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By K B Hemanth Raj

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CBCS SCHEME

15CS61

USN

Sixth Semester B.E. Degree Examination, June/July 2019
Cryptography, Network Security and Cyber Law

Time: 3 hrs.

Max. Marks: 80

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1   a.   Describe the types of Vulnerabilities to domain of security.   (04 Marks)
    b.   List the guiding principles of security.   (04 Marks)
    c.   Write the extended Euclidean algorithm, with an example.   (08 Marks)

OR

2   a.   Calculate the value of x using Chinese remainder theorem by given below data :
         $N = 210$, $n_1 = 5$, $n_2 = 6$, $n_3 = 7$, $x_1 = 3$, $x_2 = 5$, $x_3 = 2$.   (05 Marks)
    b.   Explain the Vigenere Cipher and the Hill Cipher techniques with illustration.   (06 Marks)
    c.   With neat diagram, explain Fiestel structure.   (05 Marks)

Module-2

3   a.   Illustrate the RSA algorithm for encryption and decryption.   (08 Marks)
    b.   Briefly explain the practical issues of RSA algorithm.   (04 Marks)
    c.   List the properties of the cryptographic hash.   (04 Marks)

OR

4   a.   Discuss the case study : SHA – I.   (08 Marks)
    b.   Explain the Man – In – the Middle attack on Diffie – Hellman key exchange, with neat
         diagram.   (08 Marks)

Module-3

5   a.   Explain the different Public Key Infrastructure (PKI) architectures.   (08 Marks)
    b.   Describe the Mutual authentication using a shared secret.   (08 Marks)

OR

6   a.   Explain the Kerberos message sequence with diagram.   (06 Marks)
    b.   Describe the IP Sec protocols Authentication Header and Encapsulating Security Pay load in
         transport mode.   (05 Marks)
    c.   Explain Secure Sockets Layer (SSL) hand shake protocol.   (05 Marks)

Module-4

7   a.   Explain the Authentication and Master Session Key exchange in 802.11i.   (05 Marks)
    b.   List and explain the worm characteristics.   (05 Marks)
    c.   Explain Firewall functionality and Proxy fire wall.   (06 Marks)

OR

8   a.   Write a note on Intrusion Detection System (IDS).   (05 Marks)
    b.   Explain the types of Intrusion Detection System.   (05 Marks)
    c.   Briefly explain the Technologies for Web Services.   (06 Marks)

Module-5

9   a.   Explain Digital Signature Certificates.   (10 Marks)
    b.   Describe the duties of Subscribers.   (06 Marks)

OR

10 a.   List any eight functions of the Controller.   (08 Marks)
    b.   Briefly explain Penalties and Adjudication in IT Act.   (08 Marks)

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