

Code No: C0606

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech I Semester Examinations March/April 2011

IMAGE & VIDEO PROCESSING

(DIGITAL SYSTEMS & COMPUTER ELECTRONICS)

Time: 3hours

Max.Marks:60

Answer any five questions

All questions carry equal marks

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1. What is the role of Image transformations in Digital image processing? Explain OCT along with mathematical support. [12]
2. Illustrate the histogram equalization algorithm with numerical example and show how image details are improved with histogram equalization. [12]
3. Explain the color gamut. Show the mathematical model that converts HIS model to RGB model. [12]
4. What is image restoration? Explain the role of least mean square and constrained least mean square approaches for Image restoration. [12]
5. Distinguish between lossy and loss-less compression techniques. Explain the role of Huffman coding with an illustration. [12]
6. a) Explain about region growing based image segmentation method.
b) Compare and contrast region based segmentation methods. [12]
7. Distinguish between Erosion and Dilation? Discuss the conceptual significance of Opening and Closing. [12]
8. Write a short note on any **two**
 - a) Chain code, differential chain code
 - b) 3x3 masks for vertical, horizontal and diagonal line segments
 - c) Weiner filtering[12]
