APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

THIRD SEMESTER M. TECH DEGREE EXAMINATION

Computer Science & Engineering

(Computer Science & Systems Engineering)

04 CS 7407—Digital Image Processing & Analysis

Max. Marks : 60 Duration: 3 Hours

PART A

Answer All Questions

Each question carries 3 marks

1. Differentiate 4-adjacency, 8-adjacency and m-adjacency.
2. What is gamma correction?
3. Write short note on medium filters.
4. Compare lossy compression and lossless compression.
5. Write short note on region growing.
6. Differentiate Prewitt and Sobel edge detection operators.
7. Write short note on Signature.
8. Define Euler formulae.

PART B

Each question carries 6 marks

9. Explain the fundamental steps involved in digital image processing in detail.

OR

10. Explain about the basic relationships between pixels.
11. Write notes on image negatives, log transformations and power law transformations.

OR

12. Explain smoothing and sharpening frequency domain filters.
13. Explain image degradation/restoration model.

OR

14. Compare inverse filtering, Pseudo Inverse filtering and Weiner filtering.
15. Explain about the noise models in image processing.

OR

16. Obtain the Huffman code for the word ‘COMMITTEE’.
17. Discuss about the global processing via Hough transform.

OR

18. Explain region based segmentation.
19. Elucidate the use of chain codes to represent boundary in an image.

OR

20. Explain the principal approaches used in image processing to describe the texture of a region.