

**SES's L.S. RAHEJA COLLEGE OF ARTS AND COMMERCE
(AUTONOMOUS)**



BOARD OF STUDIES: Information Technology and Data Science

Programme: B.Sc. (Cyber Security & Digital Forensics)

Semester: II

Nomenclature of the Course: Introduction to Cyber Security

NEP Vertical: Major

Credit: 02

Total Marks: 50

Academic Year: 2026–27

(As per Choice Based Credit System under NEP 2020)



Unit-wise Detailed Syllabus

Unit	Detailed Contents	Andragogy	Hours
Unit I: Security Architecture & Principles	1. Evolution of Cyber Security 2. Security Goals and Design Principles 3. Security Architecture Concepts 4. Access Control Models (DAC, MAC, RBAC) 5. Authentication Mechanisms 6. Cryptographic Foundations (Symmetric, Asymmetric – Conceptual Architecture) 7. Security Domains (Network, Application, Endpoint, Cloud – Conceptual)	Concept mapping, Architecture diagrams, Case-based discussion	15
Unit II: Risk Management & Governance Framework	1. Risk, Threat and Vulnerability – Structured Analysis 2. Risk Assessment Methodology 3. Security Policies & Governance Framework 4. Compliance & Standards (ISO 27001 – Overview) 5. Incident Response Lifecycle 6. Business Continuity & Disaster Recovery (Conceptual) 7. Introduction to Cyber Crime Classification 8. Overview of Digital Forensics Process (High-level)	Risk scenario exercises, Policy drafting practice, Incident response simulation	15

Learning Objectives

1. To understand core principles of cyber security.
2. To identify different types of cyber attacks.
3. To understand basic security mechanisms.
4. To introduce risk assessment and incident response concepts.

Course Outcomes (CO)

CO No.	Course Outcome	Bloom's Level
CO1	Explain fundamental cyber security principles	Understand (L2)
CO2	Identify various cyber threats and attacks	Analyze (L4)
CO3	Describe security mechanisms and controls	Understand (L2)
CO4	Analyze risk and vulnerability scenarios	Analyze (L4)
CO5	Explain basics of ethical hacking and digital forensics	Understand (L2)

Suggested Readings

Sr. No.	Title	Author
1	Cybersecurity Essentials	Charles J. Brooks
2	The Art of Invisibility	Kevin Mitnick
3	Principles of Information Security	Whitman & Mattord
4	CEH Certified Ethical Hacker Guide	EC-Council

QUESTION PAPER PATTERN

(A) Continuous Evaluation – 20 Marks

Particulars	Marks
Class Test	10
Assignment / Case Study	10
Total	20

(B) Semester End Examination – 30 Marks

Duration: 1 Hour

Question No.	Description	Total Marks
Q1	Attempt Unit I	15
	A – Remembering	
	B – Analysing	
	C – Applying	
OR		
	P – Remembering	15
	Q – Analysing	
	R – Applying	
Q2	Attempt Unit II	15
	A – Remembering	
	B – Analysing	
	C – Applying	
OR		
	P – Remembering	15
	Q – Analysing	
	R – Applying	