

No Preview  
Available

Total No. of Question : [4]

Registration No. :

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Programme Name : Bachelor of Electronics and Telecommunication Engineering

Regular T.Y.B.Tech. ESE (A.Y. 2023-24) Sem.V Nov.2023

V SEMESTER ( 2021 BATCH)

201ETL304-06A-Digital Image Processing

Duration : [ 11:00 AM - 01:00 PM ]

Date : 29 Nov, 2023

Day : Wednesday

Marks : 50

Instructions :

(Q1) All questions compulsory

[20.0]

(1.1) Draw histogram for given gray level distribution of pixels for 3 bit image. Find histogram equalization & draw equalized histogram.

[6.0]

0	7	3	2	3
0	0	0	6	7
7	7	2	2	0
1	1	0	4	1
0	0	7	4	1

CO :- CO2

Blooms Taxonomy :- Apply

(1.2) What is piece-wise linear transformation? Explain contrast stretching & intensity level slicing.

[7.0]

CO :- CO1

Blooms Taxonomy :- Understand

(1.3) Draw the block diagram of steps in digital image processing.

[3.0]

CO :- CO1

Blooms Taxonomy :- Understand

(1.4) Explain Euclidean and Chessboard distance.

[4.0]

CO :- CO1

Blooms Taxonomy :- Understand

(Q2) All questions compulsory

[10.0]

(2.1) Explain basic working of spatial filtering. What is average filter?

[5.0]

CO :- CO2

Blooms Taxonomy :- Apply

**OR [ 2.1 / 2.2 ]**

(2.2) What do you mean by sharpening of image? How it is done. [5.0]

**CO :- CO2**

**Blooms Taxonomy :- Apply**

(2.3) Apply median filter on an 8 bit image given below. Use 3 by 3 Mask & replication criteria for border pixel. [5.0]

170	190	135	175
145	60	70	190
150	25	20	250
165	110	165	115

**CO :- CO2**

**Blooms Taxonomy :- Apply**

(Q3) All questions compulsory [10.0]

(3.1) What is Thresholding. Write basic global thresholding algorithm. [5.0]

**CO :- CO3**

**Blooms Taxonomy :- Understand**

**OR [ 3.1 / 3.2 ]**

(3.2) What is Gradient Operator? Describe different gradient operators used. [5.0]

**CO :- CO3**

**Blooms Taxonomy :- Understand**

(3.3) Describe three types of edge model. [5.0]

**CO :- CO3**

**Blooms Taxonomy :- Understand**

(Q4) All questions compulsory [10.0]

(4.1) Describe RGB color Model. [5.0]

**CO :- CO4**

**Blooms Taxonomy :- Understand**

**OR [ 4.1 / 4.2 ]**

(4.2) Explain HSI color model. [5.0]

**CO :- CO4**

**Blooms Taxonomy :- Understand**

(4.3) Explain converting from RGB to HSI color model [5.0]

**CO :- CO4**

**Blooms Taxonomy :- Understand**

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