

Code: R7410408

R7

IV B.Tech I Semester (R07) Supplementary Examinations, May 2012

DIGITAL IMAGE PROCESSING

(Electronics & Communication Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. (a) With neat block diagram explain fundamental steps in digital image processing?
(b) What is image sampling & quantization?
2. (a) Explain the properties of 2-D F.T?
(b) Obtain Haar transform matrix for $N = 4$.
3. (a) Compare spatial & frequency domain methods.
(b) What is spatial filtering? Explain.
4. (a) Show that a high pass-filtered image can be obtained in the spatial domain as $\text{highpass} = \text{original} - \text{low pass}$, for simplicity, assume 3×3 filters.
(b) Explain about image sharpening.
5. Draw the neat block diagram of pseudo color image processing & Explain.
6. Discuss about constrained least square restoration of a digital image in detail?
7. Write short note on:
(a) Detection of discontinuities,
(b) Edge detection
8. Write short note on:
(a) Error free compression.
(b) Lossy compression.
