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 Chiper ?   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

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(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 Cybercrimal ? 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.

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