MCAE404: Digital Image ProcessingMaster of Computer Applications Semester IV

Minor Exam, March 2023

Time: One Hour **Max. Marks: 15**

1. What is bit plane in reference to digital image processing? Find all the bit planes of the following 4-bit image:

0	1	8	6
2	2	1	1
1	15	14	12
3	6	9	10

[3]

2. Give a single intensity transformation for spreading the intensities of an image so the lowest intensity is 0 and the highest is L-1.

[3]

3. What is Fourier Transform and how do you use it in Digital Image processing?

[3]

4. Let V = {0,1} be the set of intensity values used to define adjacency. Compute the lengths of the shortest 4-, 8-, and m-path between p and q in the following image.
If a particular path does not exist between these two points, explain why.

	3	1	2	1(q)
	2	2	0	2
	1	2	1	1
(p)	1	0	1	2

[6]