

R7

Code: R7420502

B.Tech IV Year II Semester (R07) Supplementary Examinations, March/April 2013

IMAGE PROCESSING

(Computer Science and Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 Explain the following terms with respect to an image:
 - (a) Neighbors of a pixel.
 - (b) Connectivity.
 - (c) Distance measures.
 - (d) Sampling and quantization.
- 2 (a) Discuss how histogram is useful for image enhancement.
(b) What are the techniques used for image smoothing? Explain any two techniques.
- 3 (a) What is image restoration? Explain the model of the image restoration.
(b) What is noise? What are the spatial and frequency properties of noise?
- 4 (a) What is the need of gray level slicing in color images?
(b) Draw the HIS color model and give the expression for R G B in terms of HIS.
- 5 Explain the following error free compression methods:
 - (a) Variable length coding.
 - (b) Huffman coding.
 - (c) Arithmetic coding.
 - (d) LZW coding.
- 6 Explain in detail about 'Binary Image Hit' or 'Miss Transformations'.
- 7 (a) Discuss about the use of motion in the image segmentation.
(b) Discuss about edge formation and its detection.
- 8 Explain the following structural methods:
 - (a) Matching shape numbers.
 - (b) String matching.
