Government College of Engineering, Jalgaon

(An Autonomous Institute of Govt. of Maharashtra)

Computer Department

MSE Question Paper

Class: L. Y. B. Tech. **Sem: Odd**

Subject: CO403UA IMAGE PROCESSING **Date: 13/ 10/ 2021**

Duration: 2Hrs **Marks: 30**

NOTE: 1. Bloom's Taxonomy level is defined as per Revised 2001 model

2. All Questions are as per course Outcomes

3. Assume suitable data wherever is required.

Course Outcomes:

On the successful completion of this course student shall be able to;

1. revise a knowledge of a broad range of fundamental image processing and image analysis techniques and concepts (linear and non-linear filtering, denoising, deblurring, edge detection, line finding, detection, morphological operators, compression, shape metrics and feature based recognition)
2. select and justify knowledge by analysing image processing problems and recognising and employing (or proposing) effective solutions.
3. compose practical solutions to a range of common image processing problems and to critically assess the results of their solutions..

Que. No.	Question	Max. Marks	CO Mapped	Blooms Taxonomy Level
1	**Attempt any two:**			
a	Describe the functions of elements of digital image processing system with a diagram.	3	CO 1	Analysis
b	Explain the basic relationships between pixels?	3	CO 1	Comprehension
c	Explain about color image sharpening.	3	CO 1	Comprehension
2	**Attempt any one:**			
a	Explain RGB and CMY colour models with suitable diagram.	6	CO1	Analysis
b	With appropriate equations, explain the issue with inverse filtering for restoring the image. How Wiener filtering eliminates the issue?	6	CO 1	Comprehension
3	**Attempt all**			
a	Explain the following two properties of 2D-DFT: i).Convolution ii). Correlation.	6	CO 1	Comprehension
b	What is meant by histogram equalization of an image? Explain how histogram equalization can be performed on a given gray scale image, with	6	CO2	Evaluating

	necessary mathematical details.			
c	Explain about image restoration using inverse filtering. Write the draw backs of this method.	6	CO 2	Evaluating