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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

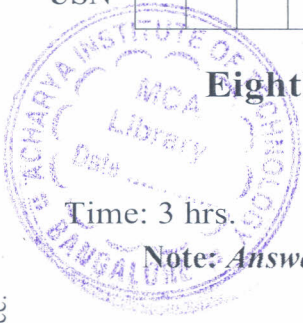
- 4 a. Define Transport Layer Security (TLS). Explain the fatal codes (alert codes) defined in TLS. (12 Marks)
- b. Elaborate different web traffic security approaches. (08 Marks)

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)

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