G 1727

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Electronics and Communication Engineering

EC 010 804 L03—SECURE COMMUNICATION (Elective III) [EC]

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 3 *marks.*

1. Distinguish between Equality and Congruence operators in Modular arithmetic.
2. Encrypt the message "CREATE" using additive Cipher with key = 5.
3. What is IDEA ?
4. List out the essential steps for public key encryption process.
5. Distinguish between Masque radar and Misfeasor.

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*
Each question carries 5 *marks.*

6. What is a ring ? Distinguish between Ring and Commutative Ring.
7. What is a play fair Cipher ? Discuss the rules for encrypting the play fair Cipher.
8. Write notes on security of DES.
9. Explain the computational steps involved in RSA algorithm.
10. What are the techniques used for the protection of passwords ?

(5 × 5 = 25 marks)

Part C

Answer **all** *questions.*
Each full question carries 12 *marks.*

11. Discuss the following :—

    (a) Irreducible polynomial.
    (b) Finite field.
    (c) Abelian group.
    (d) Residue integers.

    (4 × 3 = 12 marks)

Or

12. Using the extended Euclidean algorithm find the inverse of (x^2+1) modulo (x^4+x+1) in GF (2^4).

13. Describe different poly alphabetic Ciphers with suitable examples.

Or

14. What is a Hill Cipher ? Use the Hill Cipher to encrypt the message "give me the secret key" with key $K = \begin{bmatrix} 03 & 02 \\ 05 & 07 \end{bmatrix}$.

15. Explain Key generation of DES.

Or

16. Explain the steps involved in the implementation of AES.

17. Explain the cryptanalytical implementation of RSA.

Or

18. Briefly describe the steps involved in the distribution of public keys.

19. (a) Discuss the method of distributed intrusion detection. (6 marks)
    (b) Explain the intrusion detection exchange format. (6 marks)

Or

20. (a) Discuss in detail about honey pots. (6 marks)
    (b) List out the techniques for learning passwords. (6 marks)

[5 × 12 = 60 marks]