

B. TECH
(SEM IV) THEORY EXAMINATION 2022-23
COMPUTER SYSTEM SECURITY

Time: 3 Hours

Total Marks: 100

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- (a) Differentiate threat and vulnerability.
- (b) Explain integer overflow.
- (c) Explain advanced anti XSS tools.
- (d) Differentiate IDS and IPS.
- (e) Explain web security.
- (f) Describe three benefits of IPSec.
- (g) Differentiate symmetric and asymmetric encryption.
- (h) Explain three-way handshake.
- (i) Define firewall with its usage.
- (j) Differentiate RIP and OSPF protocol.

SECTION B

2. Attempt any three of the following: 10x3=30

- (a) Define control hijacking with an example. Explain buffer overflow in control hijacking.
- (b) Compare access control in Windows with the access control in UNIX.
- (c) Define cross site request forgery and explain defenses against it.
- (d) Explain IP security.
- (e) Describe packet filtering firewall along with its types.

SECTION C

3. Attempt any one part of the following: 10x1=10

- (a) Discuss vulnerability management for security of computer system.
- (b) Explain format string vulnerability attack.

4. Attempt any one part of the following: 10x1=10

- (a) Explain the significance of system call interposition.
- (b) Demonstrate VM based isolation with example.

5. Attempt any one part of the following: 10x1=10

- (a) Explain cross site scripting with XSS finding vulnerabilities.
- (b) Explain threat modelling. Also discuss threat modelling methodologies.

6. Attempt any *one* part of the following: 10x1=10

- (a) Discuss SHA-512 algorithm in detail by showing its all steps.
- (b) Discuss RSA algorithm. Also show the encryption and decryption process by considering $P=3$, $Q=11$ and plain text =5

7. Attempt any *one* part of the following: 10x1=10

- (a) Elaborate Routing security.
- (b) Explain Link Layer connectivity and TCP/IP connectivity.

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