

2008 ANNA UNIVERSITY
B.E/B.TECH DEGREE EXAMINATIONS
(COMMON INFORMATION TECHNOLOGY AND COMPUTER SCIENCE ENGINEERING)
DIGITAL IMAGING PROCESSING

TIME: 3 HOUR
MARK: 100

Answer All Question

PART A - (10X2 = 20 MARKS)

1. What is Image sampling and quantization?
2. List out the properties of 2D Fourier Transform.
3. Compare spatial and frequency domain methods.
4. What are the effects of applying Butterworth low pass filter to the noisy image?
5. Draw the model of image degradation process.
6. Define Pseudo inverse with an example.
7. What is interpixel redundancy?
8. How sub image size selection affect transform coding error?
9. How edge detection is used for detecting discontinuities in a digital image?
10. Name the approaches used to describe the texture of a region.

PART B - (5X16 = 80 MARKS)

11. (a) Explain the elements of digital image processing system with a neat diagram.
or
11. (b) Write a detailed note on :
 - (i) Walsh Transform
 - (ii) Discrete Cosine Transform.
12. (a) Discuss in detail about Histogram processing of a digital image.
or
12. (b) Write a detailed note on image enhancement in the frequency domain by
 - (i) Low pass filtering
 - (ii) High pass filtering.
13. (a) What is image restoration? Explain the degradation model for continuous function in detail.
or
13. (b) Discuss about Constrained Least Square restoration of a digital image in detail.
14. (a) Explain the image compression models in detail with a neat diagram.
or
14. (b) Differentiate between lossless and lossy compression and explain transform coding system with a neat diagram.
15. (a) Explain the concept of Thresholding in image segmentation and Discuss their merits and limitation.
or
15. (b) Explain the Boundary descriptors in detail with a neat diagram.