

# RSA and El-Gamal Cryptosystems

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**Abstract**—In this paper we discuss the RSA and El-Gamal cryptosystem. Alongside we introduce our way of implementing them in Python and C.

**Keywords**—RSA, El-Gamal, Implementation, Public Key, Cryptosystem

## 1 INTRODUCTION

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mds  
January 11, 2007

### 1.1 Subsection Heading Here

Subsection text here.

## 2 PUBLIC KEY CRYPTOSYSTEM

PKCS

### 2.1 More Details

Some problems with this template...I mean, the subsubsection part.

## 3 RSA

This is just another testing case.

## 4 EL-GAMAL CRYPTOSYSTEM

Let the hunt begin.  
n nvKJASHF [1].

### 4.1 Background

Discrete logarithm problem will be discussed here.

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### 4.2 Basic El-Gamal Encryption

Well, I really want to finish those stuff as soon as possible. In this way I have to abort something else.

### 4.3 Generalized El-Gamal Encryption

Life is so damn hard. Isn't it? Just another

### 4.4 El-Gamal in Digital Signature

### 4.5 Some Possible Attacks

## 5 IMPLEMENTATION

Implementation process will be discussed here. Let the hunt begin [2].

### 5.1 RSA

### 5.2 El-Gamal

## 6 CONCLUSION

Conclusion and Contributions.

## APPENDIX A

### PROOF OF THE FIRST ZONKLAR EQUATION

Appendix one text goes here.

## APPENDIX B

### SOME RELATED MATH STUFF WILL BE DISPLAYED HERE

Appendix two text goes here.

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- [1] W. Diffie and M. Hellman, "New directions in cryptography," *Information Theory, IEEE Transactions on*, vol. 22, no. 6, pp. 644–654, 1976.
- [2] T. Elgamal, "A public key cryptosystem and a signature scheme based on discrete logarithms," *Information Theory, IEEE Transactions on*, vol. 31, no. 4, pp. 469–472, 1985.

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