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| **SR.No** | **Practicals** | **Page no** | **Sign** |
| 01 | Write program to demonstrate the following aspects of signal processing onsuitable data  1. Upsampling and downsampling on Image/speech signal  2. Fast Fourier Transform to compute DFT | 1 |  |
| 02 | Write program to perform the following on signal  1. Create a triangle signal and plot a 3-period segment.  2. For a given signal, plot the segment and compute the correlation between them. | 4 |  |
| 03 | Write program to demonstrate the following aspects of signal on sound/image data  1. Convolution operation  2. Template Matching | 6 |  |
| 04 | Write the program to implement various morphological image processing techniques. | 8 |  |
| 05 | Write a program to apply various enhancements on images using image derivatives by implementing Gradient and Laplacian operations. | 11 |  |
| 06 | Write a program to implement linear and nonlinear noise smoothing on suitable image or sound signal. | 13 |  |
| 07 | Write program to implement point/pixel intensity transformations such as  1. Log and Power-law transformations  2. Contrast adjustments  3. Histogram equalization  4. Thresholding, and halftoning operations | 15 |  |
| 08 | Write the program to extract image features by implementing methods like corner and blob detectors, HoG and Haar features | 21 |  |
| 09 | Write a program to apply various image enhancement using image derivatives by implementing smoothing, sharpening, and unsharp masking filters for generating suitable images for specific application requirements. | 25 |  |
| 10 | Write the program to apply segmentation for detecting lines, circles, and other shapes/objects. Also, implement edge-based and region-based segmentation. | 29 |  |