



**B. P. PODDAR INSTITUTE OF MANAGEMENT & TECHNOLOGY**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**ACADEMIC YEAR: 2023-2024 EVEN SEMESTER**

**CYBER SECURITY (PEC-CS702E)**

**Lesson Plan**

<b>Lecture</b>	<b>Topics to be Covered</b>	<b>Text/Ref</b>	<b>Teaching Pedagogy</b>
L1	Familiarization with Institute Vision, Mission, PEOs, POs, PSOs, COs and course overview	–	C&T, PPT
L2	Introduction to Cyber Security, Importance and Challenges	T1, T2	C&T, PPT
L3	Cyberspace and Cyber Threats	T1	C&T, PPT
L4	Cyber Warfare and CIA Triad	T1	C&T, PPT, PS
L5	Cyber Terrorism	T1	C&T, PPT, Q
L6	Cyber Security of Critical Infrastructure	T1	C&T, PPT
L7	Cybersecurity and Organizational Implications	T1	C&T, PPT
L8	Types of Hackers, Hackers vs Crackers	T1	C&T, PPT
L9	Cyber Attacks and Vulnerabilities	T1	C&T, PPT, CS
L10	Malware Threats and Sniffing	T1	C&T, PPT
L11	Gaining Access and Escalating Privileges	T1	C&T, PPT
L12	Executing Applications, Hiding Files, Covering Tracks	T1	C&T, PPT
L13	Worms and Trojans	T1	C&T, PPT
L14	Viruses and Backdoors	T1	C&T, PPT
L15	Ethical Hacking Concepts and Scope	T1	C&T, PPT
L16	Threats and Attack Vectors	T1	C&T, PPT
L17	Information Assurance and Threat Modelling	T1	C&T, PPT
L18	Enterprise Information Security Architecture	T1	C&T, PPT
L19	Vulnerability Assessment and Penetration Testing	T1	C&T, PPT, PS
L20	Types of Social Engineering	T1	C&T, PPT

L21	Insider Attacks and Prevention Strategies	T1	C&T, PPT
L22	Social Engineering Targets and Defence Strategies	T1	C&T, PPT
L23	Introduction to Cyber Forensics	T1	C&T, PPT
L24	Computer Equipment and Storage Media in Forensics	T1	C&T, PPT
L25	Digital Evidence Collection Techniques	T1	C&T, PPT
L26	Role of Forensic Investigator and Investigation Process	T1	C&T, PPT
L27	Collecting Network-Based Evidence	T1	C&T, PPT
L28	Writing Computer Forensics Reports	T1	FC, PPT
L29	Security Auditing and Audit Planning	T1	FC, PPT
L30	Information Security Management System	T1	C&T, PPT
L31	Introduction to ISO 27001:2013	T1	C&T, PPT
L32	Introduction to Cyber Laws, E-Commerce and E-Governance	T2	C&T, PPT
L33	Certifying Authority and Controller	T2	C&T, PPT
L34	Offences under IT Act 2000	T2	C&T, PPT
L35	Intellectual Property Rights in Cyberspace	T2	C&T, PPT
L36	Network Layer Security (IPSec)	T2	C&T, PPT
L37	Tutorial: Case Study on Cyber Attacks	–	Discussion
L38	Gap Lecture: Mobile & Web Application Security	WR	PPT
L39	Tutorial: Ethical Hacking Case Study	–	Q, Discussion
L40	Gap Lecture: AI/ML in Cyber Security	WR	PPT
L41	Tutorial: Introduction to Cryptography	–	Problem Solving

**Text Books (T):**

**T1:** *Cyber security*, Nina Gobole & Sunit Belapune; Pub: Wiley India

**T2:** *Information Security and Cyber Laws*, Pankaj Agarwal

**Reference Books (R):**

**R1:** *Information Security & Cyber Laws*, Gupta & Gupta, Khanna Publishing House, (AICTE recommended)

**Web Resources (WR):**

**W1:** <https://nptel.ac.in/courses/106104467>

**W2:** <https://nptel.ac.in/courses/106106221>

**\*Teaching Pedagogy:**

S. No.	Abbreviation	Full Form
1.	C&T	Chalk & Talk
2.	PPT	Power Point Presentation
3.	CD	Classroom Discussions
4.	Q	Quiz
5.	PS	Problem Solving
6.	FC	Flipped Class

**Assessment Methodology:**

S. No.	Process	Assessment Type	CO Covered
1.	Direct	Presentation	CO1
2.		Report Writing	CO2
3.		Class Test1	CO1, CO2, CO3
4.		Class Test2	CO4, CO5
5.		Quiz	CO1, CO2, CO3, CO4, CO5
6.		Assignment	CO1, CO2, CO3, CO4, CO5
7.		End Semester University Exam	CO1, CO2, CO3, CO4, CO5
8.	Indirect	End Semester Students' Survey (CO Learning Assessment)	CO1, CO2, CO3, CO4, CO5