

Code No: 117DY**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, November/December - 2017****INFORMATION SECURITY****(Information Technology)****Time: 3 Hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A**(25 Marks)**

- 1.a) What are symmetric and asymmetric encryptions? [2]
- b) What is the difference between a mono alphabetic and a poly alphabetic cipher? [3]
- c) Differentiate symmetric and asymmetric encryption. [2]
- d) What is Avalanche effect? [3]
- e) What is the difference between weak and strong collision resistance? [2]
- f) In the content of Kerberos, what is realm? [3]
- g) Define Transport Adjacency and Iterated Tunnel? [2]
- h) Explain why does PGP generate a signature before applying compression. [3]
- i) What are the differences between SSL version 3 and TLS? [2]
- j) List and explain the 3 classes of intruder? [3]

Part-B**(50 Marks)**

2. Explain Playfair cipher, Monoalphabetic cipher and Polyalphabetic cipher. [10]
- OR**
- 3.a) Explain the security model in detail.
- b) Write about steganography. [5+5]
- 4.a) Describe about RC4 algorithm.
- b) Explain the Block Cipher principles. [5+5]
- OR**
5. Discuss about the possible threats for RSA algorithm and list their counter measures. And Perform decryption and encryption using RSA algorithm with $p=3$, $q=11$, $e=7$ and $M=5$. [10]
- 6.a) Discuss clearly Secure Hash Algorithm(SHA).
- b) Explain in detail about MAC algorithms and its requirements. [5+5]
- OR**
7. Explain X.509 authentication service. [10]
8. Draw the diagram for PGP message transmission reception and describe. [10]

OR

- 9.a) Write short notes on IP security architecture.
b) Give an overview on S/MIME functionality. [5+5]
10. Discuss about SSL architecture and SSL record protocol. [10]
- OR**
- 11.a) Explain about Trusted system in detail.
b) Explain Viruses and related threats in detail. [5+5]

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