



SOURASHTRA COLLEGE, MADURAI- 625004

(An Autonomous Institution Re-accredited with 'B+' grade by NAAC)

MASTER OF COMPUTER APPLICATIONS (M.C.A)

SYLLABUS (Under CBCS based on OBE)

(with effect from 2021-22)

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CYBER SECURITY

UNIT – I: INTRODUCTION TO CYBER SECURITY

Introduction -Computer Security - Threats -Harm - Vulnerabilities - Controls - Authentication - Access Control and Cryptography - Web—User Side - Browser Attacks - Web Attacks Targeting Users - Obtaining User or Website Data - Email Attacks

UNIT – II: SECURITY IN OPERATING SYSTEM & NETWORKS

Security in Operating Systems - Security in the Design of Operating Systems -Rootkit - Network security attack- Threats to Network Communications - Wireless Network Security - Denial of Service - Distributed Denial-of-Service.

UNIT – III: DEFENSES: SECURITY COUNTER MEASURES

Cryptography in Network Security - Firewalls - Intrusion Detection and Prevention Systems - Network Management - Databases - Security Requirements of Databases - Reliability and Integrity - Database Disclosure - Data Mining and Big Data.

UNIT – IV: PRIVACY IN CYBERSPACE

Privacy Concepts -Privacy Principles and Policies -Authentication and Privacy – Data Mining - Privacy on the Web - Email Security - Privacy Impacts of Emerging Technologies - Where the Field Is Headed.

UNIT – V: MANAGEMENT AND INCIDENTS

Security Planning - Business Continuity Planning - Handling Incidents - Risk Analysis - Dealing with Disaster - Emerging Technologies - The Internet of Things - Economics - Electronic Voting - Cyber Warfare. Cyberspace and the Law - International Laws – Cybercrime -Cyber Warfare and Home Land Security.

TEXT BOOK:

Security in Computing, Charles P. Pfleeger Shari Lawrence P fleeger Jonathan Margulies, 5th Edition, Pearson Education, 2015.

REFERENCE BOOKS:

1. *Cyber Security for Dummies*, Joseph Steinberg, Wiley, 2020.
2. *Cyber Space and Cyber Security*, George K. Kostopoulos, CRC Press, 2013.
3. *Cyber Security: Analytics, Technology and Automation*, MarttiLehto, Pekka Neittaanmäki, edited, Springer International Publishing, Switzerland, 2015.
4. *Computer Forensics and Investigations*, Nelson Phillips and Enfinger Steuart, Cengage Learning, New Delhi, 2009.

DIGITAL TOOLS:

- <https://www.w3schools.com/cybersecurity/index.php>
- <https://www.simplilearn.com/tutorials/cyber-security-tutorial/cyber-security-for-beginners>
- <https://intellipaat.com/blog/tutorial/ethical-hacking-cyber-security-tutorial/>

Mapping of CO with PO and PSO

CO	Program Outcomes										Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
C01	2	3	3	3	3	3	2	3	3	3	3	3	3
C02	3	3	3	3	2	3	2	3	3	3	3	3	3
C03	2	2	2	2	2	3	3	3	2	3	3	3	3
C04	3	3	3	3	3	3	2	3	3	3	3	3	3
C05	2	3	3	3	3	3	2	3	3	3	3	3	3

3. Advanced Application 2. Intermediate Development 1. Introductory Level

COURSE DESIGNER: Dr. K. ANURATHA

Passed in the BOS Meeting held on 19/03/2022

Signature of the Chairman