

MM9123 MULTIMEDIA DATABASES

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UNIT I

9

Basics of Database Management Systems - Relational Model – SQL, Functional Dependencies - Normal Forms – Multivalued Dependencies, Join Dependencies – Examples - An introduction to Object-oriented Databases.

UNIT II

9

Multidimensional Data Structures: k-d Trees - Point Quadtrees - The MX-Quadtree - R-Trees - comparison of Different Data Structures.

UNIT III

9

Text/Document Databases - Precision and Recall - Stop Lists - Word Stems and Frequency Tables - Latent Semantic Indexing - TV-Trees - Other Retrieval Techniques
Image Databases - Raw Images - Compressed Image Representations - Similarity-Based Retrieval - Alternative Image DB Paradigms - Representing Image DBs with Relations - Representing Image DBs with R-Trees - Retrieving Images By Spatial Layout - Implementations.

UNIT IV

9

Audio Databases - A General Model of Audio Data - Capturing Audio Content through Discrete Transformation - Indexing Audio Data.
Video Databases - Organizing Content of a Single Video - Querying Content of Video Libraries - Video Segmentation

UNIT V

9

Design and Architecture of a Multimedia Database - Organizing Multimedia Data Based on The Principle of Uniformity - Media Abstractions - Query Languages for Retrieving Multimedia Data.

TOTAL = 45

REFERENCES:

1. V. S. Subramanian, "Principles of Multimedia Database Systems", Elsevier Publishers, 1998.
2. Elmasri and **Navathe** Fundamentals of Database Systems, 4th Edition, Addison Wesley, 2003. S. Subramanian, "Principles of Multimedia Database Systems", Elsevier, 1998.
3. C. J. Date, "An Introduction to Database Systems", Seventh Edition, Pearson Education, 2000.
4. S. Khoshafian and A. B. Bakor, "Multimedia and Imaging Databases", Elsevier, 1996.
5. Kingsley C. Nwosu, "Multimedia Database Systems: Design and Implementation Strategies", Kluwer Academic Publishers, 1996.
6. Prabhakaran, "Multimedia Database Management Systems", Springer, 1st Edition, 1996.
7. Lynne Dunckley, "Multimedia Databases: An Object-Relational Approach", Pearson Education, 2003.