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Seventh Semester B.E. Degree Examination, Jan./Feb. 2023

Computer Vision

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is Computer Vision? Explain different types of Geometric primitives. (10 Marks)
- b. Explain Pinhole perspective, with neat diagram. (10 Marks)

OR

- 2 a. Explain Photometric Image formation. (10 Marks)
- b. Explain Digital Camera, with neat diagram. (10 Marks)

Module-2

- 3 a. Briefly explain the concepts of linear filters. (10 Marks)
- b. Explain Shift invariant linear systems with neat diagram. (10 Marks)

OR

- 4 a. Explain the Fourier Transformation. (10 Marks)
- b. Explain the following : i) Sampling ii) Aliasing. (10 Marks)

Module-3

- 5 a. Define Stereopsis. Explain the advantages of Stereoscopic vision. (10 Marks)
- b. Explain how 2D vision is converted into 3D vision. (10 Marks)

OR

- 6 a. Explain the Estimating the Fundamental Matrix. (10 Marks)
- b. Explain why Stereoscopic Vision important. (10 Marks)

Module-4

- 7 a. Explain the concepts of Image segmentation. (10 Marks)
- b. Explain the Hierarchical Clustering using in Computer Vision. (10 Marks)

OR

- 8 a. Explain the concepts of model fitting method for edge detection. (10 Marks)
- b. What is Object Tracking? Explain the uses and types of Object tracking. (10 Marks)

Module-5

- 9 a. Explain the Image Registration Process. (10 Marks)
- b. Explain the different smooth stages and their outlines with diagram. (10 Marks)

OR

- 10 a. Illustration the concept of Smooth surfaces. (10 Marks)
- b. Briefly explain the concepts of Image recognition in Computer Vision. (10 Marks)