

Course Code: 601-01
Course Title: E-commerce and Cyber Security

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Course Title	E-Commerce and Cyber Security (Minor-6-01)																																																						
Credits	4																																																						
Course Category	Minor Course																																																						
Level of Course	200-299 (Intermediate Level)																																																						
Teaching Hours	60 Hours																																																						
Minimum Hours/ Semester	60 hours of Theory (Including class work, examination, preparation etc.)																																																						
Review / Revision	-																																																						
Implementation Year:	A.Y. 2025-2026																																																						
Purpose of Course	This course aims to introduce students to the fundamental principles of electronic commerce and essential concepts of cyber security. It prepares learners to understand online transaction models, digital payment systems, and safeguards against cyber threats.																																																						
Course Objective	<ol style="list-style-type: none"> 1. To understand the concepts, structure, and applications of e-Commerce and m-Commerce. 2. To study the infrastructure and network components that support online commerce. 3. To learn about various electronic payment systems and associated security mechanisms. 4. To identify and analyze different types of cybercrimes and their technical aspects. 5. To comprehend basic cyber security concepts and terminologies related to internet protocols. 6. To explore common cyberattacks, vulnerabilities, and the roles of different types of hackers. 																																																						
Pre-requisite	Basic understanding of computer fundamentals, internet technologies, and networking concepts is recommended. Familiarity with web applications and general IT awareness will be beneficial.																																																						
Course Outcomes	CO1: Understand the fundamental concepts and framework of e-Commerce and m-Commerce. CO2: Explain the network infrastructure, payment methods, and associated security issues in e-Commerce. CO3: Identify various types of cybercrimes and their technical aspects. CO4: Describe key concepts, terminologies, and threats related to cyber security. CO5: Differentiate between types of hackers and understand common system vulnerabilities.																																																						
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>PSO1</th> <th>PSO2</th> <th>PSO3</th> <th>PSO4</th> <th>PSO5</th> <th>PSO6</th> <th>PSO7</th> <th>PSO8</th> </tr> </thead> <tbody> <tr> <td>CO1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CO2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CO3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CO4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CO5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	CO1									CO2									CO3									CO4									CO5								
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Course Content	<p>Unit 1: Introduction to Electronic Commerce</p> <p>1.1 Concepts of e-Commerce 1.2 Aims of e-Commerce 1.3 e-Commerce Framework 1.4 e-Commerce Consumer Applications 1.5 e-Commerce Organizational Applications 1.6 Introduction to m-Commerce</p>																																																						

	<p>Unit 2: Network Infrastructure of e-Com , Payment and Security:</p> <p>2.1. Concepts of Information Way 2.2. Components of I-Way 2.2.1. Network Access Equipment 2.2.2. Local on-ramps 2.2.3. Global Information Distribution Network 2.3. Transaction Models 2.4 e-Commerce Payments and Security Issues 2.4.1. e-Commerce Payment Systems 2.4.2. Debit Card Based, Credit Card Based , , Risks & EPS 2.4.3. e-Cash, e-Cheque, e-wallet 2.5. Security on Web, SSL</p> <p>Unit-3: Introduction to Cyber Crimes:</p> <p>3.1 Category of Cyber Crimes 3.2 Technical Aspects of Cyber Crimes 3.2.1 Unauthorized access & Hacking 3.2.2 Trojan, Virus and Worm Attacks 3.2.3 E-Mail related Crimes: Spoofing, Spamming, Bombing 3.2.4 Denial of Service Attacks 3.2.5 Distributed Denial of Service Attack 3.3 Various crimes : 3.3.1 IPR Violations (Software piracy, Copyright Infringement, Trademarks Violations, Theft of Computer source code, Patent Violations) 3.3.2 Cyber Squatting, Cyber Smearing, Cyber Stacking 3.3.3 Financial Crimes: (Banking, credit card, Debit card related)</p> <p>Unit-4: Cyber Security Fundamentals:</p> <p>4.1 Concepts of Cyber Security: 4.1.1 Types of Threats 4.1.2 Advantages of Cyber Security</p> <p>4.2 Basic Terminologies: 4.2.1 IP Address, MAC Address 4.2.2 Domain name Server(DNS) 4.2.3 DHCP, Router, Bots</p> <p>4.3 Common Types of Attacks: 4.3.1 Distributed Denial of Service 4.3.2 Man in the Middle, Email Attack 4.3.3 Password Attack, Malware</p> <p>4.4 Hackers: 4.4.1 Various Vulnerabilities: 4.4.1.1 Injection attacks, Changes in security settings 4.4.1.2 Expouser of Sensitive Data 4.4.1.3 Breach in authentication protocol 4.4.2 Types of Hackers: White hat and Black hat</p> <p>[All Units carry Equal Weightage]</p>
Reference Books	<ol style="list-style-type: none"> 1. Frontiers of Electronic Commerce, Ravi Kalakota and Andrew Whinston, Addison Wesley 2. Electronic Commerce: A Managerial Perspective, Efraim turban, Jae Lee, David King, H. Michel Chung, Addison Wesley 3. E-Commerce: An Indian Perspective, Joseph, PHI 4. E-Mail Hacking, Ankit Fadia, Vikas Publishing House Pvt. Ltd. 5. e-Commerce Concept, Models Strategies, G.V.S. Murthy, Himalaya Publisher 6. Cyber Crime in India, Dr M Dasgupta, Centax Publications Pvt Ltd 7. Cyber Laws and Crimes, Barkha U, Rama Mohan, Universal Law Publishing Co. Pvt Ltd. 8. Cyber Crime, Bansal S.K., A.P.H. Publishing Corporation 9. Cyber Security Understanding Cyber Crime, Computer Forensic and Legal Perspectives, Nina Godbole, Sunit Belapur, Willey India Publication

Teaching Methodology	Class Work, Discussion, Presentation, Self-Study, Seminars and/or Assignments
Evaluation Method	<p>50% Internal assessment.</p> <ul style="list-style-type: none"> - Attendance, Class and home Assignment. - Unit Tests <p>50% External assessment.</p> <ul style="list-style-type: none"> - Written Theory exam