CBCS SCHEME

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

15CS61

Sixth Semester B.E. Degree Examination, Jan./Feb. 2021

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. Explain different defence strategies and techniques. **(10 Marks)**

b. Explain Extended Euclidean Algorithm. Compute the inverse of 12 modulo 79 using Extended Euclidean Algorithm. **(06 Marks)**

OR

2 a. Explain Hill Cipher polyalphabetic cipher method of plain text. Solve the same for block size of 2, where $K = \begin{bmatrix} 3 & 7 \\ 15 & 12 \end{bmatrix}$. **(06 Marks)**

b. With a neat diagram, explain DES construction. **(10 Marks)**

Module-2

3 a. Explain RSA operations and compute the same for p = 3 and q = 11 as prime numbers. **(06 Marks)**

b. Explain with a neat diagram computation of SHA-1 hash construction. **(10 Marks)**

OR

4 a. Explain Diffie-Hellman key exchange protocol for more than two parties. **(08 Marks)**

b. Explain EL Gamal encryption for large prime numbers. Solve the same for p = 131, q = 2, private key = 97, m = 75. **(08 Marks)**

Module-3

5 a. With a neat diagram, explain different PKI architectures. **(10 Marks)**

b. With a neat scenario, how mutual authentication can be performed using public key encryption. **(06 Marks)**

OR

6 a. Explain Kerberos message sequence with steps involved. **(06 Marks)**

b. Explain SSL Handshake Protocol. **(10 Marks)**

Module-4

7 a. Explain Worm characteristics. **(10 Marks)**

b. Explain firewall functionality and firewall types. **(06 Marks)**

OR

8 a. Explain different technologies for web services. **(10 Marks)**
b. Explain Security Assertions Markup Language (SAML) with Authentication Statement. **(06 Marks)**

Module-5

9 a. Give the aim and objectives of IT Act, 2000. **(06 Marks)**
b. Explain briefly different regulations of Certifying Authorities. **(10 Marks)**

OR

10 a. Explain briefly Digital Signature Certificates necessary for an undertaking digitally sign a document. **(08 Marks)**
b. Explain briefly any eight offences in IT. **(08 Marks)**

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