

END TERM EXAMINATION

FOURTH SEMESTER [BCA] JUNE-2024

Paper Code: BCAT-216

Subject: Network Security

Time: 3 Hours

Maximum Marks: 75

Note: Attempt all questions as directed. Internal Choice is directed.

Q1 Answer the following: (any five) [5x5=25]

- a) Explain the network security model with the help of diagram? [5]
- b) What is the difference between symmetric and asymmetric encryption algorithms? Provide examples of each [5]
- c) What are the differences between authentication and authorization in the context of network security. [5]
- d) What is a honeypot, and how is it used in network security to detect and study attacks? [5]
- e) Explain Digital Signature Scheme? [5]
- f) Differentiate between Firewall and Antivirus? [5]

UNIT-I

Q2 What is the difference between Attack & Threat? Explain various types of security threats an individual should be aware of? Also explain various types of attacks in networks with example? [12.5]

OR

Q3 a) Define the term network Security? What are the CIA principles of network security? [6]
b) Explain the working of SSL and state benefits of using it to transmit the data over the Internet? [6.5]

UNIT-II

Q4 a) Explain the concept of a firewall and how it helps in protecting a network from unauthorized access? [6.5]

b) Describe the concept of a Virtual Private Network (VPN) and its role in securing network communications? [6]

OR

Q5 a) Describe the concept of intrusion prevention systems (IPS) and how they differ from intrusion detection systems (IDS) in network security. [6]

b) Explain the design principles and types of firewalls? [6.5]

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UNIT-III

Q6.a) What is an authentication application protocol in network security and what is its purpose? [3.5]

b) Write short notes on: [3x3=9]

- i) Multi Factor Authentication & Single Sign On
- ii) S/MIME
- iii) IPsec

OR

Q7.a) Explain Simple Network Management Protocol and its components. [6]

b) What is email security and what type of attacks can occur using emails and how to prevent these attacks in an organization. [6.5]

UNIT-IV

Q8. Explain the Intrusion Detection System and its types in detail? [12.5]

OR

Q9. a) Write notes on: [2x3=6]

- i) Classification of Honey Pots
- ii) IDMEF

b) How Virtual Private Networks are used to detect intrusions? [6.5]

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