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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Third Semester, M. Tech - Computer Science and Engineering (MCSE)

Semester End Examination; Dec - 16/Jan - 2017

Network Security

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. What are the dimensions on which Cryptographic systems are generally classified? Discuss the parameters and design features that influence the exact realization of symmetric block cipher. 10
- b. Illustrate the working of classical feistel Network in symmetric block encryption algorithm. 10
- 2 a. With example, write and explain RSA algorithm. 10
- b. What are the strengths of DES? How triple DES is stronger than DES? Discuss. 10

UNIT - II

- 3 a. Write Diffie-Hellman key exchange algorithm. And discuss its key exchange protocol. 10
- b. What is SMIME? Write the steps followed for preparing; 10
 - i) Signed data MIME entity
 - ii) Enveloped data MIME entity.
- 4 a. Explain Authentication service provided by Kerberos version 5. 10
- b. Discuss how PGP provides cryptographic functions. 10

UNIT - III

- 5 a. Illustrate SSL Protocol stack. List and explain two important concept of SSL. 10
- b. Discuss the need for security services at the transport layer of internet model. 10
- 6 a. Illustrate the actions of Handshake protocol of SSL. 12
- b. Describe how key materials are created from master secrete in TLS. 8

UNIT - IV

- 7 a. What is IP Sec? What are its benefits? List the applications of IP Sec. 10
- b. Discuss Transport mode and Tunnel mode functionalities of IP Sec. 10
- 8 a. Explain ISAKMP head format. List the ISAKMP play load types. 12
- b. How IPSec provides security services? Explain. 8

UNIT - V

- 9 a. What is intrusion? Discuss different approaches used to detect intrusion. 8
- b. Explain different types of viruses. 12
- 10 a. What is a firewall? Illustrate three common types of firewalls. 10
- b. What do you mean by Denial of Service (DOS) attack? How DDOS are classified? Explain. 10