SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Information Technology
Second year, First Semester Examination – 2017
HNDIT 2323 – Enterprise Information Security

Instructions for Candidates
Answer four (04) questions only

No. of questions : 05
No. of pages : 02
Time : 02 hrs.

1.

   a. Write the definition of Computer Security.   [4 Marks]

   b. Describe three key objectives of Computer security   [6 Marks]

   c. Explain the following topics

     i. Security mechanism
     ii. Security Services   [8 Marks]

   d. Write the differences between attack and security threats.   [7 Marks]

[Total 25 Marks]

2.

   a. Contrast between passive and active attack   [5 Marks]

   b. Describe the following Security attacks.

     i. Denial of service
     ii. Replay
     iii. Masquerade   [9 Marks]

   c. What is the meaning of "Digital Signature" and "Digital Certificate"   [4 Marks]

   d. Describe the model of network security   [7 Marks]

[Total 25 Marks]

3.

   a. Describe Symmetric and Asymmetric cryptography   [8 Marks]

   b. Derive the ciphertext for the following using Caesar cipher scheme

     "Information Security System"   [8 Marks]

   c. What are the best practices for Password?   [4 Marks]

   d. Explain the meaning of cryptanalysis`   [5 Marks]

[Total 25 Marks]

4.

    a. Briefly explain VPN (Virtual Private Network), and describe two advantages.

                  [8 Marks]

    b. Write short notes on the following topics
        i. Network Address Translation (NAT)
        ii. Firewall
        iii. Intrusion Detection System (IDS)
        iv. Proxy server

                  [12 Marks]

    c. Explain different methods of securing computer system   [5 Marks]

                  [Total 25 Marks]

5.

    a. Briefly explain three major access control methods   [12 Marks]

    b. What is meant by the term "Authentication"   [5 Marks]

    c. Explain four Authentication tools and techniques with examples   [8 Marks]

                  [Total 25 Marks]