18EC821

Eighth Semester B.E. Degree Examination, June/July 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. Explain the key principle of security.   (10 Marks)

   b. Discuss the following :
      i) Virus   ii) Trojan Horse   iii) Active attacks   iv) Packet sniffing   v) Packet spoofing.   (10 Marks)

OR

2 a. Explain the need for security.   (06 Marks)

   b. With examples, explain the two sub-categories of passive attacks.   (04 Marks)

   c. Discuss the broad level aspects of Java security and how are they related to each other.   (10 Marks)

Module-2

3 a. With neat diagram, explain the SSL architecture.   (10 Marks)

   b. With a neat diagram, explain hand shake protocol action and its operation in SSL   (10 Marks)

OR

4 a. Define Transport Layer Security (TLS). Explain the fatal codes (alert codes) defined in TLS.   (12 Marks)

   b. Elaborate different web traffic security approaches.   (08 Marks)

Module-3

5 a. Discuss the basic combinations of security associations and base approaches to bundle security association.   (10 Marks)

   b. With relevant diagram, describe various fields in ESP packet format.   (10 Marks)

OR

6 a. Explain IP security architecture with a neat diagram.   (10 Marks)

   b. What is the function of authentication header? Draw the IPSec authentication header and explain the function of each field.   (10 Marks)

Module-4

7 a. Define intrusion detection and explain the architecture of a distributed intrusion detection.   (10 Marks)

   b. With a schematic, explain the typical steps in digital immune system.   (10 Marks)

OR

8 a. Briefly describe the three classes of intruders.   (06 Marks)

   b. Give the taxonomy of malicious programs and explain each in brief.   (10 Marks)

   c. Write short note on behavior blocking software.   (04 Marks)

Module-5

9 a. What is Firewall? With neat diagram, briefly explain the three types of firewalls.   (10 Marks)

   b. Mention the capabilities and limitations of firewall.   (10 Marks)

OR

10 a. Explain with neat diagram the various types of firewall configurations.   (10 Marks)

   b. List the design goals for a firewall. Explain the four techniques that firewalls use to control access and enforce the site's security policy.   (10 Marks)

* * * * *