R09

Code No: 57041

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, December - 2014

DIGITAL IMAGE PROCESSING

(Common to ECE, ETM)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

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1.a) Explain about the fundamental steps in digital image processing.
b) Explain the basic principle of Hotelling transform. What are its applications?

2.a) Define histogram in an image. Explain how histogram is useful in image enhancement.
b) Discuss about the spatial domain methods for image enhancement.

3.a) What is an image filter? Discuss about ideal high pass filter.
b) Explain about smoothing and sharpening methods in frequency domain.

4.a) Compare the least mean squares approach and constrained least squares restoration.
b) Explain in detail the interactive restoration of an image.

5.a) What are the derivative operators useful in image segmentation? Explain their role in segmentation.
b) Explain about basic global thresholding and basic adaptive thresholding processes used in image segmentation.

6.a) Define image compression. Explain about data redundancy.
b) Explain about Fidelity Criteria.

7.a) Explain about Continuous Wavelet Transform.
b) Explain how Wavelets can be used for denoising of images.

8.a) Explain about Strel function.
b) What is meant by Watermarking? Give an overview of Digital Image Watermarking Methods.

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