Roll No. .....

Y – 3110

M.Sc. (Fourth Semester) EXAMINATION, May/June-2021

COMPUTER SCIENCE

Paper – 403(III)

IMAGE PROCESSING

Time : Three Hours

Maximum Marks : 85 (For Regular Students) *Minimum Pass Marks : 29*

Maximum Marks : 100 (For Private Students) *Minimum Pass Marks : 34*

Note—Attempt *all* questions.

Unit-I

1. (a) Elucidate the image enchancement using arithmetic/logic operators.
   (b) Explain image subtraction, image averaging, smoothing and sharpening. 17/20

Unit-II

2. Explain the following in detail. 17/20
   (i) Least-mean-square filter.
   (ii) Gray-level interpolation.
   (iii) Least-squares restoration.
   (iv) Geometric transformation.

Unit-III

3. Discuss in detail. 17/20
   (i) Image encoding relative to a fidelity criterion.
   (ii) b-codes.

Unit-IV

4. Explain the steps of encoding process. What is the significance of quantizer and entropy for image encoding. 17/20

Unit-V

5. Explain the following based on segmentation— 17/20
   (i) Region extraction.
   (ii) Pixel based approach.
   (iii) Multi-level thresholding.
   (iv) Line detection.