Total No. of Questions : 6]

SEAT No. :

P116

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 makrs.*

    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.

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]**

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.

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