

# Image Processing and Pattern Recognition – Test 1

1. Describe procedure for image histogram equalization? Why would you use it?
2. Give equations and compute Fourier transform of the image:

$$F(u, v) = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$$

3. Define low-pass Butterworth image filter.
4. Define bilinear interpolation of an image and give numerical example.

Note: Choose 3 questions to answer

# Image Processing and Pattern Recognition – Test 2

1. Define region based image segmentation methods and estimate their computation cost.
2. Coordinates of an object's contour in digital image are given. Propose a pseudocode for computing maximum diameter of an object.
3. For an arbitrary object's shape in digital image show processing steps of image morphological opening operation.
4. Explain RGB and CMYK colour image representation schemes.

Note: Choose 3 questions to answer