Department of Computer Science and Engineering, S V N I T, Surat

END-SEMESTER EXAMINATIONS, May 2023

B. Tech. – IV (CSE) – 7th Semester

Course: (CS424) Core Elective V (Network and Systems Security)

Date: 1st May, 2023 | Time: 14:00 to 17:00 | Max Marks: 50

Q.1 Answer the following (Any Five): **[20]**

(a) Demonstrate transfer, grant and delete command for access control mechanism with suitable example.

(b) Use Euclid's algorithm to find the GCD of 42823 and 6409 with intermediate steps.

(c) Analyze the scenario of when user A revokes an access right with cascading authorizations with appropriate example.

(d) Enlist the reasons of low pace of database security.

(e) Analyze how inference violates access control policy by taking database schema, view as an example.

(f) Apply Castellucia privacy homomorphism algorithm and find out the aggregate value of sensor data.
Large integer M – 256, Sensor1 Reading- 67 (Key 10), Sensor2 Reading – 78 (Key 15), Sensor 3 Reading – 49 (Key 8), Sensor 4 Reading – 37 (Key 13).

Q.2 Answer the following (Any Four): **[20]**

(a) Enlist the risk associated with wireless network and describe any four in detail.

(b) Classify the IEEE 802.11 services based on the service provider and explain these services in detail.

(c) Describe the protocol used by the network administrator to manage the network remotely.

(d) What is the role of IPSec in Network Security? Explain different modes supported by IPSec.

(e) Describe a protocol which offers authentication service between trusted hosts across an untrusted network.

Q.3 Answer the following: **[10]**

(a) Justify the following:
1. The necessity for the rule of "No write down" in Multi Level Security.
2. Meaning of the term Chinese wall in the Chinese Wall Model.

(b) Discuss and analyze runtime defenses against buffer overflow attacks.

(c) Briefly describe the three basic services provided by a TPM (trusted platform module).

(d) Describe basic steps that should be used for Operating System hardening.