2017

MCA

5th Semester Examination

CRYPTOGRAPHY & STEGANOGRAPHY

PAPER—MCA 505

Subject Code—32

Full Marks : 100

Time : 3 Hours

The figures in the right hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Group-A

(Cryptography)

[Full Marks : 35]

Answer Q. No. *1* and any *three* from the rest.

1. Answer any *five* from the following :   5 × 1

   (a) What is snooping ?

   (b) What is spoofing ?

   (c) Define Kerckhoff's principle.

   (d) What do you mean by Monoalphabetic substitution cipher ?

(e) What do you mean by block cipher ?

(f) Define Diffusin ?

(g) What is Feistel ciphers ?

2. (a) What do you mean by Cryptanalysis attacks ?　　2

   (b) Explain different types of Cryptanalysis attacks.　　4

   (c) Define and explain caesar cipher.　　4

3. (a) How playfair cipher works ?　　3

   (b) What is hill cipher and one time pad ?　　4

   (c) What is P-Box ? Explain different types of P-Box.　　3

4. (a) Discuss key expansion and compressed permutation of DES.

   (b) What is done in one round of DES ?　　5+5

5. Discuss AES encryption scheme in details.　　10

6. Write short notes on any *two* :　　2×5

   (a) RSA cryptosystem ;

   (b) S-Box ;

   (c) Product cipher.

[Internal Assessment : 15 Marks]

Group-B

(Steganography)

[Full Marks : 35]

Answer Q. No. 7 and any *three* from the rest.

7. Answer any *five* :   5×1

  (a) What is steganography ?

  (b) What is Water marking ?

  (c) What do you mean by perceptability in steganography ?

  (d) List the activity of active steganolyst.

  (e) What is Pseudo Random Number Generater (PRNG) ?

  (f) What do you mean by staganysis ?

  (g) What is DCT ?

8. Write and explain the Jsteg algorithm for data encoding and decoding.   5+5

9. (a) Differentiate between spatial and Freanns Domain Steganograph.

  (b) Define Robustness and Perceptibility.

  (c) Discuss Active and Passive attack.   2+4+4

(Turn Over)

10. Write the F4 algorithm for data enbelling and data extraction.

5+5

11. Write the encoding and decoding process of F3 algorithm. What are the draw basis of F3 algorithm ?   8+2

12. Write the following difference (any *two*) :   2×5

   (a) Differenciate between steganography and emptography.

   (b) Differenciate between steganography and Watermarking.

   (c) Differenciate between Roburtness and Perceptibility.

[Internal Assessment : 15 Marks]