

1096

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(b) MEGHRAJ

(c) Government E-Marketplace

(d) IHIP

(e) Mobile Seva App Store

[This question paper contains 8 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1096

H

Unique Paper Code : 32345402

Name of the Paper : Information Security &  
Cyber Laws

Name of the Course : **Computer Science: Generic  
Elective for Honours**

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. The paper has **two** sections.
3. **Section A** is compulsory.
4. Attempt any **four** questions from **Section B**.
5. Part of a question must be answered together.

(1500)

P.T.O.

## SECTION A

1. (a) Define Cryptanalysis, Cryptography and cryptology. (3)
- (b) What are the three goals of data security? (3)
- (c) List four guidelines for password selection. (4)
- (d) What do you understand by plaintext and ciphertext in encryption? Who will use them and how while communicating? Demonstrate using a diagram. (4)
- (e) What is an internal threat? How is it different from external threat? Give example. (4)
- (f) Given the following plaintext and ciphertext, identify along with justification whether a

6. (a) What do you mean by IDS? How is it different from firewall? Differentiate signature based IDS and anomaly based IDS. (6)
- (b) What is the name of first super computer of India? Where it was developed? Explain National Supercomputing Mission. (4)
7. (a) Explain the difference between packet filters and application layer proxy firewalls. Can a stateless firewall block TCP connection initiation requests from an external location to any local host? (6)
- (b) Describe any two types of software attacks. (4)
8. Briefly explain the following : (10)
- (a) DIGILOCKER

4. Write short notes on the following : (10)

(a) Authentication

(b) One Time passwords

(c) Program Threats

(d) System Threats

(e) Computer Security Classifications

5. (a) Describe section 66B, 66C and 66F of IT ACT 2008. Explain the penal provisions for the same. (6)

(b) What is the difference between public key encryption and private key encryption? (4)

substitution cipher is used or a transposition cipher for encrypting the text : (4)

(i) Plaintext – HOW ARE YOU

Ciphertext – JQY CTG AQW

(ii) Plaintext – HOW ARE YOU

Ciphertext – HWRUOAEQ

(g) What is passive attack? For securing a computer system from passive attacks, which method would you prefer prevention or detection? Give reason. (4)

(h) (i) Which attack uses IP packets to 'ping a target system with an IP size over the maximum of 65,535 bytes?

- (ii) Name a type of malicious software that is appended to an application and is triggered by a specific occurrence, such as a logical condition or a specific date and time.
- (iii) Name the attack by which an attacker executes malicious SQL queries on the backend database by manipulating the input to the application. (3)
- (i) Define digital signatures under the provision of the IT Act 2008 with an example. (2)
- (j) What do you mean by risk management? Explain the three strategy for dealing with the risk. (4)

**SECTION B**

2. (a) Describe at least two ways of breaking a Caesar cipher on an English-language message. Encrypt the message "I AM A STUDENT OF UNIVERSITY OF DELHI" using Caesar cipher with key size 5. (5)
- (b) Encrypt the message "I AM A STUDENT OF UNIVERSITY OF DELHI" using Rail fence technique by using 3 rails. (5)
3. (a) Who is a hacker? Define various types of hackers. (6)
- (b) What are DoS Attacks? Explain any two types of DoS attacks. (4)