

Assignment: Security in DNS/BGP and Network Defense Tools

Computer and Network Security (TA 1)

Course: 22CST391 (2025-Even)

Total Marks: 10

- Submit the assignment in handwritten notes only
- If content is found to be plagiarized it will not be evaluated.

Part A: DNS & BGP Security

1. DNS Security
 - What is DNS? What are its common threats?
 - How does DNSSEC enhance DNS security?
2. BGP Security
 - What is BGP? Mention key threats like BGP hijacking.
 - How does RPKI help in securing BGP?

Part B: Network Defense Tools

3. Firewalls
 - What is a firewall? Mention its role in network security.
 - Differentiate between packet filtering, stateful inspection, and application-layer firewalls.
4. Intrusion Detection Systems (IDS)
 - What is IDS? How does it differ from a firewall?
 - Compare Host-based IDS (HIDS) and Network-based IDS (NIDS).
 - Explain signature-based and anomaly-based detection.