

Question Paper

Exam Date & Time: 12-Feb-2021 (10:00 AM - 01:15 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

MANIPAL SCHOOL OF INFORMATION SCIENCES, MANIPAL
FIRST SEMESTER MASTER OF ENGINEERING - ME (INTERNET OF THINGS) DEGREE EXAMINATION - FEBRUARY
2021

IoT Security [IOT-603]

Marks: 100

Duration: 180 mins.

FRIDAY, FEBRUARY 12, 2021

Answer all the questions.

- 1) Explain two significant attacks (threat actions) that will affect each of the following (10)
 - Confidentiality
 - Integrity
 - Availability (TLO 2.1 and 1.2) [1X10=10 Marks]

- 2) a. Encrypt the message "Network and information security is my favorite subject" using double transposition with the key1 "sois" and key2 "manipal" (10)
b. Decrypt using ceaser cipher "lolnhpdqldso" [7+ 3 =10 Marks] (TLO 2.1)

- 3) Compare and contrast symmetric encryption and asymmetric encryption with respect to the following: (10)
 - a. Number of keys
 - b. Protection of key
 - c. Best uses
 - d. Key distribution
 - e. Speed[1X10=10 Marks]
(TLO 2.1)

- 4) Given Super increasing knapsack {2,3,6,13,27,52}, with $n=31$ and $m=105$ (10)
Find the general knapsack.
Encrypt the message: 110101
Decrypt the above result [3 + 2 + 5 = 10 Marks] (TLO 2.1)

- 5) Alice want to send message to Bob, her need non-repudiation and integrity which method/ algorithm (10) you will recommend? Justify the reason. Explain the steps involved in the algorithm(L4) (TLO 2.2) [1X10=10 Marks]

- 6) Explain the Mitigating techniques in IoT Privacy Concerns. [1X10=10 Marks] (TLO 3.1) (10)

- 7) Define the term (10)

SQL injection
Cross site scripting attack
Rabbit
Trojan Horse [2X5=10 Marks] (TLO 4.1)

- 8) Define the term Crypto currencies. Differentiate between cold wallet and hot wallet [1X10=10 Marks] (TLO 3.1) (10)

- 9) Explain Wormhole attack and Man-in-Middle Attack(TLO 3.1) [1X10=10 Marks] (10)

- 10) Compare and Contrast Anomaly based Intrusion Detection System and Signature based Intrusion Detection System. [1X10=10 Marks] (TLO 6.1) (10)

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