

**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 : 6
  - (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