Reg. No. : | | | | | | | | | | |

Question Paper Code: 49221

M.E. DEGREE EXAMINATION, DECEMBER 2014.

First Semester

Communication Systems

14PCM509 - COMMUNICATION NETWORK SECURITY

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (5 x 1 = 5 Marks)

1. Find out the block Cipher in the following

   (a) Vigenere cipher (b) Vernam cipher (c) AES (d) Playfair cipher

2. Find out the AES round key value

   (a) 134 (b) 121 (c) 192 (d) 234

3. What is the block size of an SHA?

   (a) 512 (b) 1024 (c) 80 (d) 64

4. Packet forwarding attack takes place in layer of OSI.

   (a) Physical (b) Data link (c) Network (d) Transport

5. In a sensor network with n nodes, each node needs to store

   (a) n keys (b) n-1 keys (c) n(n-1)/2 keys (d) n/2 keys

PART - B (5 x 3 = 15 Marks)

6. What is steganography? How does it differ from cryptography?
7. Compare stream cipher and block cipher with example.
8. What is Kerberos? Mention its functions.
9. List out the characteristics of good Firewall implementations.
10. Why traditional security techniques not applicable for ad hoc networks?

PART - C (5 x 16 = 80 Marks)

11. (a) (i) Explain the needs and goals of security with suitable examples. (8)

(ii) Explain the type of attacks related to security goals. (8)

Or

(b) Explain the security services and mechanism with suitable examples. (16)

12. (a) (i) Describe in detail about RC4. (8)

(ii) Explain the substitutional ciphers with examples. (8)

Or

(b) (i) Encrypt the message "Life is full of surprises" using Vigenere cipher with key Word "HEALTH". (8)

(ii) Explain about RSA Cryptosystem. (8)

13. (a) (i) Explain the various digital signature standards. (8)

(ii) Enumerate the physiological and behavioral biometric techniques. (8)

Or

(b) (i) Briefly explain the Deffie- Hellman key exchange with an example. (8)

(ii) Explain in detail about "SHA." (8)

14. (a) Explain in detail about firewall types, configuration and limitations. (16)

Or

(b) Explain Secure Electronic Transaction with neat diagram. (16)

15. (a) Explain about security attack issues in wireless systems. (16)

Or

(b) Explain in detail about security in 4G networks. (16)

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