University of Engineering and Management, Kolkata
1st Term Examination, September, 2023
Programme Name: B.Tech in CSE / CSE (AIML)
Semester: 5th
Course Name: Professional Elective - I : Image Processing
Course Code: PECCSE501A

Full Marks: 30   Date: 13th September, 2023   Time: 3.30 PM – 4.30 PM

Part - A
Attempt 5 questions
Each question carries 2 Marks (2 X 5)

1.A.   Discuss 4 connectivity, 8 connectivity in image pixels.

Or

1.B.   Discuss image filtering.

2.A.   Relate the difference between regions and boundaries.

Or

2.B.   Illustrate the need for transform.

3.A.   Illustrate point operation.

Or

3.B.   Illustrate local operation.

4.A.   Summarize masking operation.

Or

4.B.   Summarize pixel.

5.A.   Explain Mid-Level Image Processing.

Or

5.B.   Explain thresholding operation.

Attempt 2 questions
Each question carries 5 Marks (5 X 2)

6.A. Discuss region merging with suitable example.

Or

6.B. Discuss region growing with suitable example.

7.A. Complete the implementation of mean filtering on the following image.

124	176	143
56	142	174
187	165	51

Or

7.B. Complete the implementation of median filtering on the following image.

2	196	122
227	184	3
143	187	196

Part - C
Attempt 1 question
Each question carries 10 Marks (10 X 1)

8.A. Evaluate the effect of contrast stretching on the following image.

4	6	6	2
5	3	3	1
6	4	5	2
1	1	2	4

Or

8.B. Evaluate the effect of Histogram Equalization on the following image.

r_k	0	1	2	3	4	5	6	7
p_k	8	10	10	2	12	16	4	2

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