**10EC832**

# Eighth Semester B.E. Degree Examination, Dec.2018/Jan.2019
## Network Security

Time: 3 hrs.

Max. Marks:100

### Note: *Answer any FIVE full questions, selecting atleast TWO questions from each part.*

## PART – A

1  a. Explain the general model of Network security system. **(08 Marks)**
   b. Explain play fair rules for encryption, using play fair key – "STORY" Encrypt the plain text "We will meet tomorrow". **(12 Marks)**

2  a. With neat diagram explain S-DES key generation algorithm. In S-DES 10 bit key is 1011001010 find the values of sub keys $k_1$, $k_2$ if
   $P_{10}$ – 3   5   2   7   4   10   1   9   8   6
   $P_8$ – 6   3   7   4   8   5   10   9
   Left circular shift by 1-bit for both rounds. **(10 Marks)**
   b. With neat diagram explain single round DES Algorithm. **(10 Marks)**

3  a. Explain the Diffie Hellman key exchange algorithm. **(06 Marks)**
   b. What are the requirements of a public key cryptosystem? **(06 Marks)**
   c. Perform Encryption and Decryption using the RSA algorithm for $p = 3$, $q = 11$, $e = 7$, $m = 5$. **(08 Marks)**

4  a. Describe the Digital Signature Algorithm. **(10 Marks)**
   b. With neat diagram explain the basic uses of Hash function. **(10 Marks)**

## PART – B

5  a. Explain the sequence of events that are required for a transaction in SET. **(10 Marks)**
   b. Explain the various phases of SSL handshake protocol. **(10 Marks)**

6  a. Define Intrusion Detection and explain the architecture of a distributed intrusion detection system. **(08 Marks)**
   b. Explain the password selection strategies in detail. **(08 Marks)**
   c. Mention the classes of intruders and briefly define them. **(04 Marks)**

7  a. With a diagram explain digital immune system. **(10 Marks)**
   b. Explain the different types of viruses. **(10 Marks)**

8  a. Define firewall? With neat diagrams briefly explain the three types of firewalls. **(10 Marks)**
   b. Explain briefly about the firewall configurations. **(10 Marks)**

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