JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR
Government of Rajasthan established
Through ACT No. 17 of 2008 as per UGC ACT 1956
NAAC Accredited University

Faculty of Education and methodology

Department of Science and Technology

Faculty Name- Jv'n Narendra Kumar Chahar (Assistant Professor)

Program- B.Tech 8thSemester

Course Name – Cryptography and Network Security

Session no.: 06

Session Name- Symmetric and public key algorithms

Academic Day starts with –

- Greeting with saying **'Namaste'** by joining Hands together following by 2-3 Minutes Happy session, Celebrating birthday of any student of respective class and **National Anthem**.

Lecture starts with- quotations' answer writing

Review of previous Session **– Cryptographic Attacks**

Topic to be discussed today- Today We will discuss about **Symmetric and public key algorithms**

Lesson deliverance (ICT, Diagrams & Live Example)-

- Diagrams

Introduction & Brief Discussion about the Topic **– Symmetric and public key algorithms**

Symmetric and public key algorithms

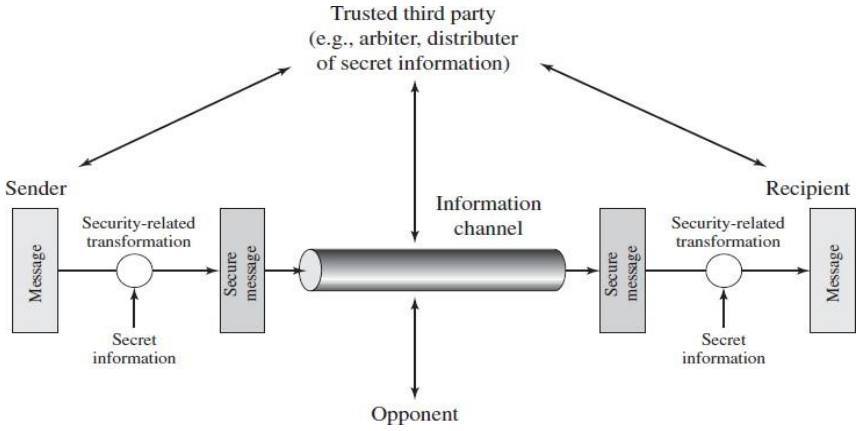
Encryption/Decryption methods fall into two categories.

- Symmetric key
- Public key

In symmetric key algorithms, the encryption and decryption keys are known both to sender and receiver. The encryption key is shared and the decryption key is easily calculated from it. In many cases, the encryption and decryption keys are the same.

In public key cryptography, encryption key is made public, but it is computationally infeasible to find the decryption key without the information known to the receiver.

A MODEL FOR NETWORK SECURITY

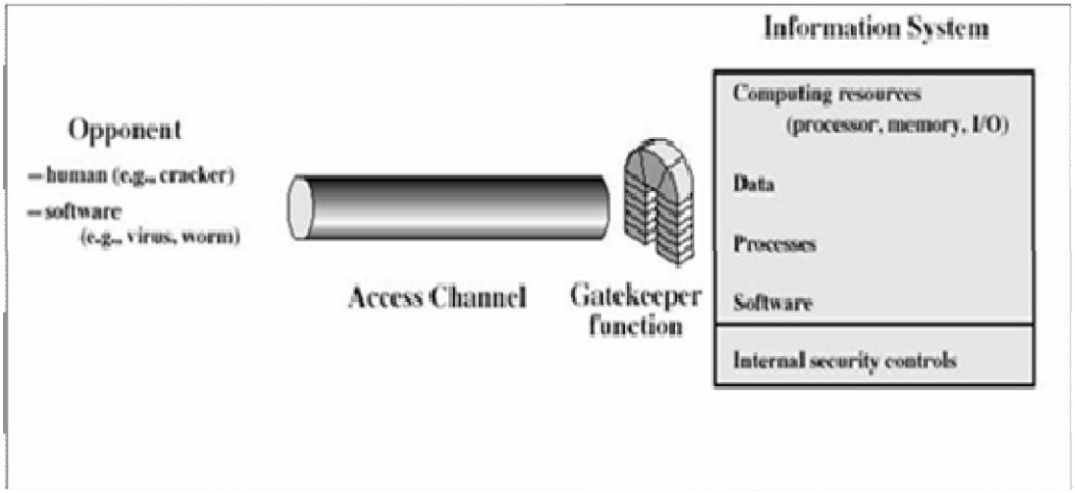


A message is to be transferred from one party to another across some sort of internet. The two parties, who are the principals in this transaction, must cooperate for the exchange to take place. A logical information channel is established by defining a route through the internet from source to destination and by the cooperative use of communication protocols (e.g., TCP/IP) by the two principals.

Using this model requires us to:

- design a suitable algorithm for the security transformation
- generate the secret information (keys) used by the algorithm
- develop methods to distribute and share the secret information
- specify a protocol enabling the principals to use the transformation and secret information for a security service

MODEL FOR NETWORK ACCESS SECURITY



Using this model requires us to:

- select appropriate gatekeeper functions to identify users
- implement security controls to ensure only authorized users access designated information or resources
- Trusted computer systems can be used to implement this model

Reference-

1. **Book:** William Stallings, "Cryptography & Network Security", Pearson Education, 4th Edition 2006.

QUESTIONS: -

Q1. What are two types of key algorithms?

Q2. Explain and draw a diagram of security model.

Q3. What are the requirements of designing a cryptographic algorithm?

Q4. What is the model of network access security?

Next, we will discuss about Conventional Encryption.

- Academic Day ends with-

  National song ‘Vande Mataram’