

M.C.L.I.T. Semester-III  
**MCLIT302 / 3.2 - Digital Signature**

P. Pages : 1

Time : Three Hours



**GUG/W/24/298**

Max. Marks : 100

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- Notes : 1. Attempt **five** questions in all including question No. **1** which is compulsory.  
2. Each question carries equal marks.

1. Discuss the history of cryptography and cryptanalysis by highlighting key milestones.
2.
  - a) Explain the different applications of digital signature in modern technology.
  - b) Describe the processes of encryption and decryption and differentiate between plain text and cipher text.
3. What is a hash function and how does it contribute to data security?
4.
  - a) Compare and contrast symmetric cipher's and asymmetric ciphers, providing examples of each.
  - b) Discuss the various types of symmetric ciphers and their use cases.
5. What are the objectives of Public Key Infrastructure (PKI) and how does it support secure communication?
6. Explain the Fiat-Shamir and Guillou-Quisquater Identification protocols and their applications.
7. Describe the concept of collective coin flipping and its relevance in cryptography.
8.
  - a) What are the legal requirements for the authorization of digital signature.
  - b) Explain the legal recognition of electronic record and digital signature under Indian law.

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