Exam.Code:0926
Sub. Code: 33608

2056

B.E. (Information Technology) Eighth Semester

PEIT-801B: 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 image sampling and quantization?

b) What is JPEG compression?

c) What is Fourier Transform in image processing?

d) Explain edge detection methods

e) Write short note on Object Recognition. (5x2)

UNIT - I

II. a) Describe intensity transformation techniques used in image enhancement.

b) Explain image restoration techniques using spatial filtering. (2x5)

III. a) Describe different noise models in digital images.

b) Discuss histogram processing techniques and their role in image enhancement. (2x5)

IV. Write short note on the following

a) Color Models

b) Wavelet Transforms

c) Noise Filters

d) Inverse Filtering

e) Homomorphic Filtering (10)

UNIT - II

V. a) Describe image compression techniques (lossless vs lossy).

b) Discuss region-based segmentation methods. (2x5)

VI. a) Explain Huffman coding and Run-Length encoding.

b) Explain edge detection methods (Sobel, Prewitt, Canny) (2x5)

VII. a) Explain edge linking and boundary detection techniques.

b) Explain object recognition based on decision theoretic methods. (2x5)

x-x-x