Code: R7420502

R7

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
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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.

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