

**Dr. Mahalingam College of Engineering and  
Technology**  
**Office of Dean – Research and Innovation**  
**Sustainability and Green Technologies**

Research Interest Group

**Report on Knowledge sharing session on “Role of cryptography  
in cyber security”**

**Date:** 09.08.2025

**Venue:** A222 Civil Department Conference Hall

**Resource Person:** Mrs. S. Suthaviji, Assistant Professor, Department of Civil Engineering

**Topic:** Role of cryptography in cyber security

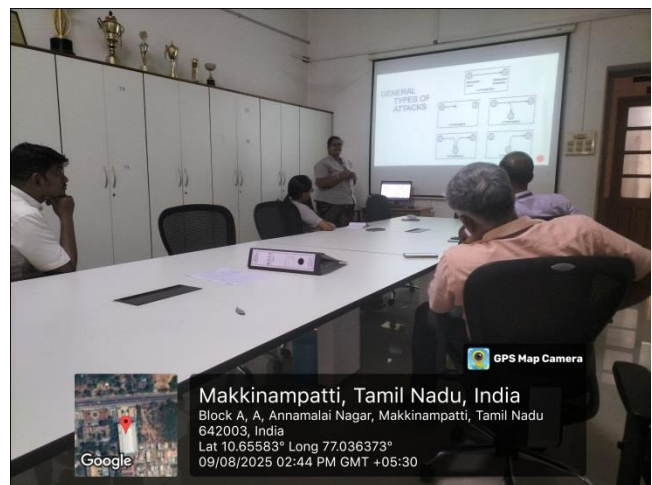
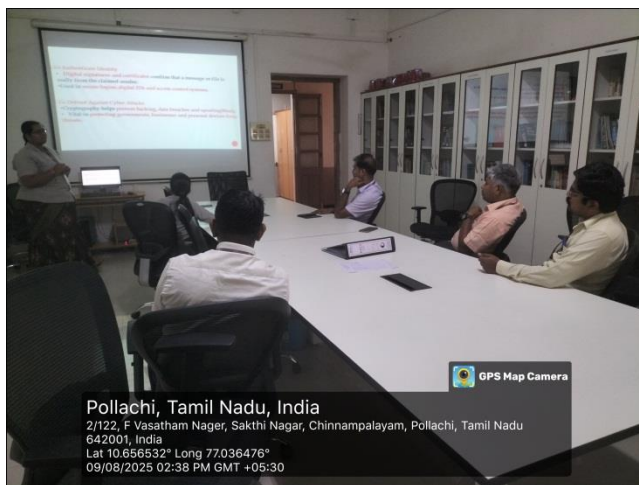
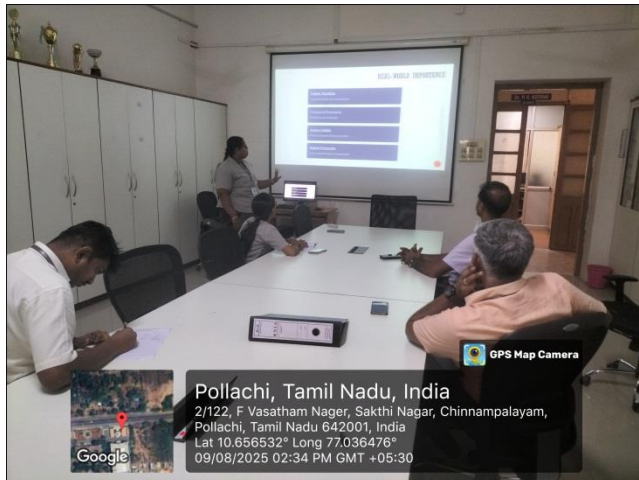
Research Interest Group “Sustainability and Green Technologies” organized a knowledge sharing session on the topic “Role of cryptography in cyber security”. The session was handled by Mrs. S. Suthaviji, Assistant professor, Department of Civil Engineering.

**The brief of the presentation by the speaker is given below:**

Cryptography is essential for securing digital information, ensuring confidentiality, integrity, and authenticity. It transforms plaintext into unintelligible cipher text using mathematical algorithms and secret keys, protecting data during storage and transmission. Key concepts include encryption (scrambling) and decryption (unscrambling). Security goals are encompassed by the CIA triad: Confidentiality (privacy), Integrity (unaltered data), and Availability (accessibility), augmented by authentication and non-repudiation. Classical techniques like the Caesar Cipher (fixed shift) and Mono-alphabetic ciphers (jumbled alphabet) use substitution,

while transposition ciphers (like Rail Fence) rearrange character positions. Cryptography underpins secure online activities, from banking to messaging, and defends against cyber threats.

Cyber security is crucial for individuals, businesses, and governments to safeguard sensitive information, maintain operational continuity, and protect against financial loss and reputational damage in an increasingly digital world.



*S. Prunkaney*

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--Sgd.--  
Secretary