PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH

LESSON PLAN

Session-2023-2024

Discipline: CSE Engg. Semester: 6th

Subject: CNS

Name of the Teaching Faculty: P. K. SATAPATHY

Subject: CNS No. of Days/per week class allotted : 04

Semester From Date :16-01-2024 To Date :26-04-2024 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
1st topic-1	1st	Introduction to N/w security
	2nd	Need of N/w Security
	3rd	N/w Security approach
	4th	Principle of N/w security
2nd	1st	Types of Security attacks
topic-2	2nd	Introduction to cryptography
	3rd	plain text vs cipher text
	4th	Caesar cipher and monoalphabetic cipher
3rd	1st	playfair cipher & hill cipher
	2nd	poly Alphabetic cipher and one time pad Tech
	3rd	Transposition Tech & Rail fence Transposition Tech
	4th	Columan Transposition and Improved Columnar Transposition Technique

Signature of the Faculty

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Semester From Date :16-01-2024 To Date :26-04-2024 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
4th	1st	Book Cipher and running key cipher
	2nd	Encryption Vs Decryption
	3rd	Symmetric Vs Asymmetric key
Topic-3	4th	Symmetric key cryptography
5th	1st	symmetric key Algorithm
	2nd	AES with algorithm
	3rd	DES with algorithm
	4th	IDEA
6th	1st	RC4 and RC5
	2nd	RC6
	3rd	Advantage and Disadvantage of Asymmetric Cryptography
	4th	Working Principle of Asymmetric Cryptography

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Week	Class Day	Theory /Practical Topics
7th	1st	RSA algorithm
	2nd	Problem solve on RSA algorithm
	3rd	Symmetric cryptography advantages and Disadvantages
	4th	Working Principle of symmetric cryptography
8th	1st	Digital signature
	2nd	Working principle Digital signature
topic 4	3rd	Digital certificate
	4th	Digital signature Vs Digital Certificate
9th	1st	Private key working principle
	2nd	Public key working principle
	3rd	Challenges of private key encryption mgmt.
	4th	Introduction to PKIX

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Week	Class Day	Theory /Practical Topics
10th	1st	Service on PKIX
	2nd	PKIX Architectural model
	3rd	Public key cryptography standards
	4th	RSA cryptography standards VS password based cryptography
11th (topic-5)	1st	Internet Security protocols
	2nd	Secure socket layer
	3rd	SSL record protocol
	4th	Handshake protocol
12th	1st	Alert protocol
	2nd	Transparent layer security
	3rd	Working of TLS
	4th	Secure Hypertext transfer protocol (SHTTP)

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Week	Class Day	Theory /Practical Topics
13th	1st	TSP (Time-stamping protocol)
	2nd	Secure Electronic transaction
topic-6	3rd	User authentication Basic with examples
	4th	Password Vs Authentication tokens
14th	1st	Certificate based Authentication
	2nd	Bio-metric authonticatin
topic-7	3rd	VPN (virtual private Network)
	4th	Working Principle of VPN.
15th	1st	Firewall History
	2nd	Types of firewall
	3rd	TCP/IP protocols
	4th	IP security

Signature of the Faculty