No. of Printed Pages : 03 **Roll No. .....**

18AA1008

M.Tech. EXAMINATION, May 2019

(First Semester)

(C Scheme) (Re-appear)

(CSE)

MTCSE529C

STEGANOGRAPHY AND DIGITAL WATERMARKING

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What is Digital Signature Algorithm ? Explain in detail how a DSA works. **15**

2. (a) Explain what a PKI is and explain the mandatory fields of an X.5 09v3 certificate. **6**

(b) Why should you include a message authentication code (MAC) with a message ? What is the difference between a MAC and HMAC ? **9**

Unit II

3. What is Steganography ? Explain the steganography techniques :

(a) Substitution Systems

(b) Spatial Domain

(c) Transfer Domain. **15**

4. Describe a framework for secured communication of data through images using steganography. **15**

Unit III

5. What is Image Steganography ? Write and explain an algorithm used for image steganography. **15**

6. Explain the 6th and 7th bit method for hiding information in images. What are its advantages and disadvantages ? **15**

Unit IV

7. How is watermarking different from steganography ? Explain the spread spectrum and quantization schemes for embedding watermarks into the host content. **15**

8. What is Copyright Protection ? What watermaking techniques are provided for copyright protection ? Can encryption and digital watermaking techniques be combined to provide the security and copyright protection of still image ? If yes, how ? **15**