

Total No. of Questions : 12]

SEAT No. :

P3430

[4959]-205

[Total No. of Pages : 2

B.E.(Computer Engineering)
a:IMAGE PROCESSING
(2008 Course)(Semester-I) (Elective-I)

Time :3Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answer any three questions from each section.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable data if necessary.*

SECTION-I

Q1) a) Explain the fundamental steps in Digital image Processing with block diagram. [8]

b) Explain the software and hardware required for digital imaging. [8]

OR

Q2) a) Write a short note on Human Visual System. [8]

b) Explain application of image processing. Explain different types of images. [8]

Q3) a) What is the need of transformation? Explain walsh transform. [8]

b) What is image enhancement? Explain image enhancement techniques in spatial domain. [8]

OR

Q4) a) Explain the contract stretching using histogram equalization. [8]

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

Q5) a) With the help of appropriate mask explain the following. [9]

i) Point detection ii) Edge detection

b) What is texture? Explain statistical and spectral descriptor. [9]

OR

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- Q6)** a) Explain different methods of edge detection methods. [9]
b) Write short note on image processing filters. [9]

SECTION-II

- Q7)** a) Explain RLC coding and arithmetic coding with examples. [8]
b) Explain the methods used for lossless image compression. [8]

OR

- Q8)** a) Explain the image degradation and restoration model. [8]
b) Explain Blind-Deconvolution technique. [8]
- Q9)** a) Why image compression is needed? Explain Huffman coding [8]
b) Explain classification of object recognition approaches. [8]

OR

- Q10)**a) Explain the dictionary-based compression with suitable example. [8]
b) What are the regional descriptors for texture representation? [8]

- Q11)** Write short note [18]
- a) JPEG 2000
b) Sub-band coding
c) Dimension reduction

OR

- Q12)** Write short note [18]
- a) WAVELET with properties
b) Image Pyramids
c) Character Recognition application.

