# School of Computer Science Engineering and Technology

Course- **BTech**
Course Code- **CSET340**

Type- **Specialization Elective**
Course Name- **Advanced Computer Vision and Video Analytics.**

Year- **2026**
Date- **09-02-2026 to 13-02-2026**

Semester- **EVEN**
Batch- **2023-2027 (V Sem)**

## Lab Assignment No. 5

| Exp. No. | Name | CO-1 | CO-2 | CO-3 |
|---|---|---|---|---|
| 1. | To perform Canny edge detection and different types of shape identification in images | ✓ | ✓ | |

**Objective:** Apply various Canny edge detection with different threshold values followed by Harris corner detection and Hough transforms on various images via the use of Python using OpenCV/Pillow/Ski Images Library? Perform the provided task as follows.

**Data Set: Download the Zip_Folder containing "Test_Images_lab_5" images with some colored, gray scaled and black and white images.**

1. Use the grayscale images **Grey Scale Image_1, Grey Scale Image_2 and medical2.jpeg** and add some **gaussian noise** in it. Apply **Canny Edge** Detection with **different threshold** values (50, 100) and compare **Canny Edge** Detection with **Laplacian and Laplacian of Gaussian (LoG).** Analyse the visual difference between Canny images, Laplacian and LoG images using **Precision, Recall and F1score** score with the **original image**. **4 Marks**
2. Detect corner in the images named **Corner, building, pyramid** using **harris corner detector** method after converting them into greyscale. Print the **R values** attained corresponding to each detected corner.
   (corner.jpeg, building.jpeg, corner.jpeg) **3 Marks**
3. Detect **Lines and circles** using **Hough Line transform** on the **Corner, Line and building** images and **Hough circle transform** on **coin image** after converting them into greyscale. Use Standard **Hough Transform (SHT), Probabilistic Hough Transform (PHT)** separately on these images. (line.jpeg, coin.jpeg) **3 Marks**

**Note:- Suggested Platform:** Python: Jupyter Notebook/Visual Studio Code/Google Colab.
**Mode of Delivery:** Face-to-face: Instructor-led discussion and live coding demonstration. Hands-on Practice via Google Colab/VS code/Notebook.
**Submission:** On LMS within the prescribed time frame, else marks will.