



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – COMPUTER SCIENCE

SECOND SEMESTER – APRIL 2014

CS 2955 - DIGITAL IMAGE PROCESSING

Date : 08/04/2014
Time : 09:00-12:00

Dept. No.

Max. : 100 Marks

PART-A

Answer All the Questions.

10 X 2=20

1. What is quantization?
2. Write the conditions for separable and symmetric of forward kernel.
3. Write the principle objective of Enhancement
4. Define High-boost filtering.
5. What is rubber sheet transformation?
6. Name the basic operation of geometric transformation in terms of digital image processing
7. Define Delta modulation
8. What is bit allocation?
9. List out the operators used for edge detection.
10. What is convex deficiency of the set?

PART-B

Answer ALL the questions.

5 X 8 = 40

- 11 a) Explain the basic relationship between pixels in detail.

OR

b) Develop FFT algorithm using successive doubling method.

- 12 a) Elaborate the enhancement techniques using simple intensity transformation.

OR

b) Discuss the smoothing filter and sharpening filter

- 13 a) Compare image restoration and image enhancement with an example

OR

b) Discuss the algebraic approach of degradation model

- 14 a) Develop DPCM using Lossy predictive coding.

OR

b) Elaborate the transform coding technique in Lossy compression

- 15 a) Discuss the approach of thresholding in segmentation.

OR

b) Explain all the boundary descriptors in detail.

PART-C

Answer any two

2 X 20= 40

- 16 a) Explain the basic transformation in world co-ordinates.
b) Discuss about the properties of 2D-Fourier Transformation
- 17 a) Explain the concept of enhancement in the frequency domain.
b) Explain the technique least squares(Wiener) filter restoration
- 18 a) Discuss the Error free compression Techniques in Digital image processing
b) Describe the representation approaches of segmented image
