

Total No. of Questions : 8]

SEAT No. :

P3218

[Total No. of Pages : 2

[5354]-674

B.E. (Computer Engineering)

IMAGE PROCESSING

(2012 Pattern) (Semester - I) (Elective - I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 5) *Assume suitable data, if necessary.*

- Q1)** a) Write short notes on Human visual system. [6]
b) Explain the concept of sampling & quantization of a digital image. [6]
c) Explain any two region based feature extraction techniques. [8]

OR

- Q2)** a) Explain image enhancement. List and explain image enhancement techniques in spatial domain. [6]
b) Compare high pass filter and low pass filter. Explain one type filter each. [6]
c) With the appropriate mask, explain the following: [4]
i) Point detection.
ii) Line detection.
d) Write short notes on chain code. [4]
- Q3)** a) What is the need for image compression? Explain redundancy in images. Explain image - compression scheme. [8]
b) What is the need of object recognition. State and explain automated object recognition system. [8]

P.T.O.

OR

- Q4)** a) Explain any two object recognition method. [8]
b) Obtain the Huffman code for the word "COMMITTEE". What are the different parameters involved in it. [8]
- Q5)** a) Explain medical image obtained with non-ionizing radiation. What are the medical imaging modalities? Explain in brief. [10]
b) How image enhancement techniques can be used in mammography & X-rays images. [8]

OR

- Q6)** Write a short note on (any three): [18]
a) Does & Risk
b) RBC Image processing.
c) Dental & Digital X-Ray processing.
d) 3-D Visualization.
- Q7)** a) What is image interpretation? What are the different elements of image interpretation. [8]
b) Define remote sensing. Explain in brief remote sensing process. What are the different pre-processing techniques used in remote sensing. [8]

OR

- Q8)** Write short note on (any two): [16]
a) Visual image interpretation.
b) Photogrammetric imaging devices.
c) Remote sensing data products.

