20CS018 WEB AND DATABASE SECURITY

Hours Per Week :

L	T	P	C
3	-	-	3

Total Hours :

L	T	P	WA/RA	SSH/HSH	CS	SA	S	BS
45	-	-	15	30	-	5	5	-

Course Description and Objectives:

Web and Database security concerns the use of a broad range of information security controls to protect databases and application against compromises of their confidentiality, integrity, and availability. It involves various types or categories of controls, such as technical, procedural/ administrative, and physical. Web and Database security is a specialist topic within the broader realms of computer security information security and risk management

Course Outcomes:

Upon the Completion of the course, students will be able to:

✓ Understand the Web architecture and applications

✓ Understand client side and service side programming

✓ Understand how common mistakes can be bypassed and exploit the application

✓ Identify common application vulnerabilities

SKILLS:

✓ Learn MVC standard development of applications.

✓ Learn working with Integrated Development Environment.

✓ Learn internationalization concepts.

✓ Learn web services concepts.

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 Privacy 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 G. Arfinkel, Gene Spafford, O' Reilly.

2. Handbook on Database security applications and trends, Michael Gertz, Sushil Jajodia.