Department of Computer Science

Generic/Other Elective Course (GE/OE)-III
(Code: GE)
(Approved in BoS meeting held on 15.05.2023 w.e.f. Academic Session 2023-24)

Introduction to Cyber Security

Credits: 2 (2 Th)   No. of Lectures: 30   No. of Practical: Nil

Course Description:

This course imparts the basics of the cyber security to all students.

Learning Objectives:
This course is designed to satisfy the following objectives:

- To learn basic computer concepts of cyberspace.
- To impart the knowledge of concepts associated with the cyber security.
- To acquaint and make them familiar with recent trends in the cyber world.

Course Learning Outcomes:
After successful completion of thecourse student will be able to:

- Understand cyber world concepts.
- Get acquainted with best practices to be followed in the virtual world.
- Learn to safely explore the cyberspace and exchange information through secured techniques.

Unit – I
Introduction, Security Threats and Risks: Confidentiality, Integrity, and Availability, Security and Information Privacy, Threats and Breaches, Threat Types, Phishing, Social Engineering, and Other Attacks

Unit – II
Security Best Practices: Password Management Techniques, Authentication and SSO, Security Threats: Access Control, Authorization, and Authentication, Hardening Devices, Security Threats: Validation and Device Usage, Security Threats: Encryption Concepts, Managing Email and Spam, Firewalls

Unit – III
Safe Browsing Practices: Application Ecosystem Security, Public Browsing Risks, Plug-ins, Extensions, and Toolbars, Safe Browsing Techniques, Virtual Private Networks

References:

1. Information Systems Security Management - Nina S. Godbole (Wiley India Pvt. Ltd.)
2. Network Security Essentials: Applications and Standards - W. Stallings (Pearson Education)
3. Data Communication and Networking - Forouzan (McGraw Hill)
4. Cryptography and Network Security: Principles and Practice - W. Stallings
5. Principles of Information Security - Michael E Whitman and Herbert J. Mattord (Vikas Publishing House, New Delhi, 2003).