PATAN MULTIPLE CAMPUS
DEPARTMENT OF STATISTICS AND COMPUTER SCIENCE
VI SEMESTER HOME ASSIGNMENT

LEVEL:- B. Sc. (CSIT) III/II
SUBJECT:- Image Processing   FULL MARKS:- 60
TIME:- 03:00 hrs.   PASS MARKS:- 24

Candidates are requested to give their answers in their own words as far as practicable. Figures in the margin indicate full marks.

Attempt ALL questions

1. Define Digital Image and Digital Image Processing. What are the different steps of Digital Image processing? Discuss in brief.   [1+1+4]

2. What are the connectivity criteria of pixels? Discuss about the adjacency of the pixels.   [2+4]

3. What do you mean by segmentation by thresholding? How can we choose thresholds?   [2+4]

4. Define the term spatial filtering. What is the problem associated with filtering and how those can be removed? [1+5]

5. How is histogram normalized? Describe histogram equalization in detail.   [2+4]

6. What is redundancy? Describe different techniques of interframe coding.   [2+4]

7. Describe Pattern recognition and its steps.   [1+5]

8. Explain about different classification techniques in Pattern Recognition.   [6]

9. Differentiate   [3+3]
    i.   Smoothing Vs. Sharpening
    iii. Cones Vs. Rods cells

10. Write short Notes on   [3+3]
    a. Image Sampling and Quantization
    b. Hopfield Networks

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