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CYBER SECURI Y
OE-CS-402A

Time : Three Hours] [Maximum Marks : 75

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

Unit I

1. (a) What are the fundamentals of Cyber-Crimes ? Explain different types of Cyber-Crimes. 8

   (b) How crime against individual happens ? Discuss about cyber extortion and cyber terrorism. 7

2. (a) Discuss about stream and block ciphers. Explore the principles of block cipher. Explain Fiestal structure. 8

   (b) What are the strength of Data Encryption Standards (DES) ? Explain differential and linear crypt analysis of DES. 7

Unit II

3. (a) What is MD5 algorithm used for ? Write the steps followed by MD5 algorithm.

   (b) Discuss the Components and Process Flow of Secure Hash Algorithm (SHA_1).

   (c) Highlight the benefits and burdens of using Digital Signature Standards (DSS). 3×5=15

4. (a) What is Kerberos used for ? Elaborate the main components of Kerberos. Explore the working of X.509 Authentication Service Certificate. 8

   (b) Differentiate between PGP and S/MIME. Why e-Mail compatibility function in PGP is needed ? 7

Unit III

5. (a) What are the causes of cybercrime ? Explain the measures to prevent it.

   (b) Explore the mechanism for hardware protection and archival storage.

   (c) Why data security is important ? What 3-2-1 rule of backup includes ? 3×5=15

6. (a) Explain the relation between firewall and VPN. Which one to use and when ?

(b) How does CPU protection prevent a process from monopolizing the CPU ?

(c) What are trusted systems ? Discuss the following security threats : Worms, Bots Spyware. 3×5=15

Unit IV

7. (a) Explain the different phases of digital forensic life-cycle. Highlight about hardware and software required for digital forensic. 8

(b) What are the different types and branches of digital forensic ? Explain the challenges in digital forensic. 7

8. (a) Why do we need cyber laws ? Discuss cybercrimes and punishment as per Indian IT Act.

(b) Explain the provisions of digital signatures Indian IT Act against Cyber Crimes.

(c) Write the law perspective of cyber crimes and cyber security around the world. 3×5=15