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. What is digital image processing? Mention its applications and the operations involved in digital image. [2+4]
2. What is image histogram? Explain the difference between histogram equalization and specification with necessary mathematical expressions. [2+4]
3. What is spatial filtering? Differentiate the magnification technique of image by replication and interpolation. [2+4]
4. What is image compression? Explain how coding is done by run length and bit plane coding. [2+4]
5. What is template matching? Explain how template matching can be used for classification. [2+4]
6. What is pattern recognition? Explain the different components of pattern recognition with necessary diagrams. [1+5]
7. What is neural network and explain how it can be applied in pattern recognition. [1+5]
8. What is hadamard transform and list out its properties. [1+5]
9. Write short notes on: (Any TWO) [3+3]
   a. Model Fitting
   b. Chain Code Representation
10. Differentiate between: [3+3]
    a. Dilation and Erosion
    b. Gradient operator and Laplacian operator for edge detection

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