# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

THIRD SEMESTER – **APRIL 2022**

**PCS 3502 – DIGITAL IMAGE PROCESSING**

Date: 15-06-2022 Dept. No. Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

## PART- A

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

1. Define Digital image.
2. List out any four transformations.
3. Write any two applications of image subtraction.
4. Define Ideal filter.
5. What is noise?
6. What is Blind image restoration?
7. Define compression ratio.
8. List out the types of redundancy.
9. What is a signature in image representation?
10. Define texture.

## PART- B

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

11 a) Explain the concepts of Fourier transformation.

OR

b) Write short notes on:
(i) Adjacency (ii) Connectivity

12 a) Explain the contrast stretching operation with a diagram.

OR

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

13 a) Elaborate image degradation model with neat diagram..

OR

b) Compare image restoration and image enhancement.

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 representations.

OR

b) Describe the regional descriptors in image processing.

## PART-C

**Answer any TWO** **(2 X 20=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 any three noise models with its application and diagram

b) Discuss the Predictive coding technique.

18 a) Discuss the different boundary descriptors in image processing.

b) Compare and explain different types of compression techniques.

@@@@@@@