

Instructions: 1) All questions are compulsory.

2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.

3) CO is the index number of the Course Outcome statement.

4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.

5) Assume suitable data if necessary.

6) Use of non-programmable calculators is allowed

Marks	COs	BT Level
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Q.1 Attempt the following

A	Explain the image acquisition using single sensor (3) and array sensor (3) with the help of neat sketch.	6	CO1	2
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B	Describe key stages used in image acquisition.	7	CO1	2
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Q.2 Attempt the following

A	Apply the transformation on the given image matrix to convert darkest part to brightest and brightest part to darkest.	6	CO2	3
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18	22	33	25	32	24
34	128	24	172	26	23
22	19	26	31	28	26

OR

A	Apply the transformation on the given image matrix to convert given input image to binary image using the threshold of 150(4).	6	CO2	3
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Draw histogram of input image and output image (2).



50, 100, 150, 200, 250
60, 110, 160, 210, 240
70, 120, 170, 220, 230
80, 130, 180, 230, 220
90, 140, 190, 240, 210

B Convert the following input image into enhanced image using histogram equalization (4). Draw original and enhanced image histogram (2).

6 CO3 4

6	6	7	7	6
5	2	2	3	4
3	3	4	4	5
5	7	3	6	2
7	6	5	5	4

