R09

Code No: D5508, D5706
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech II - Semester Examinations, March/April 2011
IMAGE AND VIDEO PROCESSING
(COMMON TO EMBEDDED SYSTEMS, VLSI SYSTEM DESIGN)

Time: 3hours   **Max. Marks: 60**
Answer any five questions
All questions carry equal marks
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1. Explain in detail about the fundamental steps in Digital image processing.   [12]

2. Distinguish between image sharpening and smoothing. Explain any two techniques to achieve Image smoothing.   [12]

3. a) Explain the role of frequency domain techniques for image enhancement.
   b) What is histogram normalization? Explain how to achieve high contrast image using histograms.   [12]

4. a) Explain the image degradation model.
   b) Illustrate the Arithmetic, LIYV coding techniques.   [12]

5. What is the need of Video stabilization and explain the techniques to achieve the same.   [12]

6. a) Explain the 2D-motion estimation of video frames.
   b) Distinguish between pixel based motion estimation and Mesh based motion estimation Techniques.   [12]

7. Write short note on
       i) Predictive Wavelet coding
       ii) Bit-plane slicing in image enhancement   [12]

8. Define the terms   [12]
       i) Discrete Fourier Transformation
       ii) Laplacian operator with respect to image processing
       iii) Hit and Miss transform

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