

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN  
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)  
Chromepet, Chennai - 600 044.

B.Sc.Computer Science - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - VI

**24UCSET6B02 - Image Processing**

Total Duration : 1 Hrs.30 Mins.

Total Marks : 40

**Section B**

Answer any **TEN** questions ( $10 \times 2 = 20$  Marks)

1. What is a digital image?
2. Name two common color modes used in digital image processing, and explain it.
3. Define the term frame rate in video processing.
4. What is the purpose of Histogram equalization in Image Processing?
5. Define the term Pixel in digital image processing.
6. What is the difference between a Grayscale and color image?
7. What is the primary goal of image segmentation?
8. What is Noise Reduction?
9. Define the term morphological operation in image processing.
10. Define the term Gaussian smoothing in image processing.
11. What is the difference between linear and non linear filtering?
12. What effect does image smoothing have on noise and edges?

**Section C**

Answer any **FOUR** questions ( $4 \times 5 = 20$  Marks)

13. Compare and contrast Spatial filtering and frequency domain filtering with examples.
14. How does Image Compression work? Compare JPEG and MPEG compression techniques.
15. Discuss the difference between Lossy and Lossless compression in digital image and video processing.
16. Explain anisotropic diffusion and its role in preserving edges while smoothing an image.
17. Explain the thresholding technique in image segmentation and its different types.
18. Discuss the impact of image smoothing on edge detection and feature extraction.

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