

Ms Prajya

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2022

B.Tech-6th Semester (ECE)

COURSE CODE: 19B1WEC633

MAX. MARKS: 25

COURSE NAME: Computer Vision

COURSE CREDITS:

MAX. TIME: 1 Hour 30 Min

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

Q1. How many types of edges can be present in any image? Explain each of them and draw their intensity level profile. [4]

Q2. Consider the following 7x7 gray scale image. Apply point detection mask over central 5x5 region and find out the value of threshold for detection of single isolated point. [5]

50	50	50	250	250	250	250
50	50	50	250	250	250	250
50	50	50	250	250	250	250
50	50	50	0	250	250	250
50	50	50	250	250	250	250
50	50	50	250	250	250	250
50	50	50	250	250	250	250

Q3. What are the objectives of Canny edge detector? Explain each step of Canny edge detector. [5]

Q4. In Image segmentation the entire image region 'R' is partitioned into sub regions R₁, R₂,..., R_n. Write down all the conditions that sub regions must satisfy for proper segmentation. [2]

Q5. Write down the algorithm for region splitting and merging. [2]

Q6. Explain Edge linking process. [2]

Q7. Write a note on the following-

- Gray level resolution
- Connectivity between the pixels
- Compass masks
- Sampling theorem for Digital Image Processing
- Sobel and Prewitt mask for detection of diagonal edges.

[1x5]