

**Exam. Code : 206702**

**Subject Code : 5235**

**M.Sc. Computer Science 2nd Semester**

**IMAGE PROCESSING**

**Paper—MCS-202**

Time Allowed—3 Hours] [Maximum Marks—100

**Note :—** Attempt any **FIVE** questions. Each question carries equal marks.

1. Explain the term Image Digitization. Discuss different technologies involved in Image Digitization. Also write the properties of a digital image. 20
2. Define the following terms :
  - (a) Image Enhancement
  - (b) Image Data Compression
  - (c) Image Restoration
  - (d) Statistical Pattern Recognition. 4×5
3. Discuss Digital Image Restoration System. Write different Digital Image Restoration models. Explain the concept of image formation system, a detector and a recorder. 20
4. What do you understand by a Computer Vision System? Explain Computer Vision application areas. Explain at least one in detail. 20

5. Discuss the term Data Redundancy in Image Processing ? Explain its three types in detail with the help of an example. 20
6. Write short notes on the following :
- (a) Statistical Pattern Recognition 10
  - (b) Color System Transformations. 10
7. Discuss the role of Image processing in the field of medical image analysis. 20
8. Discuss :
- (a) Convolution 10
  - (b) Correlation in Fourier Transform. 10