

**B.Tech. DEGREE EXAMINATION, MAY - 2015**

**(Examination at the end of Fourth Year)**

**COMPUTER SCIENCE**

**Paper - IV : Image Processing**

**Time : 3 Hours**

**Maximum Marks : 75**

---

**Answer question No.1 compulsory**

**(15)**

**Answer ONE question from each unit**

**(4 × 15 = 60)**

- 1) Write short notes on
- Quantization.
  - Histogram.
  - Image subtraction.
  - Threshold coding.
  - Lossy compression.

**UNIT - I**

- 2) a) What are the fundamental steps in digital image processing.  
b) Explain about Image Sensing.

OR

- 3) a) What are the components of an Image Processing System.  
b) Explain the following relationship between pinels  
i) Connectivity.  
ii) Distance measures.

**UNIT - II**

- 4) a) Explain about spatial domain high pass filtering.  
b) Explain about frequency domain smoothening filters.

OR

- 5) a) Explain about histogram equalization.  
b) Give the block diagram of Homomorphic filtering and explain.

### UNIT - III

- 6) a) Explain about inverse filtering.  
b) Explain about sub-band coding of 2D signal.

OR

- 7) Explain about wavelet transforms in two dimensions.

### UNIT - IV

- 8) a) Explain the concept of edge linking and boundary detection.  
b) Discuss about different image compression models.

OR

- 9) Explain the detection of discontinuities in detail.

φφφ