


Course Title: Information Security Principles
Date: 25 /05/2013
No. of Questions: 3 Questions
Time: 120Min
Using Calculator (Yes)

University of Palestine

Final Exam
2nd semester 2012/2013
Total Grade: 60

Instructor Name: Eng. Eman Alajrami
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

First Question	No. of Branches (5)	5 marks
----------------	---------------------	---------

Define the following:

1. AES

.....
.....

2. Invisible watermarking

.....
.....

3. Steganography

.....
.....

4. MAC

.....
.....

5. DAA

.....
.....

Second Question	No. of Branches (7)	35 marks
-----------------	---------------------	----------

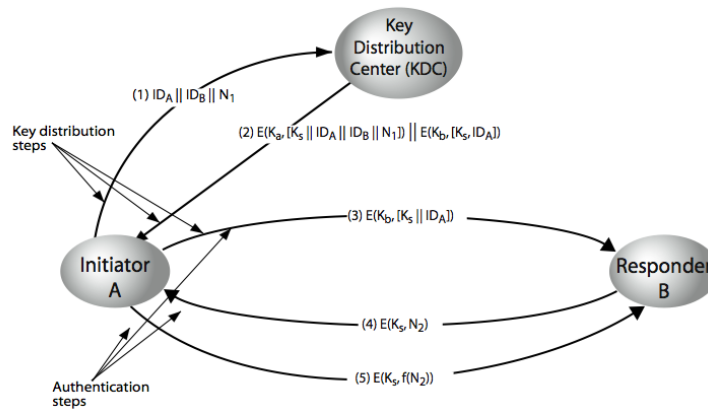
1. Why AES is more secure than DES ?

.....
.....
.....
.....
.....

2. What are the main steps in each round in AES? How many rounds are used? What is the perfect size of block and the key? And how the final round differs from the others?

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

3. Explain in details how the following Key Distribution Scenario work?



**4. In RSA if the private key (e) is 7 and public key (d) is 13 how can you send the following message using confidentiality and authentication at the same time?
The message is " Exam" and the letters numeric presentation is from 0 to 25.**

Course Title: Information Security Principles

Date: 25 /05/2013

No. of Questions: 3 Questions

Time: 120Min

Using Calculator (Yes)

University of Palestine



Final Exam

2nd semester 2012/2013

Total Grade: 60

Instructor Name: Eng. Eman Alajrami

Student No.: _____

Student Name: _____

College Name: _____

Dep. / Specialist: _____

Using Dictionary (No)

5. a) Explain how can you use Least Significant Bit method in steganography by the following example: **Data to be inserted: character 'E'**

Host pixels: 3 pixel

00100111	11101001	11001000
00100111	11001000	11101001
11001000	00100111	11101001

How the average of the pixels actually changes from 0-1 or 1-0?

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

b) I the host pixel is one pixel which is the first, how can you solve the above question?

Host pixel: a pixel in RGB 24 bit/pixel

00100111	11101001	11001000
----------	----------	----------

.....

.....

.....

.....

.....

.....

6. Describe how sacrificing 2 bits of cover to carry 2 bits of secret image will affect both the cover and the secret image? What will happen if the sacrificing handled for 5 bits??

.....

.....

.....


.....

.....

.....

.....

Course Title: Information Security Principles
Date: 25 /05/2013
No. of Questions: 3 Questions
Time: 120Min
Using Calculator (Yes)

University of Palestine

Final Exam
2nd semester 2012/2013
Total Grade: 60

Instructor Name: Eng. Eman Alajrami
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

The following questions are only for the students who didn't attend the mid exam

1. Using the keyword " *Private* ", Encrypt the following message according to Vigenère cipher

Plain Text : " What an easy exam!"

(10 marks)

2. How S-Boxes work in DES? **(10 marks)**

Good Luck