Laboratory Manual

For the subject of

Image Processing

VISHAWAKARMA GOVT ENGG COLLEGE, CHANDKHEDA

INFORMATION TECHNOLOGY DEPARTMENT

Name of Student: Patel Harshil Yogendrakumar

Enrollment No:170170116031

Branch: Information Technology Semester: 6 Batch: B3

Academic Term: Even- 2019-20

Faculty In charge: Dr S D Panchal, Associate Professor, IT

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Name of Institute:	Vishwakarma Government Engineering College, Chandkheda				
Name of Department:	Information Technology,				
Academic Term:	Even Term – CAY 2019-20				
Student Name:	Patel Harshil Yogendrakumar				
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Sr. No	AIM	CO / PO	Date of Assigned	Date of Completion	Marks & Signature
1	MATLAB Introduction and Environment study. ● To study Image processing tools in MATLAB. ● List out the MATLAB Commands which are used in Image processing.	CO1			
2	Write a MATLAB program to Zoom AND Shrink the given Image.	CO2			
3	Write a MATLAB program for Grey Level Transformations. ● Image Negative Transformation. ● Log Transformation. ● Power-Law Transformation.	CO1 CO2 CO3			
4	Implement the following Image enhancement technique. ● Contrast Stretching.	CO1 CO2 CO3			
5	Obtain the Histogram of the several Images and do the analysis of the histograms and compare them.	CO3			
6	Implement the Following Low-pass filters and conclude your observations. (Frequency domain) ● Ideal low-pass filter ● Gaussian low-pass filter. ● Butterworth low-pass filter	CO1 CO2 CO3			

7	Implement the Following High-pass filters and conclude your observations. (Frequency domain) ● Ideal High -pass filter ● Gaussian High -pass filter. ● Butterworth High -pass filter	CO1 CO2 CO3			
8	Implement the Following Spatial domain filters for Image restoration and conclude your observations ● Mean filters (arithmetic, geometric, harmonic and contra-harmonics.) ● Order Statistics filters. (median, max, min and alpha-trimmed filter). ● Adaptive filters. (local variance, adaptive median).	CO1 CO2 CO3			
9	Implement the Following frequency domain filters for Image restoration and conclude your observations. ● Band reject filters (ideal, Butterworth, Gaussian) ● Band pass filters (ideal, Butterworth, Gaussian)	CO1 CO2 CO3			

Date of Submission: _____ Faculty Signature: _____