

Roll No.

3538

**B. Tech. 7th Semester (CSE) Professional
Elective-V Examination – February, 2022**

NETWORK SECURITY & CRYPTOGRAPHY

Paper : PEC-CSE-411-G

Time : Three Hours]

[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all, selecting one question from each Unit. Question Number 1 is compulsory. All questions carry equal marks.

1. Write short notes on the following : $2.5 \times 6 = 15$

- (a) What is E-mail Security ?
- (b) Explain rainforce technique with example.
- (c) What do you mean by Security Handshake pitfalls ?

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- (d) What do you understand by Feistel Cipher ?
- (e) What is Avalanche effect ?
- (f) What is the role of session key in public key schemes ?

UNIT - I

- 2. (a) Discuss any *four* substitution technique and list their merits and demerits. 10
- (b) Explain in detail transposition techniques. 5
- 3. (a) Briefly explain the design principles of block cipher. 8
- (b) Explain Fermat and Euler's theorem. 7

UNIT - II

- 4. (a) Perform decryption and encryption using RSA algorithm with $p = 3$, $q = 11$, $e = 7$ and $N = 5$. 7
- (b) Mention the strengths and weakness of DES algorithm. 8
- 5. (a) Explain the generation Subkey and S-box from the given 32-bit key by Blowfish. 8
- (b) Explain Digital Signature in detail. 7

UNIT - III

- 6. (a) Discuss clearly Secure Socket Layer (SSL) and the steps involved in SSL required protocol. 7
- (b) Explain the architecture of IP security. 8
- 7. (a) What is Electronic Money ? How is it useful ? 7
- (b) Explain secure electronic transaction with neat diagram. 8

UNIT - IV

- 8. (a) What is Kerberos ? Explain how it provides authenticated service ? 8
- (b) What are honey pots ? Explain KDC in detail. 7
- 9. Write short notes on :
 - (a) Certificate based authentication 8
 - (b) Security handshake pitfalls 7