Discipline: **CSE**	Semester: **4th**	Name of the Teaching Faculty: **Tanmay Nath Mishra**
Subject: **INFORMATION SECURITY**	No. Of Days/per week class allotted: **03 periods per week(Tues, Thus & Friday -1 Period each)**	Semester: 4th From Date: 22-12-2025 To Date:18-04-2026 No. Of Weeks: 15 No. Of hours: 45

Week	Class Day	Topics to be covered
1st	1	• Definition of Information Security
	2	• Importance of Information Security in Digital Age
	3	• CIA Triad – Confidentiality
2nd	1	• CIA Triad – Integrity
	2	• CIA Triad – Availability
	3	• Security Threats and Attacks
3rd	1	• Security Policies and Best Practices
	2	• Risk Management, Mitigation & Security Standards
	3	• Introduction to Cryptography
4th	1	• Importance of Cryptography
	2	• Symmetric Cryptography
	3	• Asymmetric Cryptography
5th	1	• DES and AES Algorithms
	2	• RSA and ECC Algorithms
	3	• Hash Functions and Digital Signatures
6th	1	• PKI, Certificates, SSL/TLS
	2	• Network Security Overview
	3	• Network Attacks and Protection
7th	1	• Firewalls – Types and Configuration
	2	• IDS and IPS
	3	• Virtual Private Networks (VPN)
8th	1	• Network Security Protocols
	2	• Network Vulnerabilities
	3	• Defense Techniques
9th	1	• Operating System Security Overview
	2	• User Authentication Methods
	3	• Access Control Mechanisms
10th	1	• File System Security and Encryption
	2	• OS Hardening Techniques
	3	• Patch Management and Updates
11th	1	• Security Auditing and Monitoring
	2	• Web Security Overview
	3	• Web Security Threats
12th	1	• Secure Web Development Practices
	2	• Secure HTTP Headers and Cookies
	3	• Web Application Firewalls
13th	1	• Website Security Testing Tools
	2	• OWASP and Penetration Testing
	3	• Security Policies Design
14th	1	• Business Continuity Planning
	2	• Disaster Recovery Planning
	3	• Incident Response Lifecycle
15th	1	• Forensics and Evidence Collection
	2	• Legal Aspects of Information Security
	3	• Ethical Issues in Information Security