



B.Com Honours

Semester V

Calicut University

COMPUTER APPLICATIONS IN BUSINESS

Course Code: COM5EJ307 • Module 4 Notes

Module IV: Digital Security, Biometrics, & Information Technology Act

Covers cyber security threats, malware types, cryptographic security measures, biometric authentication technologies, e-commerce transaction precautions, and legal provisions of IT Act 2000.

Unit 7: Internet & E-Commerce Security Threats & Measures

Cyber Security Threats: Computer Virus, Trojan Horses, Phishing (spoofed fraudulent banking emails), Hacking, Spyware, & Ransomware. Security Measures: Antivirus protection, Firewalls (packet filtering), Cryptographic Encryption (Symmetric/Asymmetric, SSL/TLS handshake), & Secure HTTP (HTTPS).

Unit 8: Biometric Security & Information Technology (IT) Act, 2000

Biometric Security: Fingerprint scanning, Iris recognition, Facial recognition, & Voice authentication. Information Technology Act, 2000 (Amended 2008): Legal recognition of electronic records, Digital Signatures, Certifying Authorities (CCA), Cyber Appellate Tribunal, & Penalties for offences (Hacking Sec 66, Identity Theft Sec 66C, Phishing Sec 66D, Cyber Terrorism Sec 66F).

Practical Case Framework 1 (Cyber Threat Taxonomy & Defensive Controls Matrix): Detail malware attack vectors, operating mechanisms, and corresponding security countermeasures.

Internet Security Threats & Countermeasures Table:		
Security Threat Category	Malicious Attack Mechanism	Recommended Technical Countermeasure
Virus / Worm	Self-replicating code attached to host files	Updated Antivirus & Real-time File Scanner
Phishing Attack	Fraudulent spoofed emails harvesting credentials	Multi-Factor Auth (MFA) & Anti-phishing Filters
Man-in-the-Middle (MitM)	Intercepting unencrypted web traffic	SSL/TLS Encryption & HTTPS Protocol
Unauthorized Intrusion	Port scanning & exploiting system vulnerabilities	Hardware/Software Firewall & Patch Management

Practical Case Framework 2 (IT Act 2000 Statutory Provisions Matrix): Detail key legal sections, cyber crime categories, and prescribed statutory penalties under IT Act 2000.

Information Technology Act 2000 Penal Provisions Table:	

IT Act Section	Categorized Cyber Crime / Offence	Statutory Punishment & Financial Fine
Section 65	Tampering with Computer Source Documents	Imprisonment up to 3 years or fine up to ₹2 Lakhs
Section 66	Hacking & Computer System Data Damage	Imprisonment up to 3 years or fine up to ₹5 Lakhs
Section 66C	Identity Theft & Fraudulent Password Use	Imprisonment up to 3 years and fine up to ₹1 Lakh
Section 66D	Cheating by Personation using Computer	Imprisonment up to 3 years and fine up to ₹1 Lakh

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