

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
M.Tech II-Semester Regular Examinations, May 2016
DIGITAL IMAGE EPROCESSING
(Communication Systems)

Date:

Time: 3 hours

Max Marks: 60

Answer ONE Question from each unit

All questions carry equal marks

All parts of the question must be answered at one place only

UNIT-I

1. a) How a digital image can be represented? Explain the effect of gray level resolution on digital images? [7M]
- b) Describe the elements of visual perception [5M]

(or)

2. a) Explain the basic concepts of sampling and quantization with neat sketch [6M]
- b) Explain the various fields that uses Digital Image Processing? [6M]

UNIT-II

3. What is meant by image enhancement? Explain the various approaches used in image enhancement. [15M]

(or)

4. a) Explain the basics of filtering in frequency domain. [6M]
- b) Discuss about Discrete Cosine Transform and write the properties? [6M]

UNIT-III

5. With neat diagram , explain the model of restoration process also describe the restoration in the presence of noise only [12M]

(or)

6. how wiener filter is helpful to reduce the mean square error when image is corrupted by motion blur and additive noise [12M]

UNIT-IV

7. a) Explain the one dimensional wavelet transform and give the applications. [6M]
- b) What is meant by redundancy in image? Explain its role in image processing. [6M]

(or)

8. Write short notes on following image codings
- a. JPEG standard [3M]
 - b. MPEG [3M]
 - c. transform coding [6M]

UNIT-V

9. a) Explain segmentation based on thresholding? [6M]
b) Explain the concept of split and merge algorithm with simple example. [6M]

(or)

10. Explain the following based on segmentation.
- a) Region extraction [3M]
 - b) Pixel based approach [3M]
 - c) Multi-level thresholding [3M]
 - d) Line detection [3M]
