

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

B.Tech-5th Semester (ECE)

COURSE CODE(CREDITS):18B1WEC536 (3)

MAX. MARKS: 15

COURSE NAME: Fundamentals of Digital Image Processing

COURSE INSTRUCTORS: Lt. Pragya Gupta

MAX. TIME: 1 Hour

*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems.*

**Q1.** Consider the following two 5x5, binary images A and B, as an input images.

**[6] (CO-1)**

A =

0	1	0	0	1
1	1	0	1	0
0	0	1	1	0
1	0	1	0	1
0	1	0	1	0

B =

1	0	1	1	0
0	0	1	0	1
1	1	0	0	1
0	1	0	1	0
1	0	1	0	1

Apply the following Arithmetic and logical operations on these images, and draw the output image. Discuss the effect of these operations on the image.

- i. Subtraction
- ii. Logical AND
- iii. Logical XOR

**Q2.** Consider the following 5x5, 3-bit image A. Apply the Image negative transformation. Draw the output image and discusses the result.

A =

0	1	3	4	6	6
0	1	3	4	6	6
0	1	3	4	6	6
0	1	3	4	6	6
0	1	3	4	6	6
0	1	3	4	6	6

**[3] (CO-2)**

**Q3.** Write a note on the following

**[6] (CO-1)**

- a. Rods and Cones in human eye
- b. Different distance measures used in digital image processing
- c. Fundamental steps of digital image processing