

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech IV Semester Supplementary Examinations, April 2025

INTRODUCTION TO COMPUTER VISION

(CSE(AI&ML))

Maximum Marks: 70

Date: 01.05.2025.

Duration: 3 hours

- Notes:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any two full questions from each unit.
 4. Each question carries 10 marks and max. marks a, b, c, d as per column.

Part-A

All the following questions carry 2 marks each

(10X2M=20 Marks)

Marks	CO	BT
2M	1	L1
2M	1	L1
2M	2	L1
2M	2	L1
2M	3	L1
2M	3	L1
2M	4	L1
2M	4	L1
2M	3	L1
2M	3	L1

1. What is computer vision?
2. Define image, Define brightness,
3. What is noise?
4. Write about segmentation?
5. What is erosion?
6. What is image dilation?
7. What is Dilution?
8. Write about low pass and HP pass filters?
9. What is image and edge?
10. What is morphological and watershed?

Part-B

Answer All the following questions.

(5X10M=50Marks)

Marks	CO	BT
10M	1	L2
10M	1	L2
10M	2	L2
10M	2	L2
10M	3	L2
3M	3	L2

11. Explain about human vision system.
OR
12. What is computer vision? Write in detail about Evolution of computer vision? Write about applications of computer vision
13. What is histogram and how the histogram equalization process works? Explain with an example?
OR
14. Implement crack edge detection on an image and compare the results after a different number of iterations. Does equalization of original image affect the result?
15. Compare the segmentation of an image by region merging and region splitting. Suggest an iterative scheme in which both might succeed to give a better segmented image.
OR
16. a. How the human visual system works and also write about color vision of human eye?

	b. Briefly write about the following a) Colour Imaging b) Range imaging and real time capturing	5M		
17	Compare the compression of the following image using a) Huffman coding b) Contour coding c) Run length coding d) LSW coding 1 1 1 1 5 5 5 5 2 2 2 2 1 1 1 5 5 5 5 5 5 2 2 3 1 1 5 5 5 5 5 2 2 3 3 2 1 1 1 1 5 5 5 2 2 2 2 2 1 1 1 1 1 1 5 2 2 2 3 2 1 1 1 1 1 1 1 1 1 1 1 1 Note: The image has a grey-level range of 0-7	10M	4	L2
	OR			
18	Write in detail about Flat Surface and Straight Edge Labelling?	10M	4	L2
19	Implement the Bayesian likelihood operation on some figures of your own?	10M	5	L2
	OR			
20	Specify the objective of image enhancement techniques. Write in detail about the 2 categories of image enhancement.	10M	5	L2