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Eighth Semester B.E. Degree Examination, December 2010
Network Security

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. With a neat block diagram, describe the model for network security. (05 Marks)
b. Explain the types of attack on encrypted messages. (05 Marks)
c. Encrypt the message “we will meet tomorrow” using playfair cipher with a key ‘STORY’. Give the rules for encryption. (10 Marks)
- 2 a. With a schematic diagram, explain the S-DES encryption and decryption process, highlighting the key generation phase. (10 Marks)
b. Explain the counter mode of block ciphers. What are it’s advantages? (10 Marks)
- 3 a. Distinguish between conventional and public key encryption methods. (05 Marks)
b. In a public key system using RSA, the ciphertext received is $C = 10$. With a public key $\{e = 5, n = 35\}$, deduce the plaintext. Verify the answer by encryption process. (10 Marks)
c. With the help of a block diagram, explain the process of public key exchange with the help of certificate authority. (05 Marks)
- 4 a. What is a hash function? What are the basic uses of a hash function? (10 Marks)
b. Explain the signing and verifying functions of Digital Signature Algorithm (DSA). (10 Marks)

PART – B

- 5 a. Briefly explain the SET requirements. (08 Marks)
b. Explain the various phases of SSL handshake protocol. (12 Marks)
- 6 a. Explain the architecture of a distributed intrusion detection system. Give the major issues in the design. (10 Marks)
b. Briefly explain the unix password scheme. What are the threats to this scheme? How are they overcome? (10 Marks)
- 7 a. Give the taxonomy of malicious programs and explain in brief. (08 Marks)
b. List and explain various virus countermeasures. (12 Marks)
- 8 a. With neat diagrams, briefly explain the types of firewalls. (12 Marks)
b. With a neat diagram, explain the concept of trusted systems. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

