Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 07

B.Sc. (AI and ML) (Sem.–4)

IMAGE PROCESSING

Subject Code : UGCA-1974

M.Code : 91708

Date of Examination : 11-07-22

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. Write briefly :

a) Define Rendering.

b) What are the essential applications of Computer Graphic?

c) Define Digital Image.

d) Define Resolutions.

e) Differentiate between sampling and quantization.

f) What is meant by histogram equalization?

g) Define Butterworth filter.

h) Give the relation for Uniform Noise.

i) Write the applications of segmentation.

j) Give the properties of the second derivative around an edge.

SECTION-B

2. a) Difference between CMY and HSV color models.

   b) What is the difference between "shaded" and "rendered" surfaces?

3. Explain the fundamental steps in digital image processing which should be applied to images.

4. Define Histogram. Explain Histogram equalization in detail.

5. Describe the various smoothing and sharpening spatial domain filters.

6. Give the significance of Image Segmentation. Differentiate between thresholding and region growing techniques.

7. What is the purpose of image restoration? Explain the model of image degradation and restoration process using a suitable block diagram.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.