

2090

B.E. (Electronics and Communication Engineering)

Eighth Semester

Elective – II & III

EC-808: Digital Image Processing

Time allowed: 3 Hours

Max. Marks: 50

Note: Attempt 50% of Total Questions of Question Paper. Time: 2 Hours
All will carry equal marks. Fraction will be lower digit.

compulsory

x-x-x

I. Attempt the following:-

- What are the factors that affect the size of image during acquisition?
- Describe the use of Smoothing spatial filter.
- How image sharpening is done in frequency domain?
- What is the use of wavelet packets?
- What is bit plane encoding?

(5x2)

UNIT – I

- Illustrate the difference between different color models used in image representation? How do we control Intensity, brightness and contrast of an image.
 - What do you mean by false contouring?
- What is unsharp masking? How is it implemented in frequency domain?
 - How colored images are smoothed? Explain both spatial and frequency domain methods.
- What are different types of noises in the images? Describe the solution to remove impulse noise in spatial and frequency domain.
 - What are the steps in image restoration?

(7,3)

(2x5)

(2x5)

UNIT – II

- What are matrix based transforms? Describe the different types of wavelets transform functions and their use for image processing.
- Describe the Arithmetic coding algorithm. Trace the algorithm on following input "RQRSP". Frequency of occurrence of different symbols is (P = 0.1, Q = 0.5, R=0.3, S =0.1)

P.T.O.

(2)

- b) Describe the Scale invariant transform functions. (6,4)
- VII. a) What is block transform coding? Explain in detail.
- b) What is digital watermarking? Explain the process. (2x5)

x-x-x