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DIGITAL IMAGE PROCESSING
ECE-403N

Time : Three Hours] [Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. Explain a typical Digital Image Processing block diagram. Discuss the various applications of Digital Image Processing in detail.

2. (a) Discuss Simultaneous Contrast and Mach Band effect of visual system.
   (b) Describe color representation model in color imaging system.

Unit II

3. (a) Discuss sampling theorem and explain Nyquist Rate, Aliasing and Fold over frequencies.
   (b) What do you understand by Image Quantization ? Why is it necessary in digital imaging system and discuss its disadvantages.

4. Discuss in detail Image Scanning for Television System. Also differentiate sampling with replication.

Unit III

5. Describe various methods of Image Enhancement using Histogram Modeling.

6. Write short notes on the following :
   (a) Digital Negative
   (b) Median Filtering
   (c) Pseudo Color.

Unit IV

7. What do you understand by Edge Detection ? Describe various Operators used for Edge detection in detail.

8. What do you understand by Image segmentation ? Describe component labelling approach for image segmentation.