JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- FEB-2023

COURSE CODE(CREDITS): {21B1WEC731) 3   MAX. MARKS: 15

COURSE NAME: Digital Image Processing using Python

COURSE INSTRUCTORS: Dr. Nishant Jain   MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. (a) Write a short note on Spatial resolution and Intensity Resolution.

(b) Explain how spatial resolution of an image can be reduced? Write a command/program in python to reduce the spatial resolution of an image.

(c) Explain how Intensity resolution of an image can be reduced? Write a command/program in python to reduce the Intensity resolution of an image.

[2+2+2=6]CO1

Q2. Determine the number of bytes required to store a color image of size 100 X 200 in uint8 format. Support your answer with the required solution.

[2]CO1

Q3. Write a python program that reads a color image and converts it into a binary image. Display both the color image and the binary image in the same figure.

[2]CO3

Q4. Write a command to draw an ellipse on an image. Explain the significance of all the input arguments given to the command.

[2]CO3

Q5. (a) Explain how image processing can be used to hide information in an image?

(b) Explain the application of image processing in the Medical Industry.

[1.5 X 2 = 3]CO1