AQ – 2900

Second Semester M. E (Computer Science and I.T.) (New CGS) Examination

PERFORMANCE ANALYSIS FOR IMAGING SYSTEMS

Paper - 2 RNME 2

P. Pages : 3

Time : Three Hours] [Max. Marks : 80

Note : (1) Assume suitable data wherever necessary.
(2) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (a) Explain Linear Shift–Invariant (LSI) Imaging Systems. 7

   (b) Explain :—

   (i) Image Interpolation.

   (ii) Point Spread Function. 6

OR

2. (a) List and explain different 3–D Noise Components. 7

   (b) Explain :—

   (i) Tone Scale.

   (ii) Image Fusion. 6

3. (a) State and explain two basic assumptions in Johnsons methodology. 7

   (b) Explain in brief History of target acquisition theory. 6

OR

4. Explain the followings :—

   (i) Threshold vision of the Unaided Eye.

   (ii) Threshold vision of the Aided Eye. 13

5. (a) State and explain Differentiation and Integration property of Fourier transform. 7

(b) Explain Image Resampling Model. 6

OR

6. Explain :—

(i) Dyadic and Discrete wavelet transform.

(ii) Forward and Inverse wavelet Tramsform. 13

7. (a) Explain Error–energy reduction algorithm. 7

(b) State and explain CLEAN algorithm. 7

OR

8. (a) Explain Optical Flow Method. 7

(b) Draw and explain Image acquisition model. 7

9. (a) Explain in brief Contrust Enhancement method based on wavelet edges. 7

(b) Explain Linear Correction Model. 6

OR

10. Explain the following effects on Non–lincarity.

(i) Residual Error.

(ii) Error due to Second Order Non–linearity.

(iii) Calibration using the Second–Order Assumption. 13

11. Explain the following three tone scale techniques in brief :—

(i) Piece–wise linear tone scale.

(ii) Nonlinear tone scale.

(iii) Perceptual linearization tone scale. 14

OR

12. (a) What is Image Fusion ? Explain important characteristics of Fusion Algorithm. 7

(b) Explain in brief "Laplacian Pyramid". 7