

BT-8/M-23

48249

CYBER SECURITY

Paper-OE-CS-402A

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. (a) Discuss the nature and scope of Cybercrime. Write a detailed note on Cyberspionage. 7
- (b) What is Cyber Extortion ? How does it work ? Differentiate between Cyber extortion and Ransomware. 8
2. (a) Write the principles of Block cipher. How it is different from Stream Cipher ? 5
- (b) Give a note on Shannon's theory of Confusion and diffusion. 5
- (c) What are the strength of DES ? Differentiate between Linear Cryptanalysis and Differential Cryptanalysis. 5

UNIT-II

3. (a) What is a Secure Hashing Algorithm (SHA) ? Briefly explain Hashing functions. Differentiate between SHA1 and SHA2. 7

- (b) Elaborate about NIST standard for Digital signature. Write the proof of Digital signature algorithm. How it works ? 8
4. (a) What problem was Kerberos designed to address ? Explore the principal differences between Version 4 and Version 5 of Kerberos ? 7
- (b) Where is Pretty Good Privacy (PGP) widely used ? Which uses Pretty Good Privacy algorithm ? Discuss. 8

UNIT-III

5. (a) Differentiate between Active attacks and Passive attacks. What are key issues in Data security ? Explore Security considerations. 7
- (b) (i) Discuss the relationship between Firewall and VPN. Does Firewall affects VPN ?
- (ii) How do you ensure OS security ? Elaborate. 8
6. (a) What are the key features of Secure Electronic Transaction (SET) ? Who developed SET ? How does it works ? 7
- (b) Briefly explain different types of Viruses. Discuss about the web threats for Organizations. What is Firewall protection for ? 8

UNIT-IV

7. (a) Explain Digital Forensics lifecycle. Write about Chain to Custody with Example. 7

(b) List the challenges in Digital Forensics. Briefly explain tools and techniques in Digital forensics. 8

8. (a) What is Cybercrime ? Who are Cybercriminal ? Explain about Cyber scenarios and challenges to Indian Cyber laws 7

(b) (i) Who do we need cyber laws ? Explain about the Cybercrime and punishments over world.

(ii) Discuss the modes and components of Encapsulating Security Payload.