Code: 9A04802

R09

B.Tech IV Year II Semester (R09) Advanced Supplementary Examinations June/July 2016
DIGITAL IMAGE PROCESSING
(Common to MCT & ECE)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

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1   (a)   Explain the process of digitizing an image.
     (b)   Explain how the memory required to store an image is controlled through spatial and gray level resolutions.

2   (a)   Write about 2D-DFT and its properties.
     (b)   In spite of high compressed representation and decorrelation why KL transforms are not preferred compared to DCT.

3   (a)   What are point processing enhancement techniques? Explain.
     (b)   Explain about histogram equalization.

4   (a)   With the help of a block diagram, explain the basics of filtering in frequency domain.
     (b)   Write about homomorphic filtering.

5   With the help of an image degradation / restoration model, explain the restoration process and hence explain various methods of estimating the degradation function.

6   (a)   Discuss how illumination effect the thresholding process used for segmentation.
     (b)   Write about edge detection and edge linking.

7   (a)   Differentiate between lossy and lossless image compression models.
     (b)   Explain transform based image compression techniques.

8   Write about full color image processing and hence process of sharpening and smoothening color images.

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