1. (a) Attempt the following: (any four) 12
   
   (1) List the type of attacks possible on encrypted messages.
   
   (2) List out the functions of S/MIME.
   
   (3) Explain the four kinds of security threats in the network.
   
   (4) What are symmetric and asymmetric encryptions?
   
   (5) What are public and private keys?
   
   (6) Which attack is related to integrity? Justify your answer.

   (b) What is covert channel? 2

2. Attempt any two from the following: 14

   (a) List various encryption and decryption techniques. Explain conventional techniques.

   (b) Briefly explain the AES technique of cryptography.

   (c) Write a note on Intrusion Detection Systems.
3. Attempt any **two** from the following:

(a) Explain message authentication and hash functions under key management.

(b) Define access control lists and capabilities, and discuss their relative strengths and weaknesses.

(c) Explain Information Security policy, standards and practices in detail.

4. Attempt any **two** from the following:

(a) Which protocols exist for secure network communication? List and explain them in brief.

(b) Discuss security issues of e-commerce and their solutions.

(c) Discuss about scanning and analysis tools used for security.

5. Write a short note: (any **two**)

(a) E-mail security

(b) Wireless network security

(c) Digital Certificates.