Section	Criteria	Marks
Data Preparation and Class Selection	Selection of 6–8 diverse traffic sign classes	10
	Collection of ~100 representative images per class (600–800 total)	10
	Organized folder structure and correct referencing of images in code	10
Image Reading & Color Space Handling	Correct image loading using OpenCV or PIL	15
	Proper conversion to HSV color space (manual or valid method used)	20
Image Preprocessing & Filtering	Implementation of Mean filter	5
	Implementation of Gaussian filter	5
	Implementation of Median filter	5
	Implementation of Adaptive Median filter	5
	Use and implementation of Unsharp Masking or High-Boost Filtering	5
	Proper use of NumPy arrays for all filtering	5
Color Segmentation and Morphological Processing	Proper HSV thresholding for red and blue segmentation	20
	Implementation of erosion, dilation, opening (manual)	30
	Hole filling and blob removal based on area threshold	20
	Mask correctness and ability to isolate sign regions	25
Edge Detection and Region Extraction	Manual implementation of Canny edge detector	10
	Accurate extraction of region of interest (ROI)	20
	Logic for selecting the correct region among multiple blobs	15
Geometric Normalization	Calculation of rotation angle and orientation alignment	10
	Construction and application of affine transform using NumPy	15
	Normalized signs scaled uniformly	10
Feature Extraction	Implementation of Harris corner detection	25
	Accurate corner count, circularity computation	25
	Correct calculation of aspect ratio and extent	25
	Use of average hue or color dominance as a feature	20
	Feature normalization or transformation if applied	Bonus 10
Rule-Based Classifier Design	Use of color and shape-based logic rules	5
	Clarity and coverage of rules for 6–8 classes	15
	Decision logic efficiency and readability	5
	Edge cases handled (e.g., white bar detection)	15
Evaluation & Metrics Output	Correct comparison against Train.csv	20
	`results.csv` format correctness	10
	Implementation of confusion matrix generation	5
	Class-wise precision, recall, and accuracy	25
	Use of Matplotlib for confusion matrix plot	5
	Total	**470**