Nirma University
Institute of Technology
List of Practicals
Digital Image Processing and Analysis

Sr. No.	Practical Title	Hours
1.	To write a computer program capable of reducing the number of intensity levels in an image from 256 to 2, in integer powers of 2. The desired number of intensity levels needs to be a variable input	02
2.	To implement zooming and shrinking of an image using bilinear interpolation.	02
3.	To write a program to load an image and then perform a simple spatial 3x3 average of image pixels. Repeat the process for a 5x5 neighbourhood and again for a 7x7 area.	04
4.	To perform intensity transformation on a given image a. log transformation b. gamma transformation c. contrast stretching	04
5.	To experiment and analyse how histogram equalization will help enhance the image provided during the lab session. Also, use equalisation on five different types of images and find out in which case it gives the weakest enhancement.	02
6.	To write a program that performs image enhancement using spatial domain filters.	02
7.	Write a programme: a. that performs image enhancement using frequency domain filters b. that accepts a noisy image and performs restoration.	04
8.	Write a program that detects the following on an appropriate input image a. Line and edge detection using mask filters. b. Discontinuity detection	04
9.	To segment the greyscale image and find an appropriate representation for the segmented shape	02
10.	To write a program that provides an Interactive Segmentation for selecting an object of interest and applying the user-specified effect on the background. (Minimum offered Effects: Blur, Pencil Sketch, Water Colour, Vibrant, black and white, black and white red filter, pseudo color, canvas)	04