German University in Cairo
Faculty of MET (CSEN 1001 Computer and Network Security Course)
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Practice Assignment 3

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1 RSA Encryption

Perform encryption using the RSA algorithm, for the following:

1. p = 3; q = 11, e = 7; M = 5
2. p = 5; q = 17, e = 3; M = 9
3. p = 7; q = 5, d = 17; M = 8, (Encrypt using Private-Key)

2 RSA Decryption

Perform decryption using the RSA algorithm, for the following:

1. p = 11; q = 13, e = 11; C = 106
2. p = 17; q = 31, e = 7; C = 128
3. In a public-key system using RSA, you intercept the ciphertext C = 10 sent to a user whose public key is (e = 5, n = 35). What is the plaintext M?
4. p = 7; q = 11, e = 7; C = 59
5. In an RSA system, Alice's public key is e, n = 5, 851. Discover the corresponding private key.