Reg. No. :

Question Paper Code:4053136

M.E. / M.Tech. DEGREE EXAMINATIONS, NOV/ DEC 2024
Third Semester
Computer Science and Engineering
P23CSE13 - COMPUTER VISION AND PATTERN RECOGNITION
(Regulation 2023)

Time: Three Hours   Maximum: 100 Marks

Answer ALL questions

PART – A   (10 x 2 = 20 Marks)

1.   What is Computer Vision?

2.   What are the geometric primitives and transformations?

3.   Define Pyramids and wavelets.

4.   What are the techniques for feature scaling?

5.   Write down the split and merge algorithm.

6.   Mention the three steps in face recognition.

7.   What are the methods in the nearest neighbors?

8.   What is K-Means Algorithm?

9.   List down types of imputation methods.

10.   What is meant by Data imputation?

11. (a) Explain the role of Intrinsic and extrinsic parameters in Camera calibration.   (16)

(OR)

  (b) Explain the following operators in detail.   (8+8)
      i)Point operators
      ii)Neighborhood operators

12. (a) Write a short note on Fourier Transform in Image processing. Explain with an example.   (16)

(OR)

  (b) Discuss the Evaluation and Selection of features in computer vision model.   (16)

13. (a) Describe the design principles of pattern recognition system with an example. (16)

(OR)

  (b) Explain the process of category recognition in pattern recognition.   (16)

14. (a) Formulate SVM as an optimization problem. How support vector machines can be used for classification of data which are not linearly separable?   (16)

(OR)

  (b) Explain the K-Means algorithm for clustering, with an example.   (16)

15. (a) Elaborate the data imputation issues, concepts and key problems.   (16)

(OR)

  (b) What are the techniques in data imputation methods? Explain in detail.   (16)

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