

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-6th Semester (ECE)

COURSE CODE (CREDITS): 19B1WEC633(3)

MAX. MARKS: 25

COURSE NAME: Computer Vision

COURSE INSTRUCTORS: Lt. Praggya Gupta

MAX. TIME: 1 Hour 30 Min

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks																																																																									
Q1	Explain the Marr-Hildreth edge detection method. How does it differ from the Canny edge detection technique in terms of accuracy and noise handling?	CO 1	5																																																																									
Q2	Define the Hit-or-Miss transform. How can it be applied for shape detection in computer vision applications? Explain it with an example.	CO 4	5																																																																									
Q3	<p>Locate and identify the type of noise in the given image. Mention all the image processing methods to remove this noise. Using a morphological method remove this noise from the given image. A is the given image point set and B is the structuring element.</p> <div><table><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td></tr><tr><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table><table><tr><td>1</td><td>1</td><td>1</td></tr><tr><td>1</td><td>1</td><td>1</td></tr><tr><td>1</td><td>1</td><td>1</td></tr></table><div><div>A</div><div>B</div></div></div>	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0	1	1	0	1	1	1	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	CO 2	6
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Q4	What is hysteresis thresholding in edge detection? How does it assist in edge linking? Explain the roles of high and low thresholds in this process with the help of a suitable example or diagram.	CO 2	4																																																																									
Q5	Discuss why Otsu's method may not perform well in images with non-uniform illumination. Suggest any improvements or alternate approaches.	CO 2	5																																																																									