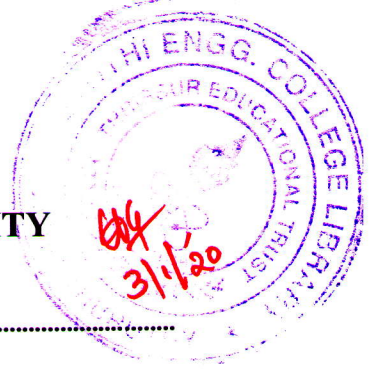


**APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
08 PALAKKAD CLUSTER**



Q. P. Code : CSP0819221D-I

(Pages: 2)

Name:

Reg. No:.....

THIRD SEMESTER M.TECH. DEGREE EXAMINATION December 2019

**Branch: Electronics & Communication Engineering Specialization: Communication Engineering
& Signal Processing**

08EC7221(D) INFORMATION HIDING & DATA ENCRYPTION

(Common to Communication Engineering and Signal Processing and Electronics & Communication Engineering)

Time:3 hours

Max. marks: 60

Answer all six questions.

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q.no.	Module 1	Marks
1.a	Give a brief description on information security.	3
	Answer b or c	
b	Give a detailed account on relevant applications of watermarking.	6
c	Explain in detail about digital rights management.	6
Q.no.	Module 2	Marks
2.a	Give a brief account on data hiding in text.	3
	Answer b or c	
b	Compare and contrast between watermarking and cryptography.	6
c	Give a detailed account on watermarking with side information.	6
Q.no.	Module 3	Marks
3.a	Give a brief explanation on information hiding.	3
	Answer b or c	
b	Explain image steganography based on DCT algorithm for data hiding.	6

c Explain digital watermarking using discrete wavelet transform. **6**

Q.no. **Module 4** **Marks**

4.a Briefly explain the process involved in watermark detection. **3**

Answer b or c

b Explain blind methods for recovery of embedded data. **6**

c Explain detection theoretic and information theoretic approach in watermark detection. **6**

Q.no. **Module 5** **Marks**

5.a Explain WSNR in steganography. **4**

Answer b or c

b Explain statistical based techniques for steganalysis. **8**

c Give a detailed account on robustness measure of recovered data. **8**

Q.no. **Module 6** **Marks**

6.a Explain cryptography and mention some cryptographic techniques to encrypt data. **4**

Answer b or c

b Explain in detail about embedding and extraction of watermarks, with relevant algorithms. **8**

c Give a detailed account on watermarking with visual cryptography. **8**