C. V. Raman Polytechnic, Bhubaneswar

LESSON PLAN

Discipline:	Computer Science & Engineering	Semester:	6th
Subject:	Cryptography and Network Security	Name of the Teaching Faculty:	Kshyamasagr Mahnata
No. of Days/per week class allotted:	4	Semester From date:	22/12/2025
No. of Weeks:	15	To Date:	18/04/2026

Week	No. of Period	Topics to be Covered
1st	1	The need for security, Security approaches
	2	Principles of security
	3	Types of attack
	4	Types of attack
2nd	1	Revision
	2	Cryptography concepts: Plain text and cipher text
	3	Substitution techniques
	4	Substitution techniques
3rd	1	Substitution techniques
	2	Substitution techniques
	3	Transposition techniques
	4	Transposition techniques
4th	1	Transposition techniques
	2	Encryption and decryption, Symmetric and Asymmetric key cryptography
	3	Revision
	4	Symmetric and Asymmetric key algorithms
5th	1	Symmetric key algorithm types
	2	Symmetric key algorithm types
	3	Overview of Symmetric key cryptography
	4	Data Encryption Standards (DES)
6th	1	Data Encryption Standards (DES)
	2	Data Encryption Standards (DES)
	3	Overview of Asymmetric key cryptography

Week	No. of Period	Topics to be Covered
	4	Overview of Asymmetric key cryptography
7th	1	The RSA algorithm
	2	The RSA algorithm
	3	Symmetric and Asymmetric key cryptography
	4	Digital Signature
8th	1	Digital Signature
	2	Revision
	3	Digital Certificates
	4	Digital Certificates
9th	1	Private Key Management
	2	Private Key Management
	3	PKIX Model
	4	PKIX Model
10th	1	Public Key Cryptography Standards
	2	Public Key Cryptography Standards
	3	Public Key Cryptography Standards
	4	Revision
11th	1	Internet Security Protocols – Basics
	2	Internet Security Protocols – Basics
	3	Secure Socket Layer (SSL)
	4	Secure Socket Layer (SSL)
12th	1	Transport Layer Security (TLS)
	2	Transport Layer Security (TLS)
	3	Secure Hypertext Transfer Protocol (S-HTTP)
	4	Time Stamping Protocol
13th	1	Secure Electronic Transaction (SET)
	2	Revision
	3	User Authentication Basics, Passwords
	4	Authentication Tokens
14th	1	Certificate Based Authentication
	2	Certificate Based Authentication
	3	Biometric Authentication
	4	Network Security
15th	1	Introduction to TCP/IP

Week	No. of Period	Topics to be Covered
	2	Firewall
	3	IP Security
	4	VPN

Signature of Faculty

Signature of H.O.D