[5254] - 164
B.E. (Computer Engineering)
IMAGE PROCESSING (Elective - I)
(2008 Pattern)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :

    1) Answer any 3 questions from each section.

    2) Answers to the two sections should be written in separate answer-books.

    3) Neat diagram must be drawn wherever necessary.

    4) Assume suitable data.

SECTION - I

Q1) a) Explain the software and hardware required for digital imagining. **[8]**

    b) Justify the various steps required in image processing. **[8]**

<div align="center">OR</div>

Q2) a) What is digital image processing? Explain any two applications of image processing. **[8]**

    b) How the colour image is stored? **[8]**

Q3) a) Compare linear and non-linear transformation. **[8]**

    b) Explain the basic image pre-processing steps. **[8]**

<div align="center">OR</div>

Q4) a) What is sampling? Explain N-Quest sampling method. **[8]**

    b) What is histogram? Explain the use of it in image processing? **[8]**

Q5) a) Explain Chain codes and B-Splines for boundary representation. **[9]**

    b) Explain the region based segmentation and region growing with an example. **[9]**

<div align="center">OR</div>

Q6) a) What is texture? Explain statistical and spectral descriptor. **[9]**

    b) What is region splitting and merging? **[9]**

SECTION - II

Q7) a) Discuss about the Wiener Filtering. **[8]**

b) Explain Blind-deconvolution technique. **[8]**

OR

Q8) a) Explain image restoration technique to remove the blur? **[8]**

b) Explain the methods used for lossless image compression. **[8]**

Q9) a) What is need of data compression? Explain Run-length coding. **[8]**

b) How the object is detected in image processing? **[8]**

OR

Q10) a) Write short note on Vector quantization. **[8]**

b) Explain the methods used for lossless image compression. **[8]**

Q11) a) What is Haar wavelet in image processing? **[9]**

b) JPEG 2000: How it works? **[9]**

OR

Q12) Write short note **[18]**

a) Dimension Reduction

b) Character Recognition Application

c) WAVELET with properties

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