



SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NAAC-UGC with 'A' Grade

Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai

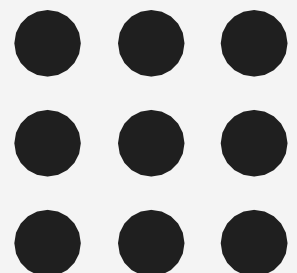
DEPARTMENT OF INFORMATION TECHNOLOGY

Course Code and Name : 19IT602– CRYPTOGRAPHY AND CYBER SECURITY

III YEAR / VI SEMESTER

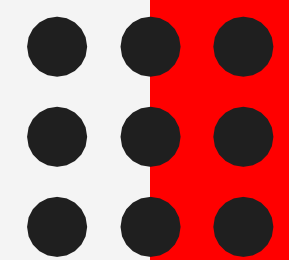
Unit 1: INTRODUCTION TO NETWORK AND CYBER SECURITY

Topic 1: Security Attacks, Services and Mechanisms

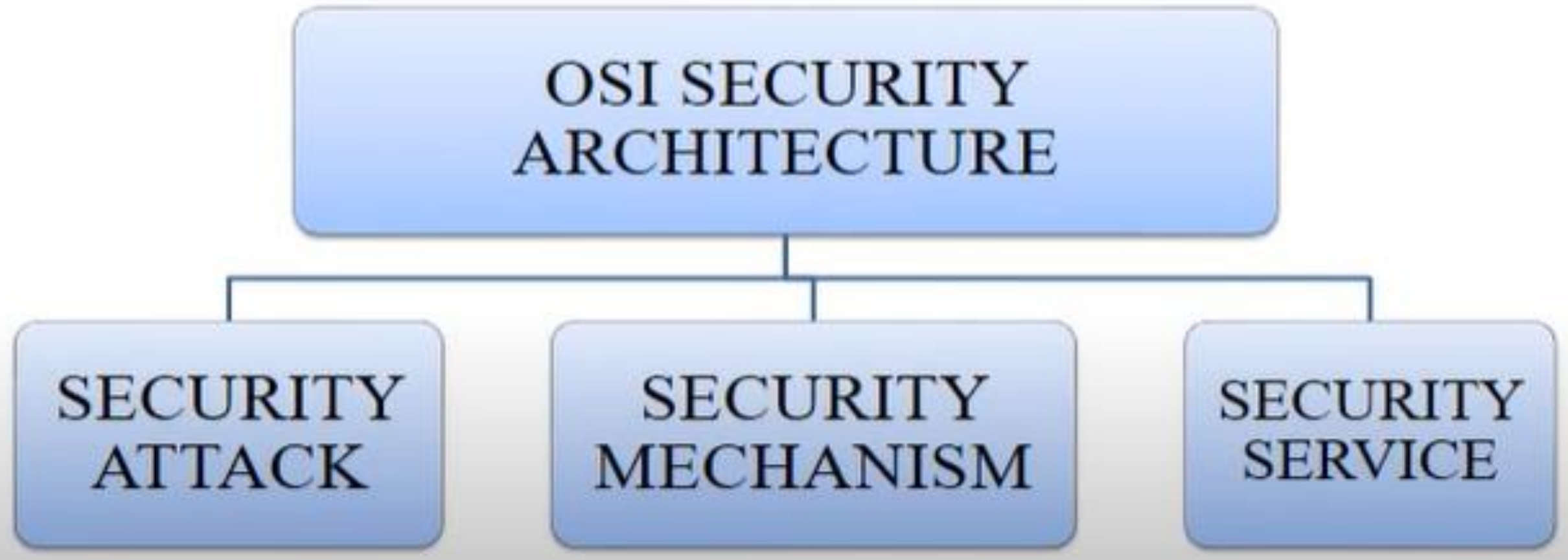




Security Attacks, Services and Mechanisms

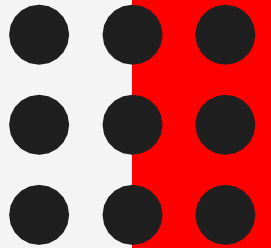


CLASSIFICATION OF OSI SECURITY ARCHITECTURE:





Security Attacks, Services and Mechanisms



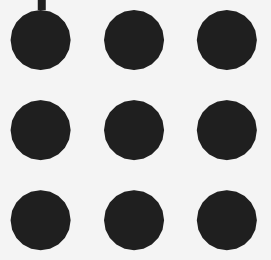
- ▶ Security attack
 - ▶ Any action that compromises the security of information owned by an organization
- ▶ Security mechanism
 - ▶ A process (or a device incorporating such a process) that is designed to detect, prevent, or recover from a security attack
- ▶ Security service
 - ▶ A processing or communication service that enhances the security of the data processing systems and the information transfers of an organization
 - ▶ Intended to counter security attacks, and they make use of one or more security mechanisms to provide the service



2) SECURITY MECHANISM

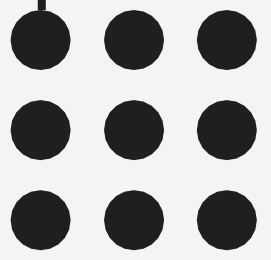
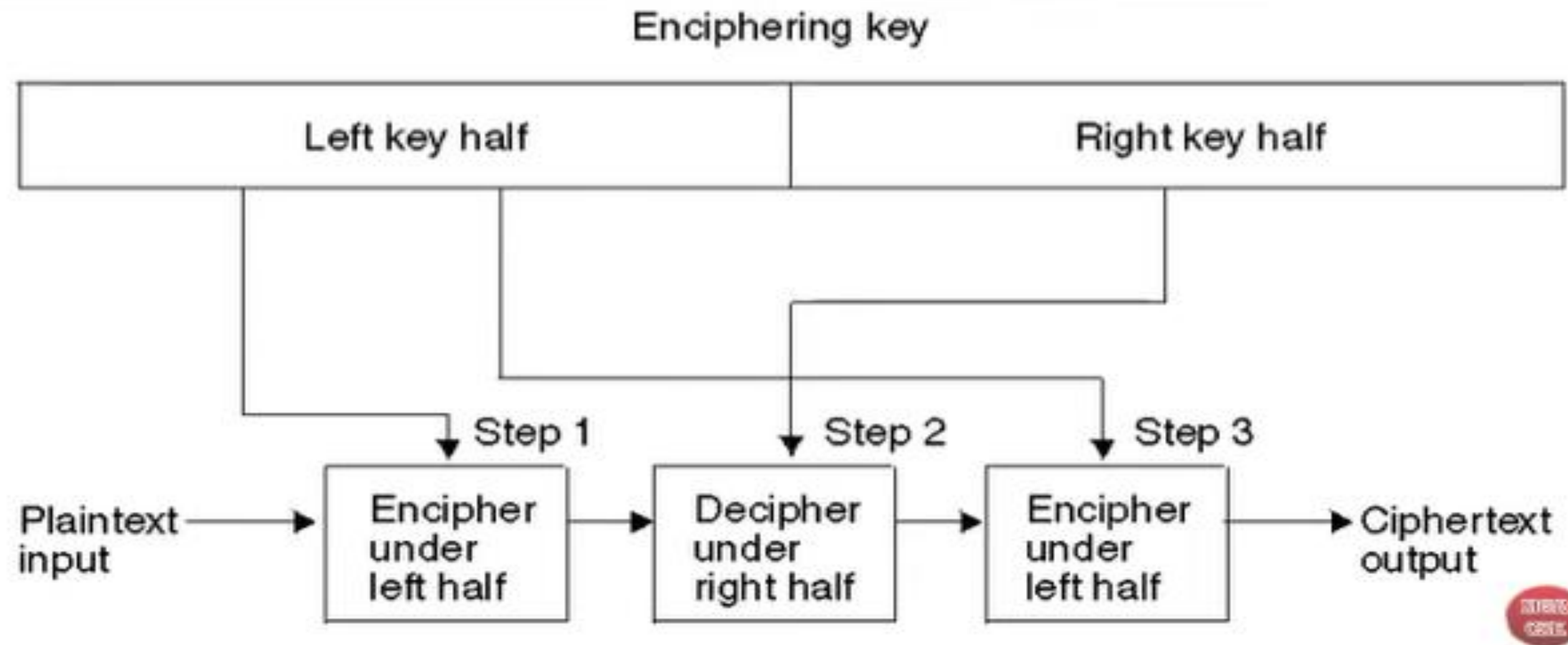


Security architecture



a) ENCIPHERMENT

➤ THE MATHEMATICAL ALGORITHM IS USED TO TRANSFORM DATA INTO ANOTHER FORM WHICH IS NOT INTELLIGIBLE



b) DIGITAL SIGNATURE

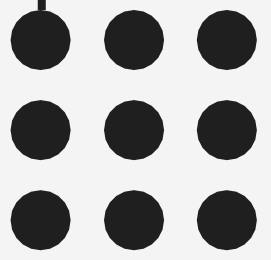
➤ DATA IS APPENDED TO PROVE THAT THE SOURCE IS THE ONE WHICH HAS SENT THE DATA AND PROTECT AGAINST FORGERY

Digital Signature



c) ACCESS CONTROL

➤ PROVIDES THE ACCESS RIGHTS TO RESOURCES





References



- William Stallings, Cryptography and Network Security: Principles and Practice, PHI 3rd Edition, 2006.
- Behrouz A. Foruzan, Cryptography and Network Security, Tata McGraw Hill 2007.