22620

23124
3 Hours / 70 Marks

Seat No. | | | | | | | | |

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

Marks

1. Attempt any FIVE of the following : **10**

(a) List any four virus categories.

(b) List any four biometric mechanisms.

(c) Define the following terms :

(i) Cryptography

(ii) Cryptanalysis

(d) Give examples of Active & Passive Attacks (two each).

(e) State the two types of firewall with its use.

(f) List two protocols in IP Sec. State its function.

(g) Classify the following cyber crime :

(i) Cyber terrorism against a government organization

(ii) Cyber – Stalking

(iii) Copyright infringement

(iv) Email harassment

2. Attempt any THREE of the following : **12**

(a) Explain basic principles of information security.

(b) Explain any two password attacks.

(c) Describe digital signature technique using message digest.

(d) Explain steganography technique with an example.

3. Attempt any THREE of the following : **12**

(a) Describe :

(i) Piggybacking

(ii) Dumpster diving

(b) Consider plain text "CERTIFICATE" and convert it into cipher text using Caesar Cipher with a shift of position 4. Write steps for encryption.

(c) State the use of packet filters. Explain its operation.

(d) State the features of (i) DAC (ii) MAC.

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

(a) Convert the given plain text into cipher text using simple columnar technique using the following data :

- Plain text : NETWORK SECURITY
- Number columns : 06
- Encryption key : 632514

(b) State the working principle of application gateways. Describe circuit gateway operation.

(c) Describe DMZ with an example.

(d) State the use of Digital Certificates. Describe the steps for digital certificate creation.

(e) Considering DES, find the output of the initial permutation box when the input is given in hexadecimal as, 0×0000 0080 0000 0002

5. Attempt any TWO of the following : **12**

(a) State the criteria for information classification. Explain information classification.

(b) State the features of the following IDS :

(i) Network based IDS

(ii) Host based IDS

(iii) Honey pots

(c) Explain step-by-step procedure of Kerberos with diagrams.

6. Attempt any TWO of the following : **12**

(a) Explain the following attacks using an example :

(i) Sniffing (ii) Spoofing (iii) Phishing

(b) Describe ITIL framework with different stages of life cycle.

(c) State and explain 3 types of firewall configurations with a neat diagram.
