Unit wise Set of Sample Questions

	UNIT 1
1.	What is DIP?
2.	Explain at least 4 Applications of DIP in detail.
3.	Compare and contrast between Analog and Digital images.
4.	Explain in detail structure of Human eye.
5.	What is Scotopic and Photopic vision?
6.	Explain the formation of image in human eye.
7.	Explain Spacial and Gray level resolution. Quality of an image depends on both Spacial and Gray level resolution. Explain how.
8.	What is False Contouring?
9.	Differentiate between Vector image and Scalar image.
10.	What is CCD? How CCD sensor Functions?
11.	Explain the concept of Potential Well and Potential Barrier.
12.	Explain the following configurations of CCD sensors in a scanner: Point Scanning, Line Scanning, Area Scanning.
13.	Explain Flying spot scanner.
14.	Explain Flatbed Scanner.
15.	Explain following Image file formats in details: GIF, JPEG, PNG, TIFF.
16.	Explain in depth Shift-Variant and In-Variant & Linear and Non-Linear 2D Systems.
	UNIT 2
17.	What is Spacial Domain Image enhancement? Explain with suitable diagram.
18.	Explain what is Point processing image enhancement operation?
19.	Short Note on following: Image Negative Image Contrast Stretching Thresholding Gray Level Slicing Bit plane slicing
20.	What happens when you apply a **Low pass filter** and **High Pass Filter** on an image that has sharp edges? Explain in detail.
21.	What is High Boost Filtering? Can you explain how it is different from Unsharp Masking?
22.	What is a Histogram of an image? How histogram helps to understand contrast of an image?
23.	Explain Image arithmetic operation Alpha Blending.
24.	Write a short note on Morphological operations, Erosion and Dilation. Also state the applications of erosion and dilation.
25.	What do you think are image Opening and Closing operations? And what can be the applications of these two operators?

UNIT 3	
26.	What are the applications of image segmentation? Explain with suitable example.
27.	Explain image following segmentation methods, Region Growing, Region Splitting, Region Merging.
28.	Explain the importance of First order derivatives and Second order derivatives in image segmentation operations.
29.	Write a short note on, The Gradient of an image and The Laplacian of an image.
30.	Why do we need to compress an image? What strategy do we use to compress an image?
31.	What is, InterPixel redundancy and Codding redundancy?
32.	Differentiate between Lossy and Lossless Compression techniques.