

Total No. of Questions : 6]

SEAT No. :

P116

[Total No. of Pages : 2

Oct.-16/BE/Insem.- 174
B.E. (Computer Engineering)
IMAGE PROCESSING (Semester - I)
(2012 Pattern)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Neat diagrams must be drawn wherever necessary.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Use of logarithmic tables slide rule, mollier charts, electronic pocket calculator and steam tables is allowed.*
- 4) *Assume suitable data if necessary.*

- Q1)** a) What do you mean by aliasing in the context of image sampling? Explain. **[4]**
- b) If image size is 240kb and the spatial resolution of the image is given 600×200 . What is the bit depth? **[2]**
- c) What do you mean by image file format? Mention some of the frequently used image file format. **[4]**

OR

- Q2)** a) Explain image digitization process in detail. **[6]**
- b) Distinguish between a raster and a vector image. **[4]**
- Q3)** a) What is meant by image enhancement? What are the different types of image enhancement techniques? **[4]**
- b) If all the pixels in an image are shuffled, will there be any change in the histogram? Justify your answer. **[4]**
- c) Write transfer function of image negative and show it by graph. **[2]**

P.T.O.

OR

Q4) a) Justify with example "A median filter is effective in minimizing salt-and-pepper noise in an image". [4]

b) Explain Frequency domain image enhancement techniques. [6]

Q5) a) Explain identification of isolated points, lines and edges with respect to image segmentation. [6]

b) Explain boundary based shape descriptor such as chain code. [4]

OR

Q6) a) Explain region splitting and merging techniques with example in image segmentation. [4]

b) Explain Feature extraction technique: [6]

i) Fourier Descriptor and

ii) Shape matrix.

