

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2012 Batch) (Sem.-5)
NETWORK SECURITY AND ADMINISTRATION
Subject Code : MCA-502
Paper ID : [A3160]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

- 1. SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks and students has to attempt any ONE question from each SECTION.**
- 2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**

SECTION-A

1.
 - a) Discuss various types of security attacks. (12)
 - b) What is Cryptography? Discuss various cryptographic goals. (8)
2.
 - a) Discuss Substitution ciphers and transposition ciphers in detail with the help of an example. (8)
 - b) Discuss various categories of security services. (12)

SECTION-B

3.
 - a) Discuss RSA algorithm with the help of an example. (12)
 - b) Discuss the basis for digital signatures with the help of a diagram. (8)
4.
 - a) Discuss the concept of digital certificates. What are the contents of digital certificates? Who is authorized to issue digital certificates? (12)
 - b) What is the role of Key distribution centre in a computer network? (8)

SECTION-C

5.
 - a) How packet filters work? How can attackers break the security of packet filters? (10)
 - b) How Network Address Translation (NAT) is implemented? (10)

6. a) Discuss Authentication Header format in detail. (10)
b) Discuss the advantages and applications of IPSec. (10)

SECTION-D

7. a) Discuss the handshake protocol of Secure Socket Layer (SSL). (12)
b) How Pretty Good Privacy (PGP) protocol works? Discuss the steps. (8)
8. a) How the record protocol in SSL works? (8)
b) Discuss payment authorization and payment capture transactions supported by Secure Electronic Transaction (SET) (12)

SECTION-E

9. **Write briefly :**
- a) What is man-in-the-middle attack?
 - b) What is mono-alphabetic cipher?
 - c) What is Cryptology?
 - d) What is the concept of Digital Certificates?
 - e) What are the problems associated with clear text passwords?
 - f) What is the role of Ticket Granting Server (TGS) in Kerberos?
 - g) What is the role of MIME in an E-mail system?
 - h) Give any two limitations of firewalls.
 - i) What do you understand by Transport Layer Security?
 - j) What is Secure Electronic Transaction? (2×10=20)