M.Sc. / M.C.A. Mid Semester Examination-2019-20

Min. 15

Subject: Image Processing (CS-317)

Time: 1 *Hours*

Max. Marks: 20.

1. The 4×4 input image is defined by the following matrix with gray scale [0, 9]: **07**

2	3	3	2
4	2	4	3
3	2	3	5
2	4	2	4

Draw the image histogram and show the new output image along with its histogram after histogram equalization.

2. The following matrix defines a 5×5 image $f(x, y)$. The center pixel $f(2,2)$ is underlined. Suppose **07** smoothing is done to the image using 3×3 neighborhood in the spatial domain. Then what will be the new value $f(2,2)$ using the following filters:

(i) mean filter

(ii) median filter

(iii) min filter

(iv) max filter

(v) Give the Laplacian mask which includes diagonal neighbors and apply it on ~~$f(0,0)$~~ $f(2,1)$.

0	1	0	6	7
2	0	1	6	5
1	1	7	5	6
1	0	6	6	5
2	5	6	7	6

3. (i) Define 4, 8 and diagonal neighbor of a pixel. **06**

(ii) For following image give the 0, and 7- bit plane image:

128	3
5	255

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