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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- SEPTEMBER-2019

PhD. I Semester

COURSE CODE: 16M1WEC231 MAX. MARKS:15

COURSE NAME: ADVANCE DIGITAL IMAGE PROCESSING

COURSE CREDITS: 3 MAX. TIME: One Hours

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

Q1. Consider image, I given below. Note that value of each pixel is stored using 8 bits.

I=

9	2	5	1	2	1
5	5	0	5	0	5
5	5	3	5	5	5
3	18	3	2	0	1
3	3	3	5	8	2

(a) Draw the normalized histogram for the image I.

(b) From the normalized histogram drawn in (a), what can you conclude about the contrast of the image?

(c) Is it possible to improve the contrast of the image further? If yes, then how? Obtain the image with improved contrast level. Also draw its normalized histogram.

[4]CO1 &CO2

Q2. (a) Explain Spatial and Intensity resolution of any image.

(b) If the value of each pixel is represented with 8 bits, determine the memory size required to save image I given above.

[3]CO1

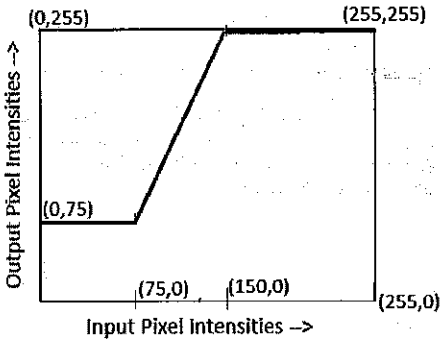
Q3. For the image I given above, determine the output image obtained after the implementation of:

(a) 5 X 5 Average Filter.

(b) 3 X 3 Median Filter.

[4] CO2

Q4. Determine the output image obtained on implementing the transformation curve on image A given below. Compare the output image obtained with the input image.



A=

90	20	50	10	200	100
50	150	0	50	0	150
90	75	30	80	50	75
130	180	220	230	200	10
150	120	100	150	20	200

[4]CO2