Lt Pragya Gupta

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

B.Tech- 6th Semester (ECE)

COURSE CODE:19B1WEC633   MAX. MARKS: 15

COURSE NAME: Computer Vision

COURSE CREDITS: 3   MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Write down the fundamental steps of computer vision. Briefly explain each step.   [3]

Q2. Given an image 'I' of size 5x5. Apply a Median filter on the given image. Show the result and discuss it. To avoid problems at the edge of the image, you only need to calculate the filtered values for the central 3x3 region.   [3]

$$I =$$

208	207	210	210	215
200	200	190	190	190
9	10	10	15	18
210	210	200	190	190
215	215	215	210	210

Q3. Discuss the use of second-order derivative in image enhancement. Write its advantages over the first-order derivative. Give a 3X3 mask for Sobel and Prewitt operations.   [3]

Q4. (a) Write down two advantages and two disadvantages of a median filter.

(b) What is un-sharp masking?

(c) A captured image appears very dark because of the wrong lens aperture setting. What are the enhancement techniques that can be used to enhance such an image?   [2X3=6]