

LESSON PLAN

Subject: Cyber Security

Subject code: MCA-20-34 (ii)

Semester: 3rd

SNo	Topic	No. of Lectures	CO Covered	Teaching Methodology
1	Introduction to Computer Security Concepts: Assets, Threats, and Attacks	1	CO1	Board
2	Security Functional Requirements and Scope of Computer Security	1		Board
3	Security Architecture and Current Computer Security Trends	1		Board
4	Security Strategies: General Approaches to Computer Security	1		Video
5	Cryptography: Terminology, Background, and Basic Concepts	1		PPT
6	Substitution Ciphers: Techniques and Examples, Transposition Ciphers and Cryptanalysis Techniques	1		Board
7	Program Security: Overview of Secure Programming Practices	2		Video
8	Non-malicious Program Errors and How to Handle Them			Board
9	Viruses and Other Malicious Codes	2		Board
10	Targeted Malicious Code: Specific Attacks on Systems	1		PPT
11	Controls Against Program Threats	1		Board
12	Introduction to Database Security: DBMS and Relational Databases	1		Video
13	Database Access Control: Mechanisms and Techniques	1		Video
14	Inference and Security Requirements in Databases	1		PPT
15	Reliability, Integrity, and Sensitive Data Protection in Databases	1		Flip Learning
16	Database Encryption Techniques and Implementation	1		Board
17	Network Security: Identifying Network Threats, Network Security Controls and Measures	1		Board

18	Firewalls: Need, Characteristics, and Types,	1	CO2	Video	
19	Firewall Basing: How to Base a Firewall in a Network			PPT	
20	Introduction to Intrusion Detection Systems (IDS): Types and Goals	2		PPT	
21	Internet Security Protocols: SSL and TLS	1		Board	
22	IDS Strengths and Limitations	2		PPT	
23	Security in IPv4 and IPv6 Protocols	1	CO3	PPT	
24	Authentication Protocols: Kerberos and X.509	1		PPT	
25	Public Key Infrastructure (PKI)	1		PPT	
26	Linux Security: Linux Security Model and File System Security	1		PPT	
27	Linux Vulnerabilities and System Hardening	1		Board	
28	Application Security in Linux Systems	1		Board	
29	Windows Security Architecture and Vulnerabilities	1		PPT	
30	Windows Security Defenses and Browser Security	2		Video	
31	Physical Security: Threats and Mitigation Strategies	1		CO4	PPT and Video
32	Security Auditing Architecture and Risk Assessment	2			Video
33	Cybercrime, Privacy	1	PPT		
34	Intellectual Property	1	PPT		
35	Ethical Issues in Security	2	PPT		

