Code No: B0602 **NR**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech II Semester Examinations, October 2011
IMAGE PROCESSING
(DIGITAL SYSTEMS AND COMPUTER ELECTRONICS)

Time: 3hours **Max. Marks: 60**

Answer any five questions
All questions carry equal marks

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1. What is a Fourier transform? Discuss with an example how this is useful in image processing. [12]

2.a) What is meant by Histogram processing. Discuss with a suitable example how the Histogram matching is done.
b) List various smoothing frequency domain filters and explain any one of them.[12]

3.a) Discuss about CMY and CMYK color models.
b) Discuss about color slicing, tone and color corrections. [12]

4.a) What is meant by image restoration? Discuss about Algebraic approach to image restoration.
b) Discuss about spatial transformations and Gray – Level interpolation for image restoration. [12]

5.a) What is meant by image compression? What are the advantages and disadvantages of it?
b) Discuss about the source encoder and decoder. [12]

6.a) What is meant by Region – Based Segmentation? Discuss any two approaches for it.
b) Explain the canny edge detection with a suitable example. [12]

7.a) What is meant by shape numbers? Discuss it with a suitable example.
b) What are various Regional descriptors? [12]

8. Write short notes on the following
a) Hit – Miss Transformation
b) Dilation and Erosion
c) Image compression standards. [12]

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