

Code: 9A04802

R09

B.Tech IV Year II Semester (R09) Regular & Supplementary Examinations April 2016

DIGITAL IMAGE PROCESSING

(Common to MCT and ECE)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Discuss the image sampling and quantization.
(b) Explain the fundamental steps involved in digital image processing.
- 2 (a) Compute DCT matrix for $N = 4$.
(b) Find 2D Haar transform for $f(x, y)$ shown below:
$$\begin{bmatrix} 4 & -1 \\ 2 & 3 \end{bmatrix}$$
- 3 (a) Define grey level transformation.
(b) Discuss image enhancement using histogram techniques.
- 4 With neat block diagram, explain the concept of Homomorphic filtering.
- 5 (a) Distinguish image enhancement and restoration.
(b) Discuss the formulation of 1D degradation model.
- 6 (a) Explain the concept of edge linking and boundary detection.
(b) Discuss the region oriented segmentation.
- 7 (a) What is the need for image compression?
(b) Discuss the loss less predictive coding with the help of block diagram.
- 8 (a) Distinguish Pseudo-color image processing and full color image processing.
(b) Explain the concept RGB color model.
