LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECOND SEMESTER – **APRIL 2015**

CS 2955 - DIGITAL IMAGE PROCESSING

Date : 25/04/2015   Dept. No.   Max. : 100 Marks
Time : 01:00-04:00

PART - A

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

1. Write any two application areas of digital image processing.
2. State Walsh Transform.
3. Define Histogram.
4. What is the use of image subtraction?
5. What is meant by Image restoration?
6. Define Exponential Noise.
7. What is the difference between lossless and lossy Image Compression?
8. Define Decoder.
9. What are chain codes?
10. Specify various Polygon approximation methods.

PART –B

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

11 a) Specify the Various elements of Digital Image Processing with neat Diagram.
  (OR)
  b) Write short notes on Discrete Fourier Transforms.
12 a) Illustrate the types of Gray level Transformations.
  (OR)
  b) Explain Spatial Filtering in Image enhancement.

13 a) Briefly explain any 4 noise models with its equations.
  (OR)
  b) Describe about the Blind Image Restoration Technique.
14 a) Write about variable length coding in Lossless compression.
  (OR)
  b). Discuss about the Image compression standards JPEG and MPEG.
15 a) Explain any 2 Edge detection techniques.
  (OR)
  b) Explain the Topological Descriptors in detail.

PART - C

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

16 a) Describe the various steps involved in Digital Image Processing.
  b) Explain the Image sampling technique.

17 a) Write notes on image operations on pixel.
  b) Write notes on i) Vector Quantization ii)Wavelet Coding.

18 a) Describe the following methods used for Image segmentation
        (i) Region Based Segmentation. (10marks)   (ii) Thresholding.   (10marks)

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