

**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.

QP23EP2\_132

101-08-2023 13:38:02 | 103.76.138.131