Information Security and Cyber Laws (CSGE401) Generic Elective - (GE)

Topic	References
Unit 1: Definitions :Protection, Security, risk, threat, vulnerability, exploit, attack, confidentiality, integrity, availability, non-repudiation, authentication , authorization, codes, plain text, encryption, decryption, cipher text, key, ciphers, Symmetric and asymmetric cryptography, Public key , private key ,Crypt analysis,, Cyber forensics. Substitution cipher (Caesar), Transposition cipher (Rail-Fence),	[3] Ch1 (Pg 10-18) [3] Ch8 (Pg 450-451,454-456,459-460,467-468,470-471) [3] Pg 330 [For definition of authorization]
Unit 2: Risk analysis, process, key principles of conventional computer security, security policies, data protection, access control**, internal vs external threat, security assurance,** passwords, access control, computer forensics and incident response**.**	[1] Ch 10 (Pg 233-243 (Till Single sign-on)) [1] Ch 4 (Pg 87-109) [A2] Pg 565-568 [A3] Pg 1.13
Unit 3: CYBER ATTACKS (definitions and examples): Denial-of-service attacks, Man-in-the middle attack, Phishing, spoofing and spam attacks, Drive-by attack, Password attack, SQL injection attack, Cross-site scripting attack, Eavesdropping attack, Birthday attack, Malware attacks, Social Engineering attacks	https://blog.netwrix.com/2018/05/15/top-10-most-common-types-of-cyber-attacks/
Unit 4: *Brief Introduction of handling the attacks described in UNIT 3*. Firewalls, logging and intrusion detection systems, e-mail security, security issues in operating systems, ethics of hacking and cracking.	[A2] 514-527 (except table 7-7), 527-533 (Types of IDS Introduction only) , (535-539). (739) [A1] (pg. 1-7, 10-12(Excluding vender specific Certificate)) https://www.tutorialspoint.com/operating_system/os_security.htm
Unit 5: Definitions: *Digital Signature and Electronic Signature, Digital Certificate* i.[Section 43] Penalty and compensation for damage to computer etc. ii.[Section 65] Tampering with computer source documents iii.[Section 66A] Punishment for sending offensive messages through	[A3] 4.11-21, 4.40-49, 4.54 [3] (pg. 477-480) / https://www.indiacode.nic.in/handle/123456789/1999?sam_handle=123456789/1362

communication service etc. iv.[Section 66B] Punishment for dishonestly receiving stolen computer resource or communication device v.[Section 66C] Punishment for identity theft vi.[Section 66D] Punishment for cheating by impersonation by using computer resource vii.[Section 66E] Punishment for violation of privacy viii.[Section 66F] Punishment for cyber terrorism ix.[Section 67] Punishment for publishing or transmitting obscene material in electronic form x.[Section 67A] Punishment for publishing or transmitting of material containing sexually explicit act, etc. in electronic form xi.[Section 67B] Punishment for publishing or transmitting of material depicting children in sexually explicit act, etc. in electronic form xii.[Section 72] Breach of confidentiality and privacy	
Unit 6: Brief introduction of IT infrastructure in India, National agencies handling IT	https://digitalindia.gov.in/infrastructure • Aadhaar • BHARAT BROADBAND NETWORK (BBNL), • CENTRE FOR EXCELLENCE FOR INTERNET OF THINGS (COE-IT) • COMMON SERVICE CENTRES (CSCS), • CYBER SWACHHTA KENDRA, • DIGILOCKER • DIGITAL SAKSHARTA ABHIYAAN (DISHA) • DIGITIZE INDIA PLATFORM • EBASTA,ESIGN • GOVERNMENT E-MARKETPLACE, INTEGRATED HEALTH INFORMATION SYSTEM (IHIP) • MEGHRAJ • MOBILE SEVA APP STORE • NATIONAL SUPER COMPUTING MISSION (NSM),OPEN DATA

References:

[1]. Merkow, M., & Breithaupt, J.(2005) Information Security Principles and Practices. 5th edition. Prentice Hall.

[2]. Snyder, G.F. (2010). Network Security, Cengage Learning.

[3]. Whitman, M. E. & Mattord, H. J. (2017) Principles of Information Security. 6th edition. Cengage Learning.

Additional Resources:

[A1]. Basta, A., & Halton, W., (2010) Computer Security: Concepts, Issues and Implementation, Cengage Learning India.

[A2] Charles P. Pfleeger, Shari Lawrence Pfleeger, Security in Computing,4 th Edition,

[A3] Sushila Madan, Cyber Crimes and Laws, Scholar Tech Press (MKM Publishers Pvt. Ltd) Second Revised Edition, 2017

Online Resources:

[1]. https://blog.netwrix.com/2018/05/15/top-10-most-common-types-of-cyber-attacks/

[2]. https://www.ibef.org/industry/infrastructure-sector-india.aspx

[3]. https://www.ibm.com/in-en/topics/infrastructure

[4]. https://business.mapsofindia.com/india-budget/infrastructure/it.html

[5]. https://nasscom.in/knowledge-center/publications/it-infrastructure-services-digital-era

[6]. https://digitalindia.gov.in/infrastructure

[7]. https://techdifferences.com/difference-between-digital-signature-and-digital-certificate.html

[8]. https://techdifferences.com/difference-between-digital-signature-and-electronic-signature.html