13/11/25

TE INFT SemV 'C'scheme Winter 2025

**Time : 3 Hours** **Total Marks 80**

**N. B:**
**1. Question No. 1 is Compulsory.**
**2. Solve any THREE from Question No. 2 to 6.**
**3. Draw neat well labelled diagram wherever necessary**

Q. 1 a) Explain X.509 Certificate and PKI. (5)
b) Explain Rootkits and Backdoor Attacks. (5)
c) Explain Playfair Cipher with an example. (5)
d) Explain SSH authentication protocol stack. (5)

Q2. A) Explain Kerberos protocol in detail and the use of KDC. (10)
b) List and explain all types of Malware in detail. Differentiate between Virus and Worms. (10)

Q3. a) Explain DES and AES Algorithm in brief. Compare DES and AES. (10)
b) Explain Transposition Ciphers with illustrative examples. (10)

Q4. a) Explain various protocols in SSL architecture. Also explain the importance of SSL certificate. (10)
b) What is Network Management Security. Explain SNMP v3 in detail. (10)

Q5. a) Explain the need of Network Access Control in Enterprise Networks. Explain the major NAC enforcement methods. (10)
b) What is Firewall? Explain different types of Firewalls and list their advantages. (10)

Q6. Write Short Notes on ANY 4: (20)
a) Types of IDS system
b) RSA algorithm
c) HMAC and CMAC
d) OS Security Architecture
e) SHA-256
f) VPN using IPSec

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