17518

Instructions – (1) All Questions are *Compulsory*.

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) **Attempt any <u>THREE</u> of the following :**   **12**

(i) Define information. State need and importance of information.

(ii) State the meaning of information security and risk management with example.

(iii) Define cryptography. Explain applications of cryptography. (Any three points)

(iv) Define cyber crime. How it is different from other crimes.

b) **Attempt any <u>ONE</u> of the following :**   **6**

(i) Explain importance of pillars of information security.

(ii) Explain different information security policies and guidelines.

Marks

2. **Attempt any TWO of the following :** 16

    a) Explain basic principles of information security.

    b) Explain any two substitution cipher you have studied.

    c) List and explain different data recovery tools with example.

3. **Attempt any FOUR of the following :** 16

    a) Define the term confidentiality. Explain with example.

    b) Mention and explain any two classical encryption techniques.

    c) Mention and explain integrity model.

    d) Explain row transposition cipher with example.

    e) Explain the importance of Intellectual property laws.

4. a) **Attempt any THREE of the following :** 12

    (i) Explain different security standards.

    (ii) Describe TCSEC.

    (iii) Define physical access control and mention physical access threats.

    (iv) Explain the meaning of Stegnography and Digital signature. Give example.

    b) **Attempt any ONE of the following :** 6

    (i) List different authentication protocols and explain any two in detail.

    (ii) Explain one time Pad cipher and Hill cipher with example.

Marks

5. **Attempt any TWO of the following :** 16

   a) How do you recover the data in below situations

      (i) Deleted file recovery

      (ii) Formated partition recovery

   b) Explain following with their usage

      (i) Karberos

      (ii) Biometrics

   c) List different compliance standards used in information security. Explain any two standards in detail.

6. **Attempt any FOUR of the following :** 16

   a) List different types cyber crimes. Explain any two in detail.

   b) Explain remote user access and authentication with example.

   c) Describe BIBA model of security.

   d) Describe ITSEC with its classes.

   e) Describe Symmetric and Asymmetric Cipher : Give example.

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