Exam. Code : 208602
Subject Code : 4128

M.Sc. Information Technology 2nd Semester

IMAGE PROCESSING

Paper—MIT-203

Time Allowed—3 Hours] [Maximum Marks—100

Note :— There are **FOUR** sections, each having **TWO** questions. Attempt any **FIVE** questions, selecting at least **ONE** from each section. All questions carry equal marks.

SECTION—A

1. (a) Explain Pinhole Camera Model.

   (b) What is Image transformation ? Explain DFT and FFT.

2. What is meaning of Image Sharpening ? Discuss how High Pass Filtering and Differentiation technique help in sharpening the image.

SECTION—B

3. What is Image Restoration ? In which cases this may be required ? Which are various techniques of Image Restoration ?

4. What is use of Image Segmentation ? What is difference between Line Detection and Edge Detection ?

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SECTION—C

5. Explain following terms :—

   (a) Morphological Skeleton.

   (b) Median Filtering and Gradient Filtering.

6. (a) What is thresholding ? Explain the concept of Global Thresholding taking an example.

   (b) Explain the use of Wiener filter.

SECTION—D

7. (a) What is meaning and use of Boundary Representation ?

   (b) Explain any two methods of Spatial feature extraction.

8. Explain following with reference to Image Processing :—

   (a) Image observation Models.

   (b) Image Segmentation—Meaning and Use.