CA825   DATABASE SECURITY

UNIT I

Introduction to databases-Security Requirements-Reliability and Integrity-sensitive Data-Inference-Direct Attack-Indirect Attack-Aggregation-Multilevel Databases-Proposal for Multilevel security.

UNIT II

Privacy Concepts-Information Privacy-Computational Privacy-Privacy Principles and Policies-Authentication and Privacy-Privacy on the Web-E-mail Security-Impacts on Emerging Technologies-RFID-Electronic Voting-VoIP and Skype- Privacy Preserving Data Mining.

UNIT III

Mathematics for Cryptography-Properties of Arithmetic-Complexity-Symmetric Encryption-DES-AES-Public Key Encryption-RSA-El Gamel and Digital Signature Algorithms.

UNIT IV

Data Anonymization: Data Privacy- Replacement - Suppression -Generalization - Perturbation - Ingredients for anonymization techniques- Privacy Preservation in Social Networks-Anonymization Methods for Social Network- Security in Advanced Databases: Multimedia-Mobile-Web Database.

UNIT V

Data Masking: Overview-Data Masking Architectures-Data Masking Techniques-Data Masking Issues- Mathematics of Data Masking-Encryption vs Masking - Data Sanitization Techniques.

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4. Bin Zhou Jian Pei Wo-Shun Luk, "A Brief Survey on Anonymization Techniques for Privacy Preserving Publishing of Social Network Data ", School of Computing Science Simon Fraser University, Canada
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