

Code No: C5810**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****M.Tech I - Semester Examinations March/April-2011****IMAGE PROCESSING AND PATTERN RECOGNITION****(COMPUTER SCIENCE AND ENGINEERING)****Time: 3hours****Max.Marks:60****Answer any five questions****All questions carry equal marks**

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- 1.a) Specify the elements of DIP system? (6M)
- b) Explain image sampling and Quantization? (6M)

- 2.a) Explain image restoration in the presence of noise? (6M)
- b) Explain least mean square filter? (6M)

- 3.a) Define thresholding and explain the various methods of thresholding in detail? (6M)
- b) Discuss about region based image segmentation techniques. Compare threshold region based techniques. (6M)

- 4.a) Discuss the concept of Hit –Miss transformation. (6M)
- b) Explain about dilation and erosion. (6M)

- 5.a) Discuss about spectral approaches of texture? (6M)
- b) Discuss in detail structural approaches of texture? (6M)

- 6.a) Define and explain the various representation approaches? (6M)
- b) Explain Boundary descriptors. (6M)

- 7.a) Explain in detail about skeletons. (6M)
- b) Discuss the fundamental problems in pattern recognition system? (6M)

8. Explain the following concepts.
 - a) Histogram specification. (4M)
 - b) Applications of image processing. (4M)
 - c) Least mean square filter. (4M)

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