Exam.Code:0926
Sub. Code: 6551

2023

B.E. (Information Technology)

Eighth Semester

ITE-801: Digital Image Processing

Time allowed: 3 Hours Max. Marks: 50

*NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

*x-x-x*

I. Attempt the following:-

(a) Explain the concept of sampling and quantization.

(b) What is spatial filtering?

(c) What is global, local and dynamic threshold?

(d) What is the concept of histogram equalization?

(e) Define boundary descriptor and regional descriptor? (5x2)

**UNIT - I**

II. Write short notes on the following:-

(a) Color transforms

(b) Homomorphic filters

(c) Wavelet transforms

(d) Arithmetic coding (10)

III. (a) Explain and compare the difference between image enhancement and image restoration with example.

(b) What is the meaning of noise in an image? Explain noise models. (2x5)

IV. Write short notes on the following:-

(a) Color image representation

(b) Fourier transforms

(c) Noise filters

(d) Inverse filtering (10)

P.T.O.

## UNIT - II

V. (a) Distinguish between local and global thresholding techniques for image segmentation.

(b) What is JPEG? What are the coding systems in JPEG? (2x5)

VI. (a) Explain the Object recognition based on decision theoretic methods.

(b) Explain different edge detecting operators and compare them. (2x5)

VII. Write short notes on the following:-

(a) Object recognition

(b) Edge and boundary linking

(c) Hough transforms

(d) Huffman coding (10)

*x-x-x*