

18026

B.C.A. Examination, May-2025

COMPUTER NETWORK SECURITY

(BCA-601)

Time : Three Hours] [Maximum Marks : 75

Note : Attempt **all** the sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Attempt all the **five** questions. Each question carries **3** marks. $3 \times 5 = 15$

1. Define Attacks. What is the difference between active and passive attacks?
2. What is the purpose of Kerberos in network security?
3. Write short notes on Authentication Header (AH) in IP Security.

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4. What are the primary security requirements for web security?
5. Define firewall. What are the main functions of a firewall in network security?

Section-B

(Short Answer Type Questions)

Note : Attempt any **two** questions. Each question carries **7½** marks. $7\frac{1}{2} \times 2 = 15$

6. Describe the working of Kerberos authentication protocol and its advantages in network security.
7. What are the key differences between Secure Socket Layer (SSL) and Transport Layer Security (TLS)? Explain their importance in web security.
8. What are the different types of firewalls? Explain their design principles and functionality in ensuring system security.

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Section-C

(Long Answer Type Questions)

Note : Attempt any **three** questions. Each question carries **15** marks. $15 \times 3 = 45$

9. Explain the different types of security services and mechanisms used to protect network communication.
10. Explain the working of the X.509 authentication framework. How does it ensure secure communication?
11. Describe the components of IPsec and explain how it provides authentication and confidentiality in network communication.
12. Explain the working of the Secure Socket Layer (SSL) and its role in ensuring secure web communication.
13. Explain the different types of intrusion detection system (IDS). How do they help in securing a network?

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