Code: EC7T2

IV B.Tech - I Semester – Regular Examinations - November 2015

DIGITAL IMAGE PROCESSING
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours   Max. Marks: 70

Answer any **FIVE** questions.   All questions carry equal marks

1 a) What is meant by digital image processing? What are the applications of it? How an image is represented? Explain.   8 M

   b) State and explain various methods of image acquisition.   6 M

2 a) State and prove any two properties of 2-D fourier transform.   8 M

   b) Discuss about the Hadamard transform.   6 M

3 a) Briefly explain about image enhancement using point processing techniques.   8 M

   b) Explain about local enhancement.   6 M

4 Explain about
   i) ideal lowpass filter   4 M
   ii) Butterworth lowpass filter   5 M
   iii) Gaussian lowpass filter in frequency domain.   5 M

5 a) Discuss about full color image processing.   7 M

   b) Explain about color fundamentals.   7 M

6 a) Explain about the order statistics filters, used in the restoration process when the image degradation is due to noise only.   7 M

   b) Explain about algebraic approach to image restoration.   7 M

7 a) What is meant by image segmentation? Discuss various applications of it.   6 M

   b) Explain about   8 M
      i) local processing
      ii) global processing in segmentation

8 a) Compare lossless and lossy compression methods.   7 M

   b) Explain about fidelity criterion.   7 M