks)

PART – B

- 5 a. Define a B-tree. Explain the creation of a B-tree, with examples. (10 Marks)
 b. Explain deletion, merging and redistribution of elements in a B-tree. (10 Marks)
- 6 a. Explain the block splitting and merging due to insertion and deletion in the sequence set, with examples. (10 Marks)
 b. Explain the simple-prefix B+ tree. (05 Marks)
 c. Compare the strengths and weakness of B+ trees and B-tress. (05 Marks)
- 7 a. Define hashing. Explain a simple hashing algorithm. (10 Marks)
 b. Explain the double hashing and chained progressive overflow collision resolution techniques. (10 Marks)
- 8 a. Explain the working of extendible hashing. (10 Marks)
 b. Construct a procedure for finding buddy-buckets. (05 Marks)
 c. Explain the briefly the linear-hashing method. (05 Marks)

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for ensuring transparency and accountability in financial operations. This section also highlights the role of internal controls in preventing fraud and errors.

2. The second part of the document focuses on the implementation of robust risk management strategies. It outlines various risk assessment techniques and provides guidance on how to identify, measure, and mitigate potential risks. The text stresses the need for a proactive approach to risk management to protect the organization's assets and reputation.

3. The third part of the document addresses the importance of effective communication and reporting. It discusses the need for clear and concise communication channels and the role of regular reporting in keeping stakeholders informed. This section also touches upon the importance of data security and the need for strong cybersecurity measures to protect sensitive information.

4. The fourth part of the document discusses the importance of continuous improvement and innovation. It encourages organizations to regularly review their processes and procedures to identify areas for improvement and to embrace new technologies and practices. This section also highlights the importance of fostering a culture of innovation and learning within the organization.

5. The fifth part of the document discusses the importance of ethical conduct and corporate social responsibility. It emphasizes the need for organizations to adhere to high ethical standards and to be transparent in their operations. This section also touches upon the importance of contributing to the community and the environment through various social responsibility initiatives.

6. The sixth part of the document discusses the importance of talent management and development. It outlines strategies for attracting, retaining, and developing top talent. This section also touches upon the importance of providing ongoing training and development opportunities for employees to ensure they remain competitive in the market.

7. The seventh part of the document discusses the importance of financial management and budgeting. It provides guidance on how to develop a realistic budget and how to monitor and control expenses. This section also touches upon the importance of maintaining a strong financial position to ensure the organization's long-term sustainability.

8. The eighth part of the document discusses the importance of legal and regulatory compliance. It outlines the key legal and regulatory requirements that organizations must adhere to and provides guidance on how to ensure compliance. This section also touches upon the importance of staying up-to-date on changes in the legal and regulatory landscape.

9. The ninth part of the document discusses the importance of crisis management and business continuity planning. It outlines the steps organizations should take to prepare for and respond to various types of crises. This section also touches upon the importance of having a clear and effective business continuity plan in place to ensure the organization can continue to operate during and after a crisis.

10. The tenth part of the document discusses the importance of strategic planning and vision. It outlines the process of developing a clear and compelling vision for the organization and how to align all activities and resources with that vision. This section also touches upon the importance of regularly reviewing and updating the organization's strategy to ensure it remains relevant and effective.