LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc.DEGREE EXAMINATION –**COMPUTER SCIENCE**

THIRD SEMESTER – **APRIL 2019**

16/17PCS3MC02– DIGITAL IMAGE PROCESSING

Date: 09-04-2019   Dept. No.   Max. : 100 Marks

Time: 09:00-12:00

PART-A

Answer All the Questions.   **10 X 2=20**

1. Define D_4 and D_8 distance.
2. Write the properties of Walsh Transform?
3. Mention the application of image subtraction.
4. Define Ideal filter.
5. What is meant by image restoration?
6. What is Blind image restoration?
7. Define compression ratio.
8. List out the types of redundancy.
9. What is signature?
10. Write the different method of regions descriptors.

PART- B

Answer All the Questions   **5 X 8=40**

11 a) Elaborate the Fourier transformation and its concepts with an example.

(OR)

b) Write short notes on:
    (i) Adjacency (ii) Connectivity (iii) Distance measures.

12 a) Explain the following operations:
    (i)   Contrast stretching   (ii) Bit plane slicing.

(OR)

b) Explain the method of smoothing filters with its applications.

13 a) Draw and explain model of the image degradation process.

(OR)

b)Compare image restoration and image enhancement with an example.

14 a) Discuss the Huffman technique in Error free compression with an example.

(OR)

b) Explain the encoding technique of JPEG compression.

15 a) Explain in detail any two boundary representation.

(OR)

b)Describe the regional descriptors in image processing.

PART-C

Answer any TWO questions   **(2 X20=40)**

16 a) Discuss the basic geometric transformation used in image processing.
    b)   Discuss the enhancement techniques of digital images using point processing.

17 a) Explain different noise models and pdf with neat diagram.
    b) Discuss the following compression technique.
        (i) Bit plane coding   (ii) Predictive coding.

18 a) Discuss the different boundary descriptors in image processing.
    b) Describe the lossless predictive coding of compression with neat diagram.

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