Exam.Code:0926
Sub. Code: 6551

2053

B.E. (Information Technology)

Eighth Semester

IT-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. Answer the following:-

a) What is discretization of an image?

b) What are the types of redundancies normally available in an image?

c) What is the difference between image enhancement and image restoration?

d) What is the advantage of using homomorphic filtering?

e) Explain the concept of image segmentation and representation? (5x2)

UNIT - I

II. a) Explain the various color models used for color image processing.

b) What are the various frequency domain filtering techniques? Compare their features. (2x5)

III. What is the significance of Wavelet Transformation? Can wavelet transformation be used in noise reduction? Give the stepwise procedure by taking suitable example.(10)

IV. Write short notes on the following:-

a) Image transformation

b) Histogram processing

c) Noise filters

d) Image transformation (10)

UNIT - II

V. a) Why are images compressed? Discuss the various image compression techniques.

b) What is thresholding? Explain the point, line and edge detection technique. (2x5)

P.T.O.

VI. Define the term image segmentation. Give the broader categorization of various segmentation techniques. Describe the edge and boundary linking technique. (10)

VII. Write short notes on the following:-

a) JPEG compression

b) Arithmetic coding

c) Decision theoretic methods

d) Boundary descriptors (10)

x-x-x