



Eighth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
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. What are the salient features of the modern nature of security attacks? Explain. (06 Marks)
- b. What is a trusted system? List four key aspects of a good security policy. (06 Marks)
- c. Explain the principle of confidentiality, principle of integrity, principle of authentication and principle of non-repudiation. (08 Marks)

OR

- 2 a. Explain the principle of availability and access control in network. (04 Marks)
- b. Briefly explain any five types of criminal attacks. (10 Marks)
- c. Distinguish between passive and active attacks. (06 Marks)

Module-2

- 3 a. Explain different approaches to provide web security. (06 Marks)
- b. List and briefly define the parameters that define SSL session state. (06 Marks)
- c. Explain SSL record protocol operation. (08 Marks)

OR

- 4 a. Explain the SSH transport layer protocol packet exchange between client and server with a neat diagram. (10 Marks)
- b. With relevant figures, explain port forwarding. (10 Marks)

Module-3

- 5 a. What are the applications and benefits of IP sec? (08 Marks)
- b. List any four services of IP Sec. (04 Marks)
- c. Explain the parameters in an SAD entry. (08 Marks)

OR

- 6 a. Explain IPsec processing for outbound traffic with a diagram. (06 Marks)
- b. What are the basic combinations of security associations? Explain with neat figures. (08 Marks)
- c. Explain IKE header format with a neat diagram. (06 Marks)

Module-4

- 7 a. Define briefly three classes of intruders and mention five examples of intrusion. (08 Marks)
- b. Briefly explain the approaches to intrusion detection. (04 Marks)
- c. Explain the architecture for distributed intrusion detection. (08 Marks)

OR

- 8 a. Brief on different phases, a typical virus undergoes during its lifetime. (04 Marks)
- b. Discuss the following : (06 Marks)
 - i) Trojan horse
 - ii) e-mail virus
- c. Explain digital immune system with a neat diagram. (10 Marks)

Module-5

- 9 a. What are the capabilities and limitations of a firewall? (08 Marks)
- b. What are the attacks and appropriate counter measures made on packet filtering firewall? (06 Marks)
- c. Explain stateful inspection firewall. (06 Marks)

OR

- 10 a. What is firewall basing? List the characteristics of a Bastion-Host. (08 Marks)
- b. Explain DMZ networks in detail with a neat diagram. (08 Marks)
- c. Highlight the main features of a distributed firewall. (04 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.