Code No. 3170

FACULTY OF INFORMATICS

B.E. 4/4 (IT) I-Semester (**Supplementary**) Examination, June / July 2011

Subject : **Digital Image Processing** (Elective – III)

Time : 3 Hours Max. Marks: 75

Note: Answer all questions from Part-A and answer any **Five** questions from Part-B.

PART - A (25 Marks)

1. What is luminance, brightness and contrast with reference to an image.
2. Write-down the 2-D Transform-pair.
3. Which spatial filter is used to detect the edge of an image?
4. Give the expression of Gaussian Low Pass filter.
5. Give the model of the image-degradation/restoration process.
6. Give the expression of Arithmetic mean filter.
7. Briefly explain the 'local processing' in image processing.
8. Give an expression of a region growing method of image-processing.
9. What is meant by Pseudo colour image processing?
10. List 2 names of image-compression techniques and explain one method in short.

PART - B (50 Marks)

11. Distinguish between uniform sampling and non-uniform sampling. What are the considerations in sampling of a continuous image to obtain a digital image without any aliasing effects?
12. Describe image modeling and representation in detail.
13. Explain neighbors of a pixel and connectivity between pixels with examples.
14. Describe how Homomorphic filtering can be used for image enhancement.
15. What is the purpose of a colour model? Explain the conceptual relationship between RGB and HIS colour models.
16. How the shape of an object can be detected using morphological transform? Explain with neat diagram.
17. Write short notes on any two of the following :

    a) Huffman coding
    b) Histogram equalization method of image enhancement
    c) Distinguish between image enhancement and image restoration