**MS 4E 34 (NS)**

### IV Semester M.Sc. (I.T.) Examination, June/July 2010
### IMAGE PROCESSING

Time : 3 Hours

Max. Marks : 75

*Instruction* : Answer **all** questions from Part – **A**, and answer **any five** questions from Part – **B**.

## PART – A

**(12×2+1×1=25)**

1. Define Preprocessing.

2. What are image digitations ?

3. What is parallel projection ?

4. Give the equations of Fourier transform.

5. Name the properties of 2D fourier transform.

6. What is geometric transformation ?

7. What is image smoothing ?

8. Mention the different classification of image processing.

9. List the different categories in gradient operators.

10. Define data redundancy.

11. Name the approaches that employ region growing technique.

12. Name one external and one internal characteristics of image.

13. Define image acquisition.

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## PART – B

Answer **any five** :                                                                      **(5×10=50)**

1.  Explain a detail note on digital image and its properties.

2.  a)  What is visual perception ? Explain.

    b)  Write a brief note on quad trees.

3.  Briefly explain :

    i)  Hadamard Transform

    ii) Discrete Cosine Transform.

4.  Explain different types of Local preprocessing techniques.

5.  Explain Discrete Fourier Transforms.

6.  Briefly explain the following :

    i)  Source encoder and decoder

    ii) Channel encoder and decoder.

7.  Explain different types of thresholding techniques.

8.  Explain chain coding and fitting line segmentations.

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