



## Seventh Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025

### Network Security

Time: 3-hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

#### Module-1

- 1 a. Discuss the four principles of security in detail. (10 Marks)
- b. What are the 2 types of security attacks? Explain Passive attacks in detail along with classification. (10 Marks)

OR

- 2 a. Write short notes on virus, worms and cookies. (08 Marks)
- b. What is packet spoofing? Mention its three possible cases. (06 Marks)
- c. Explain sniffing and phishing attacks. (06 Marks)

#### Module-2

- 3 a. Explain the parameters that define the session state and connection state in the secure socket layer. (08 Marks)
- b. Mention the types of security threats faced when using the web. (08 Marks)
- c. With the help of diagram, explain the alert protocol and its operation. (04 Marks)

OR

- 4 a. With suitable diagram, explain how the Message Authentication Code (MAC) is calculated and the generation of pseudorandom function in transport layer security. (10 Marks)
- b. Explain the connection initiation and closure of HTTPs in detail. (10 Marks)

#### Module-3

- 5 a. Explain the transport and tunnel modes in IP security. (10 Marks)
- b. Mention the applications and benefits of IP security. (10 Marks)

OR

- 6 a. Illustrate the working of basic combinations of security associations. (10 Marks)
- b. Explain the Internet key Exchange process using Diffie-Hellman algorithm. (10 Marks)

#### Module-4

- 7 a. Explain the 3 classes of intruders with examples and explain the intruder behavior patterns. (10 Marks)
- b. Explain the types of malicious software in detail. (10 Marks)

OR

- 8 a. Describe the generations of antivirus software. (10 Marks)  
b. With neat diagram, explain the digital immune system approach of virus protection. (10 Marks)

**Module-5**

- 9 a. What are the capabilities and limitations of firewall? (10 Marks)  
b. What are the different types of firewall? With a neat diagram, describe the working of packet filtering firewall. (10 Marks)

OR

- 10 a. With neat diagram, explain the distributed firewall configuration. (08 Marks)  
b. Discuss the characteristics of Bastion host. Explain the host based and personal firewalls. (12 Marks)

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