

Exam.Code:0970
Sub. Code: 7344

1059
M.E. (Electronics and Communication Engineering)
Second Semester
ECE-1202: Digital Image Processing

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) What is the concept of histogram equalization?
- b) What are the approaches for handling boundary pixels in spatial filtering?
- c) What is JPEG compression?
- d) What is the basic motive behind digital image processing?
- e) Describe the role of Boundary descriptors. . (5x2)

UNIT – I

- II. a) Explain the process of histogram specification. How target histogram is specified?
- b) How spatial domain filters are applied an images? Explain the use of any two different spatial Domain filters. (5+5)
- III. a) Explain digital image acquisition and representation? Briefly discuss the various steps involved in digital image processing?
- b) Explain the different types of Inverse filters. What is their use? (5+5)
- IV. a) Write a short note on the following terms:
 - i) Color models
 - ii) Wavelet packets
- b) What is multi Resolution .analysis? How is Wavelet transform suitable for such analysis as compared to Fourier transform? (5+5)

UNIT – II

- V. a) Explain Region based segmentation? How is it carried out using split and merge approach?
- b) What is edged linking? Explain two ways to link broken edges. (5+5)

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(2)

- VI. a) Explain the role of thresholding.
b) Define image segmentation? Give a method of image segmentation? (5+5)
- VII. a) What is Psychovisual redundancy? How is it exploited by JPEG algorithm?
b) Explain the following terms:
i) Video coding standard - H .26 x
ii) Boundary descriptions (5+5)

x-x-x