LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION - **COMPUTER SC.**

SECOND SEMESTER – **APRIL 2013**

CS 2955 - DIGITAL IMAGE PROCESSING

Date : 07/05/2013 Dept. No. Max. : 100 Marks
Time : 9:00 - 12:00

Part A

Answer ALL questions **10 x 2 = 20**

1. What is the different between image and digital image?
2. Define resolution.
3. State the objective of Image Enhancement.
4. Define Histogram.
5. How a degradation process is modeled?
6. Give the relation for Exponential Noise.
7. What is Data Compression?
8. Define Decoder.
9. What are Chain codes?
10. Name any three Boundary Descriptors.

Part B

Answer ALL questions **5 x 8 = 40**

11 a) Describe the various steps involved in Digital Image Processing.

(OR)

b) Explain the properties of 2D Fourier Transform.

12 a) Illustrate the types of Gray level Transformations.

(OR)

b) Write detailed notes on Walsh Transform.

13 a) Explain the Image Degradation and Restoration process.

(OR)

b) Give brief notes on singular value decomposition with suitable diagram.

14 a) What is Lossless compression? Differentiate it from Lossy compression.

(OR)

b) What are Image compression standards? Describe any two of them.

15 a) Explain any 2 Edge detection techniques.

(OR)

b) What are Fourier Descriptors? Explain it with relevant equations.

Part C

Answer any TWO questions **2 x 20 = 40**

16 a) Describe the Elements involved in Digital Image Processing with neat diagram.

b) Explain FFT with its equations.

17 a) What are Homomorphic filters? Explain it with its applications.

b) Describe the Blind Image Restoration Technique.

18 a) Briefly explain the following Image representation techniques.

(i) Polygon approximation

(ii) Merging

(iii) Splitting.

(iv) Boundary segments.

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