LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

THIRD SEMESTER – **NOVEMBER 2019**

16/17/18PCS3MC02 – DIGITAL IMAGE PROCESSING

Date: 31-10-2019 Dept. No. Max. : 100 Marks

Time: 09:00-12:00

PART-A

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

1. Define connectivity.
2. Write the application of discrete cosine Transform.
3. Define Image negatives.
4. List out different types of filters
5. Write the primary sources of noises.
6. What is Blind image restoration?
7. Define relative data redundancy.
8. Draw the image compression model.
9. Write the purpose of chain codes in representation schemes.
10. Define Texture.

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) Neighbors of a pixel (ii) Adjacency (iii) Distance measures

12 a) Explain the following operations:

(i) Contrast stretching (ii) Image subtraction.

(OR)

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

13 a) Explain image degradation process model with its property

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 about the encoding and decoding technique of JPEG compression

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15 a) Explain in detail any two boundary representation.

OR

b) Describe the regional descriptors in image processing.

PART-C

Answer any TWO **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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