

**B.C.A. (Part-III) Semester-V Examination****NETWORK SECURITY****Paper-5 ST2**

Time : Three Hours]

[Maximum Marks : 60]

**Note :—** (1) All questions are compulsory.

(2) All questions carry equal marks.

1. (a) Explain Network Security Model along with its components. 6

- (b) Explain :

(i) Masquerade

(ii) Denial of Service

(iii) Replay

**OR**

2. (a) Explain OSI security architecture and define Network Security. 6

- (b) Explain transposition encryption techniques in detail. 6

3. (a) Explain S-Box design with example. 6

- (b) Explain Product Cipher in detail. 6

**OR**

4. (a) State and explain AES evaluation in detail. 6

- (b) Explain Cipher block modes of operation. 6

5. (a) Explain modular arithmetic operations with example. 6

- (b) Explain in detail the Euler's Totient function. 6

**OR**

6. (a) Explain two properties of prime numbers in detail. 6

- (b) Explain in detail data encryption standards. 6

7. (a) Explain the RSA Public-Key encryption algorithm. 6

- (b) What is digital signature ? Explain the need for digital signature in detail. 6

**OR**

8. (a) Explain the security of RSA. 6

- (b) What are the authentication requirements ? Explain in detail. 6

9. (a) Summarize the PGP services. 6

(b) Explain : 6

(1) Intruders

(2) Firewalls

**OR**

10. (a) Explain the rules followed by sending agent in S/MIME. 6

(b) What is IP Security? Explain its authentication header. 6