CYBER SECURITY
(CSBS 4242)

Time Allotted : 2½ hrs **Full Marks : 60**

Figures out of the right margin indicate full marks.

Candidates are required to answer Group A and any 4 (four) from Group B to E, taking one from each group.

Candidates are required to give answer in their own words as far as practicable.

Group – A

1. Answer any twelve: **12 × 1 = 12**

Choose the correct alternative for the following

(i) Three P's of Cybercrime.
(a) Phishing, Pharming and Privacy (b) Phishing, Pharming and Phreaking
(c) Phishing, Pharming and Phoraging (d) None of these

(ii) An attacker who eavesdrops on network communication to gather sensitive information is performing a/an
(a) Active Attack (b) Passive Attack
(c) Physical attack (d) Social Engineering Attack

(iii) Phishing method that relies on introducing malicious code into websites and E-Mails.
(a) Dragnet (b) Gillnet
(c) Rod and Reel (d) All of these

(iv) Which of the following helps in Bluetooth hacking?
(a) Blue Scanner (b) Blue Sniff
(c) Bluesnarfer (d) All of these.

(v) _____ refers to phishing performed over smart-phone by calling.
(a) Vishing (b) Algo-based phishing
(c) Email-based phishing (d) Mishing

(vi) What is the primary purpose of a proxy server in cybercrime?
(a) Enhancing website speed (b) Hiding the attacker's real IP address
(c) Blocking phishing emails (d) Encrypting files for ransom

(vii) Which of the following anonymization tools is commonly used to access the dark web?
(a) Google Chrome (b) Mozilla Firefox
(c) Tor Browser (d) Internet Explorer

(viii) What type of password attack uses precomputed hash values to crack passwords?
(a) Rainbow Table Attack (b) Brute Force Attack
(c) Credential Stuffing (d) Social Engineering

(ix) Which hashing algorithm is widely used in digital forensics to verify data integrity?
(a) AES-128 (b) SHA-256
(c) RSA (d) DES

(x) Which attack method involves tricking a victim into calling a fake customer support number?
(a) Pharming (b) Smishing
(c) Clone Phishing (d) Vishing

Fill in the blanks with the correct word

(xi) Boot Sector Virus also known as _____.

(xii) _____ is malicious software that enters a user's computer, gathers data from the device and user, and sends it to third parties without their consent.

(xiii) The written Cyber Defamation is called _____.

(xiv) SQL injection is a cyber attack that exploits vulnerabilities in a website's _____.

(xv) A common tool used in digital forensic analysis to recover deleted files and analyze hard drives is _____.

Group - B

2. (a) Differentiate among Green Hat Hacker, Blue Hat Hacker, Yellow Hat Hacker and Red Hat Hacker. *[(CO1) (Analyze/IOCQ)]*
(b) Explain any four Passive attack tools used in Cybercrime. *[(CO2) (Understand/LOCQ)]*
(c) Explain the working of Cyberstalking in detail. *[(CO2) (Understand/LOCQ)]*
4 + 4 + 4 = 12

3. (a) How to reduce the chances of becoming part of a Bot? *[(CO2)(Remember/LOCQ)]*
(b) Explain the following tools: Website Watcher, Arphound, Hping. *[(CO2)(Remember/LOCQ)]*
6 + 6 = 12

Group - C

4. (a) Explain different types of attacks that occur in mobile phones. *[(CO3)(Understand/LOCQ)]*
(b) Explain the following term: Bluejacking, Bluesnarfing, Bluebugging, Car Whisperer. [*(CO3)(Understand/LOCQ)]*
6 + 6 = 12

5. (a) Explain different Bluetooth hacking tools. *[(CO3)(Understand/LOCQ)]*

(b) Explain the working mechanism of Mishing with example. Discuss suitable countermeasures for Mishing. *[(CO3)(Understand/LOCQ)]*

6 + 6 = 12

Group - D

6. (a) Explain with an example Denial of Service (DoS) and Distributed Denial of Service (DDoS) attacks. *[(CO5)(Understand/LOCQ)]*

(b) Differentiate between Denial of Service (DoS) and Distributed Denial of Service (DDoS) attacks. *[(CO5)(Understand/LOCQ)]*

(3 + 3) + 6 = 12

7. (a) Explain SQL Injection with examples. *[(CO5)(Understand/LOCQ)]*

(b) Discuss the types of SQL injection attacks (Union-based, Blind, and Error-based). Provide suitable countermeasures. *[(CO5)(Understand/LOCQ)]*

3 + (3 + 3 + 3) = 12

Group - E

8. (a) What are the different types of phishing scams? How do they affect users? *[(CO6)(Understand/LOCQ)]*

(b) Explain email phishing, vishing, and smishing. How do they work? *[(CO6)(Understand/LOCQ)]*

(c) Describe countermeasures against phishing attacks. *[(CO6)(Understand/LOCQ)]*

(2 + 2) + (2 + 2 + 2) + 2 = 12

9. (a) Define digital forensics and explain its importance in cybercrime investigation. *[(CO6)(Understand/LOCQ)]*

(b) What are the different phases of digital forensic analysis? Explain each step. *[(CO6)(Understand/LOCQ)]*

(2 + 4) + 6 = 12

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	95.83	4.17	0