

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-1 EXAMINATION- SEPTEMBER -2018

Ph.D. I Semester

COURSE CODE: 16M1WEC231

MAX. MARKS: 15

COURSE NAME: Advance Digital Image Processing

COURSE CREDITS: 3

MAX. TIME: 1 HRS

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

1. Write a short note on quantization of images. Differentiate between black&white images, grayscale images and RGB images.

[4] CO1

2. Define the following terms:

(a) m-adjacency

(b) Euclidean Distance

[2] CO1

3. Explain how histogram of an image is used for analyzing the image. Determine the normalized histogram for the following image:

$$I = \begin{bmatrix} 1 & 0 & 4 & 7 \\ 3 & 2 & 6 & 2 \\ 1 & 2 & 3 & 4 \\ 1 & 1 & 2 & 0 \end{bmatrix}$$

[3] CO1

4. What do you understand by contrast stretching? Explain the output image obtained on applying the following transformations on any image (here s refers to output pixel intensities and r refers to input pixel intensities):

