Introduction to Cryptography

A Seminar Report

Submitted to the APJ Abdul Kalam Technological University

in partial fulfillment of requirements for the award of degree

Bachelor of Technology

in

Computer Science Engineering

by

Bijin Benny

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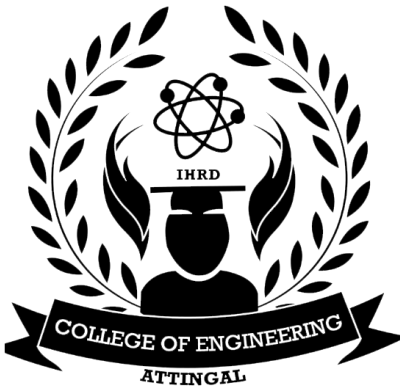

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

COLLEGE OF ENGINEERING ATTINGAL

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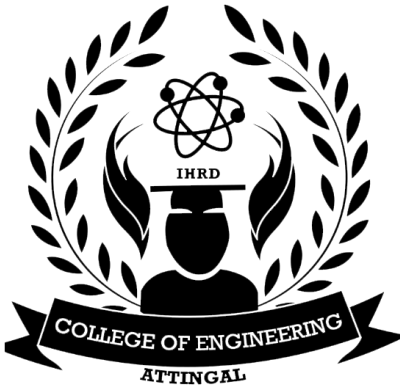

CERTIFICATE

This is to certify that the report entitled **Introduction to Cryptography** submitted by **Bijin Benny** (CEA19CS018), to the APJ Abdul Kalam Technological University in partial fulfillment of the B.Tech. degree in Computer Science Engineering is a bonafide record of the seminar work carried out by him under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

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DECLARATION

I Bijin Benny hereby declare that the seminar report **Introduction to Cryptography** , submitted for partial fulfillment of the requirements for the award of degree of Bachelor of Technology of the APJ Abdul Kalam Technological University, Kerala is a bonafide work done by me under supervision of MS. Syama S.R

This submission represents my ideas in my own words and where ideas or words of others have been included, I have adequately and accurately cited and referenced the original sources.

I also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree, diploma or similar title of any other University.

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21-12-2022

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Abstract

Cryptography is where security engineering meets mathematics. It provides us with the tools that underlie most modern security protocols. It is probably the key enabling technology for protecting distributed systems, yet it is surprisingly hard to do right. Cryptography has often been used to protect the wrong things, or used to protect them in the wrong way. There are a number of cryptographic primitives—basic building blocks, such as block ciphers, stream ciphers, and hash functions. Block ciphers may either have one key for both encryption and decryption. I start with basic concepts of cryptography and move towards its history. Main concentration is on various algorithms including DES, RSA. Here we also discussed cryptographic hash functions-MD family, SHA family and RIPEMD, BLAKE.

The art of cryptography is considered to be born along with the art of writing. As civilizations evolved, human beings got organized in tribes, groups, and kingdoms. This led to the Emergence of ideas such as power, battles, supremacy, and politics. These ideas further fueled the natural need of people to communicate secretly with selective recipient which in turn ensured the continuous evolution of cryptography as well.

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Acknowledgement

I take this opportunity to express my deepest sense of gratitude and sincere thanks to everyone who helped me to complete this work successfully. I express my sincere thanks to **Ms. Suma M.S**, Head of Department, Computer Science Engineering, College of Engineering Attingal for providing me with all the necessary facilities and support.

I would like to express my sincere gratitude to **Ms. Remya R.S** and **Prof. Seminar coordinator 2**, department of Computer Science Engineering, College of Engineering Attingal for their support and co-operation.

I would like to place on record my sincere gratitude to my seminar guide **MS. Syama S.R**, Assistant Professor, Computer Science Engineering, College of Engineering Attingal for the guidance and mentorship throughout the course.

Finally I thank my family, and friends who contributed to the successful fulfilment of this seminar work.

Bijin Benny

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Chapter 1

Introduction

There are many aspects to security and many applications, ranging from secure commerce and payments to private communications and protecting passwords. One essential aspect for secure communications is that of cryptography

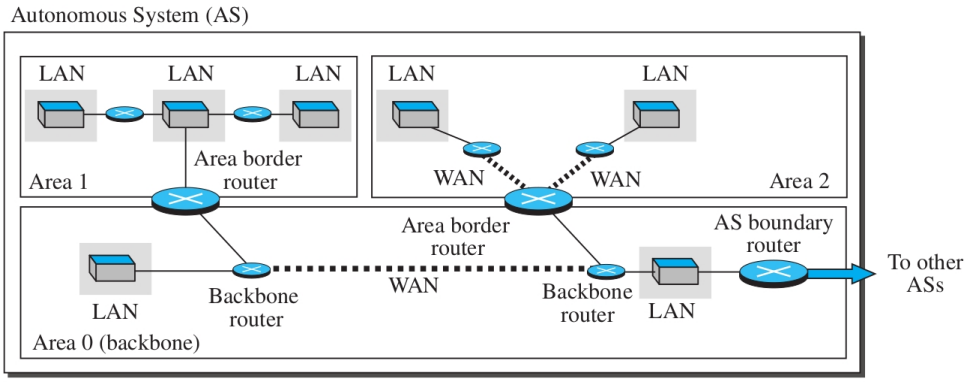

Figure 1.1: Autonomous System Hierarchy

1.1 section1

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1.1.1 title 2

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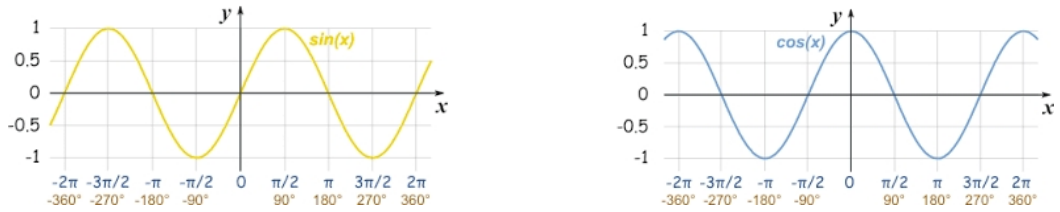
The system is described by the equation 1.1 below. Here y is the ordinate and x is the abscissa , m is the slope and c a constant.

$$y = mx + c \tag{1.1}$$

Page centered and unnumbered multiple equations. The * symbol supresses equation numbering.

$$2x - 5y = 8$$
$$3x + 9y = -12$$

Side by side figures can be created using this environment. See fig 1.2 below.



(a) Sine Wave (b) Cosine Wave

Figure 1.2: The Sine and Cosine waves

Chapter 2

Results

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Table 2.1: test table

Sl. No	Item 1	Itm 2
1	37	45
2	42	23
3	47	1
4	52	-21
5	57	-43
6	62	-65
7	67	-87
8	72	-109
9	77	-131
10	82	-153

Chapter 3

Conclusion

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