

CBCS SCHEME

18EC821

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Eighth Semester B.E. Degree Examination, Dec.2023/Jan.2024 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 principles of security. (10 Marks)
b. Define passive and active-security attacks. Discuss the functioning of following attacks with diagrams:
i) Masquerade
ii) Replay
iii) Modification of messages
iv) Denial of service. (10 Marks)

OR

- 2 a. Discuss five different ways of launching an application level attack or a network level attack. (10 Marks)
b. Explain Java sandbox model with relevant block diagram. (10 Marks)

Module-2

- 3 a. Explain web traffic security approaches with regard to relative location of security facilities in the TCP/IP protocol stack. (08 Marks)
b. Explain Secure Socket Layer (SSL) protocol stack with relevant diagram and the different parameters used in session and connection states. (12 Marks)

OR

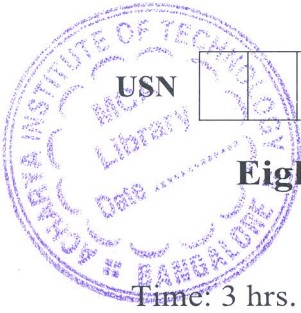
- 4 a. Explain SSL Handshake protocol action with relevant flow diagram. (10 Marks)
b. Interpret the steps involved in SSH transport layer protocol for packet exchanges with signal flow diagram. (10 Marks)

Module-3

- 5 a. Define security association. Explain the parameters defined for security association in an SAD entry. (10 Marks)
b. Describe transport and tunnel modes used for IPsec ESP services bringing out their scope relevant to IPV4 and IPV6 with relevant diagram. (10 Marks)

OR

- 6 a. Examine the IPsec implementation for secured communication for distributed applications involving the following:
i) Organization's LANs at dispersed locations.
ii) Private or Public WAN.
iii) Individual users who dial into the WAN. (10 Marks)
b. Explain IKEv2 exchanges with relevant flow diagram. (10 Marks)



Module-4

- 7 a. Explain Intrusion techniques and list the techniques for learning passwords. (10 Marks)
b. Explain distributed intrusion detection architecture along with agent module. (10 Marks)

OR

- 8 a. Discuss computer virus, its components and life cycle. (10 Marks)
b. Explain digital immune system with relevant block diagram. (10 Marks)

Module-5

- 9 a. List the capabilities and limitations of a firewall. (10 Marks)
b. Explain firewall configuration with relevant block diagram. (10 Marks)

OR

- 10 a. Explain firewall implementation in a virtual private network. (10 Marks)
b. Explain distributed firewall configuration. (10 Marks)

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