R16

Code No: 136BD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, November/December - 2020
DIGITAL IMAGE PROCESSING
(Electronics and Communication Engineering)

Time: 2 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

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1.a) Let V={0,1}. Compute D4, D8 distance between the pixels p and q for the figure given below.

(q) 1 1 2 3
0 2 2 1
1 1 0 2
2 1 2 1 (p)

b) Derive 8×8 slant transform and write its order of sequence. [6+9]

2.a) How an image is analyzed using Discrete Cosine Transform? Explain.
b) How Hotelling transform differ from other transforms? Explain. [8+7]

3. Explain various spatial domain techniques for image enhancement. [15]

4. Explain the histogram equalization method of image enhancement with an example and compare it with histogram specification. [15]

5.a) What is meant by inverse filtering? Explain and compare it with least square methods.
b) Why the restoration is called as unconstrained restoration? [12+3]

6.a) Discuss about Constrained Least square restoration for a digital image in detail.
b) Give the difference between Enhancement and Restoration. [11+4]

7. Explain the split and merge segmentation technique and what are the advantages of it compared to threshold techniques. [15]

8.a) Construct the Huffman code for the word "BABY". Also compute the efficiency of Huffman Code.
b) Draw the basic image compression model and explain it. [9+6]

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