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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER M.Tech DEGREE EXAMINATION

COMPUTER SCIENCE AND ENGINEERING

(Computer Science and Systems Engineering)

04 CS 7407 Digital Image Processing & Analysis

Time: 3 hrs *Max. Marks: 60*

PART A

(Answer all questions. Each question carries 3 marks.)

1. What is meant by a digital image?
2. What is Aliasing in digital images?
3. Define the Laplacian operator and give a 3x3 Laplacian mask.
4. Give a brief description of pseudo inverse filtering.
5. Describe noise probability density function.
6. What is inter-pixel redundancy in images?
7. Differentiate between local thresholding and global thresholding.
8. What is a watermark?

PART B

(Each question carries 6 marks.)

9. Give 2D sampling theorem and discuss fold-over frequencies and aliasing.

OR

10. Give an account of geometric operations on images.
11. Briefly describe the point operators used for image enhancement.

OR

12. Describe and compare the frequency domain sharpening filters.
13. Explain Weiner filter with its merits and demerits.

OR

14. What is meant by nonlinear image restoration? Explain any one such method of restoration.
15. Differentiate between predictive coding and transform coding of images.

OR

16. Give an account of image compression standards.
17. Describe region based image segmentation techniques.

OR

18. Describe watershed segmentation.
19. Give an account of boundary descriptors for image representation.

OR

20. Briefly explain digital image water marking techniques.