MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF EMERGING TECHNOLOGIES

SYLLABUS

III Year B. Tech.– I Sem **L/T/P/ C**
3/0/0/3

(R20A6261) DATABASE SECURITY

Course Objectives:

1. To understand the concepts of web security and cryptographic system.
2. To learn privacy protection techniques and web server security concepts.
3. To understand access control models in XML, web server security and security in data warehouses.
4. To learn the techniques and concepts of re-engineering security for databases.
5. To expose to trends in database publishing and mobile environment securities.

UNIT – I: The Web Security, the Web Security Problem, Risk Analysis and Best Practices Cryptography and the Web: Cryptography and Web Security, Working Cryptographic Systems and Protocols, Legal Restrictions on Cryptography, Digital Identification

UNIT – II: The Web's War on Your Privacy, Privacy-Protecting Techniques, Backups and Antitheft, Web Server Security, Physical Security for Servers, Host Security for Servers, Securing Web Applications

UNIT – III: Database Security: Recent Advances in Access Control, Access Control Models for XML, Database Issues in Trust Management and Trust Negotiation, Security in Data Warehouses and OLAP Systems

UNIT – IV: Security Re-engineering for Databases: Concepts and Techniques, Database Watermarking for Copyright Protection, Trustworthy Records Retention, Damage Quarantine and Recovery in Data Processing Systems, Hippocratic Databases: Current Capabilities and

UNIT – V: Future Trends Privacy in Database Publishing: A Bayesian Perspective, Privacy-enhanced Location-based Access Control, Efficiently Enforcing the Security and Privacy Policies in a Mobile Environment.

Text Books:

1. Web Security, Privacy and Commerce Simson GArfinkel, Gene Spafford, O'Reilly.
2. Handbook on Database security applications and trends Michael Gertz, Sushil Jajodia

Reference Books:

1. Michael Gertz and Sushil Jajodia (Editors), Handbook of Database Security: Applications and Trends , ISBN-10: 0387485325. Springer, 2007
2. Osama S. Faragallah, El-Sayed M. El-Rabaie, Fathi E. Abd El-Samie, Ahmed I. Sallam, and Hala S. El-Sayed, Multilevel Security for Relational Databases.
3. Bhavani Thuraisingham, Database and Applications Security: Integrating Information Security and Data Management, CRC Press, Taylor & Francis Group, 2005.

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