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SV - 468

Total No. of Pages : 2

B.E. E & Tc (Part - IV) (Semester - VIII) Examination, May - 2018
DIGITAL IMAGE PROCESSING (Revised)

Sub. Code : 67818

Day and Date : Friday, 11 - 05 - 2018

Total Marks : 100

Time : 02.30 p.m. to 05.30 p.m.

- Instructions :**
- 1) All questions are compulsory
 - 2) Figures to the right indicate full marks.
 - 3) Assume suitable data if necessary.

Q1) Attempt any two of the following : [2 × 8 = 16]

- a) Explain with neat block schematic fundamental steps in Digital Image Processing.
- b) Discuss the basic concept of sampling and quantization of image to convert in digital form.
- c) Draw the structure of human eye and explain the elements of visual perception.

Q2) Attempt any two of the following: [2 × 8= 16]

- a) What is meant by histogram of an Image? Explain the significance of histogram equalization
- b) Explain arithmetic and logic operations for image enhancement.
- c) Explain power law transformation and log transformation with their characteristic curves.

Q3) Attempt any two of the following: [2 × 9 =18]

- a) Explain linear and non-linear smoothing filters in spatial domain for digital images.
- b) Explain low pass filters in frequency domain.
- c) Explain unsharp masking and high boost filtering in spatial as well as frequency domain.

Q4) Attempt any two of the following: [2 × 8= 16]

- a) Explain Opening operation along with example. Also state the use of opening operation in morphological image processing.

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- b) Explain Hit-or-Miss transform in detail.
- c) What is use of region filling algorithm? Explain the steps for region filling inside an object in an image with example.

Q5) Attempt any two of the following : [2 × 8 = 16]

- a) Explain Sobel and Prewitt operators for edge detection.
- b) What is global and adaptive thresholding, explain in detail
- c) Explain how to detect various types of discontinuities in an image?

Q6) Attempt any two of the following: [2 × 9 = 18]

- a) What is interpixel redundancy, explain with example.
- b) Explain fidelity criteria in detail.
- c) What is lossy predictive coding, explain in detail.

