
CHAPTER 19

Encryption/Decryption

Multiple-Choice Questions

1. d
3. b
5. a
7. d
9. a

Exercises

11. XLMW MW E KSSH IBEQTPI
13. ENCRYPTION IS LIKE ENCLOSING A SECRET IN AN ENVELOPE
15.
Plaintext: 1001111111100001
Key: 1000111110001111
Ciphertext: 0001000001101110
17. GOOD DAY
 - a. 10001111 10011111 10011111 1000100 1000100 1000001 1011001
 - b. 01000111 01001111 01001111 01000100 01000100 01000001 01011001
 - c. 01110100 11110100 11110100 01000100 01000100 00010100 10010101
 - d. 74F4F444441495
19.
 - a. $b = 3, n = 10$
 - b. $x_1 = 5, y_1 = 243 \% 10 = 3$
 - c. $x_2 = 11, y_2 = 177147 \% 7 = 7$
 - d. $k_1 = 16807 \% 10 = 7$
 - e. $k_2 = 177147 \% 10 = 7$
21. $N = 19 \times 23 = 437, K_p = 5, K_s = 317$

23. $(1 \times 227) \% 100 = 27$
 $(27 \times 227) \% 100 = 29$
 $(29 \times 227) \% 100 = 83$
 $(83 \times 227) \% 100 = 41$
 $(41 \times 227) \% 100 = 7$
 $(7 \times 227) \% 100 = 89$
 $(89 \times 227) \% 100 = 3$
 $(3 \times 227) \% 100 = 81$
 $(81 \times 227) \% 100 = 87$
 $(87 \times 227) \% 100 = 49$
 $(49 \times 227) \% 100 = 23$
 $(23 \times 227) \% 100 = 21$
 $(21 \times 227) \% 100 = 67$
 $(67 \times 227) \% 100 = 9$
 $(9 \times 227) \% 100 = 43$
 $(43 \times 227) \% 100 = 61$