BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - VII Computer Science & Engineering AI & ML : WINTER : 2024
SUBJECT: COMPUTER VISION

Day : Thursday
Date : 05/12/2024

W-23986-2024

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat diagrams **WHEREVER** necessary.
4) Assume suitable data, if necessary.

Q. 1 What is image thresholding and discuss thresholding techniques in detail. **(10)**

OR

Q. 1 Perform histogram equalization of 8*8 image shown below **(10)**

Grey Level	0	1	2	3	4	5	6	7
No. of Pixels	790	1023	850	656	329	245	122	81

Q.2 What is deformation analysis? Explain different steps for deformation analysis **(10)**

OR

Q.2 Explain the concept of connectedness and describe following concepts **(10)**
i) Connectivity Analysis ii) Connectivity Criteria
iii) Connectedness in object recognition iv) Connectivity – Based operation

Q. 3 Explain RANSAC algorithm in detail with example. **(10)**

OR

Q. 3 Using Hough Transform show that following points are collinear and find the equation of line (1,2), (2,3) and (3,4). **(10)**

Q. 4 What are passive techniques for 3D vision? **(10)**

OR

Q. 4 Explain the concept of 3D recognition and reconstruction. **(10)**

Q. 5 Explain parametric and spline based motion in detail. **(10)**

OR

Q. 5 What role does bundle adjustment play in refining 3D structure? **(10)**

Q. 6 How you can use computer vision for Eigen faces. **(10)**

OR

Q. 6 Write a short note on : **(10)**
i) Face detection ii) Pedestrian detection

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