

Cryptographic algorithms

Q1. What is Cryptography?

Ans: Cryptography is a process of hiding information while transmitting, storage, and processing of data by using different complex algorithms and methods.

Q2. What is the importance of a Cryptography?

Ans: As we move towards the digital economy, cryptography plays a crucial role in securing your digital assets from hackers by encrypting it.

Q3. What are Ciphers?

Ans: Cipher is a process of creating data in a non-readable form. In other words, you can say it is an algorithm responsible for the encryption and decryption of data.

Q4. What is RSA in the field of Cryptography?

Ans: RSA (Rivest–Shamir–Adleman) is an asymmetric cryptographic algorithm. It consists of two keys: Public and Private keys. The private key holds only by the owner of that key, and the corresponding public key is available to different persons. If encryption is happening with the private key, decryption can be done with the public key, and vice versa depends on the usage of asymmetric encryption.

Q5. What is the major difference between the Symmetric and Asymmetric Key Algorithm?

Ans: The major difference between the Symmetric and Asymmetric Key algorithms is using the same key in the case of the Symmetric Key algorithm while using different keys (public and private key) in the case of the Asymmetric Key Algorithm.

Q6. What is P and NP problem?

Ans: P- Polynomial time solving . Problems which can be solved in polynomial time, which take time like $O(n)$, $O(n^2)$, $O(n^3)$. Eg: finding maximum element in an array or to check whether a string is palindrome or not. so there are many problems which can be solved in polynomial time.

NP- Non deterministic Polynomial time solving. Problem which can't be solved in polynomial time like TSP(travelling salesman problem) or An easy example of this is subset sum: given a set of numbers, does there exist a subset whose sum is zero?.