

***B.Tech Degree VIII Semester (Supplementary) Examination  
September 2011***

**CS/EC/EE/EI 804 (A) DIGITAL IMAGE PROCESSING  
(2006 Scheme)**

Time: 3 Hours

Maximum Marks: 100

**PART A**  
(Answer ALL questions)

(8 x 5 = 40)

- I. (a) Define DCT. What is its application?  
(b) Write a note on wavelet transform and its applications.  
(c) Explain histogram processing.  
(d) Explain the use of motion in segmentation.  
(e) What are the features of Wiener filter?  
(f) Explain intensity slicing.  
(g) What is the need for compression? Mention various types.  
(h) Explain lossy compression.

**PART B**

(4 x 15 = 60)

- II. Explain image sampling and quantization. (15)  
**OR**
- III. (a) Explain the principle of human vision. (7)  
(b) Write short notes on:  
(i) Hadamard transform  
(ii) Haar transform (8)
- IV. What is meant by image enhancement? What are the different methods for image enhancement? Explain any one method for the same in spatial and in frequency domain. (15)  
**OR**
- V. (a) Explain region splitting and merging. (10)  
(b) Explain the detection of lines. (5)
- VI. (a) Explain the following colour models.  
(i) RGB (ii) CMY  
(iii) YIQ (iv) HIS (12)  
(b) What is meant by image restoration? (3)  
**OR**
- VII. (a) Explain pseudo color image processing. (8)  
(b) Explain interactive restoration. (7)
- VIII. (a) Explain various types of redundancies in images. (9)  
(b) Compare lossless predictive and lossy predictive compression. (6)  
**OR**
- IX. Explain JPEG and MPEG compression techniques. (15)