

CBCS SCHEME

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18EC821

Eighth Semester B.E. 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. What are the key principles of security? Discuss them with an example. (07 Marks)
- b. Is there significant difference between a 'Worm' and a 'Virus'? Discuss the process of dealing with viruses. (07 Marks)
- c. Why some attacks are called active? Explain them. (06 Marks)

OR

- 2 a. What are masquerade, replay attacks and denial of service in network security? (06 Marks)
- b. Discuss with an example on confidentiality, authentication, integrity, non-repudiation, access control and availability. (09 Marks)
- c. Explain ethical and legal issues in network security (05 Marks)

Module-2

- 3 a. Discuss the secure socket layer architecture. (06 Marks)
- b. Explain the different types of security threats faced during the usage of the website. (10 Marks)
- c. Define connection and session in SSL. (04 Marks)

OR

- 4 a. With a block diagram explain pseudorandom function in TLS. (08 Marks)
- b. Explain handshake protocol with all phases in SSL. (08 Marks)
- c. Mention the elements of the communication encrypted when HTTPS is used. (04 Marks)

Module-3

- 5 a. Draw the block diagram of IP security (IPSec) and explain it. (10 Marks)
- b. Explain the IPSec ESP packet format with figure in detail. (10 Marks)

OR

- 6 a. What is the difference between transport mode and tunnel mode? Explain scope of AH Authentication in them. (10 Marks)
- b. Draw a typical scenario of IPSec usage and discuss the applications of IP security. (10 Marks)

Module-4

- 7 a. What are different classes of intruders? Also explain Intrusion Techniques for learning passwords and its protection. (10 Marks)
- b. Explain different approaches to intrusion detection in detail. (10 Marks)

OR

- 8 a. How password protection is achieved and what are vulnerability of password in network security. (10 Marks)
- b. What are four phases of virus during its lifetime? Discuss types of viruses. (10 Marks)

Module-5

- 9 a. Lists the design goals for a firewall and discuss various general techniques to control access. (10 Marks)
- b. Illustrate three common firewall configurations and examine them with their configuration. (10 Marks)

OR

- 10 a. Illustrate and explain the three common types of firewalls. (10 Marks)
- b. Discuss different capabilities within the scope of a firewall and their limitations. (10 Marks)
