

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****1154 B.Tech. CBCS****Sub. Name: Computer Vision****Sub. Code: 56517****Day and Date: Saturday ,13-12-2025****Total Marks: 70****Time: 02:30 PM To 05:00 PM****Instructions:** 1. Assume suitable data wherever necessary and mention it boldly
2. Figures to the right indicate full marks**Special Inst.:** 1. Question no. 6 is compulsory
2. Solve any four questions from Q. No. 1 to Q. No.5

- Q1)** Answer the following questions [15]
- a. Discuss the role of frameworks like OpenCV and deep learning libraries in building Computer Vision applications. [8]
- b. Compare & contrast what makes a Computer Vision problem "easy" versus "hard" with one example of each. [7]
- Q2)** Answer the following questions [15]
- a. What is the purpose of histogram equalization in image processing? [8]
- b. What are geometric primitives in the context of CV? [7]
- Q3)** Answer the following questions [15]
- a. Describe how augmented reality uses camera models, feature detection, and homographies for overlaying virtual objects. [8]
- b. What is image warping? Give examples of its applications. [7]
- Q4)** Answer the following questions [15]
- a. Explain the concept of Bag-of-Words (BoW) model for image representation [8]
- b. What is 3D reconstruction in computer vision? What are some real-world applications of 3D scene reconstruction? [7]
- Q5)** Answer the following questions [15]
- a. Explain Convolutional Neural Network? Explain the steps involved in training a CNN model. [8]

- b. Explain the Viola-Jones algorithm is used for face detection? What are the components of this algorithm [7]

Q6) Write short notes on any two [10]

- a. CNN Layers and it's application [5]
- b. Eigenfaces – Definition and Use in Face Detection [5]
- c. Structure From Motion [5]

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

- 1] (1154) B.Tech. CBCS (56517) Computer Vision Part 4 SEM 7