CBCS SCHEME

USN | | | | | | | | | | |

15CS61

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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