Note: Each answer should be designed as per a 5/6-mark answer.
Answers should be clear and concise.
Use neatly labelled diagrams wherever possible.

Chapter 1 Assignment

1. What is an Image?
2. What is Digital Image Processing?
3. What are the applications of Digital Image Processing?
4. What are the Fields that use Digital Image Processing
5. What are the Fundamental steps of Digital Image Processing
6. What are the Components of an Image Processing System

Chapter 2 Assignment

1. Write a note on:
   *Photopic Vision and Scotopic Vision
   *Weber Ratio
   *Good and Poor Brightness Discrimination
   *Light and Electromagnetic Spectrum
   *Luminance and Radiance
2. Explain Brightness Adaptation and Discrimination.
3. Why do we say that Perceived brightness is **not** a simple function of intensity? How do Mach Bands and Simultaneous Contrast help us understand this?
4. Explain Image Acquisition Using a Single Sensor, Image Acquisition Using Sensor Strips and Image Acquisition Using Sensor Arrays
5. Explain Sampling and Quantization in detail
6. What do you mean by Spatial and Intensity Resolution?
7. Write a note on Image Interpolation, explain bilinear interpolation and bicubic interpolation
8. Explain the basic Relationships between pixels – Neighborhood, Adjacency (4-adj, 8-adj, m-adj), Connectivity, Region, Boundary
9. What is Geometric Spatial Transformation and Image registration? Explain Identity, Scaling, Rotation, Translation, Shear (Horizontal), Shear (Vertical)