S.no	Roll	Name	Set assigned	S.no	Roll	Name	Set assigned
1	22ESKCS180	Ravinandan Verma		35	22ESKCS814	Stuti Agrawal	
2	22ESKCS181	Rikhil Nair		36	22ESKCS815	Suhani Mehta	
3	22ESKCS182	Ritesh Malav	I	37	22ESKCS816	Suhani Sharma	VIII
4	22ESKCS183	Ritik Doriya		38	22ESKCS817	Sumit Nagar	
5	22ESKCS184	Riyanshi Goyal		39	22ESKCS818	Sumit Singh	
6	22ESKCS185	Rohit Soni		40	22ESKCS819	Tania Devi	
7	22ESKCS186	Ronak Nirwan		41	22ESKCS820	Tanishk Agarwal	
8	22ESKCS187	Ruchika Meena	II	42	22ESKCS821	Taruna Kumari	IX
9	22ESKCS188	Rudra Vashishtha		43	22ESKCS822	TUSHAR TAK	
10	22ESKCS189	Sachin Gupta		44	22ESKCS823	Umang Joshi	
11	22ESKCS190	Sachin Mishra		45	22ESKCS824	Utkarsh Agarwal	
12	22ESKCS191	Sagar Agrawal		46	22ESKCS825	Utkarsh Goyal	
13	22ESKCS192	Sahil Singh Rathore	III	47	22ESKCS826	Vaibhav Chhipa	X
14	22ESKCS193	Sakshi Agarwal		48	22ESKCS827	VAIBHAV SAIN	
15	22ESKCS194	Sakshi Bhaskar		49	22ESKCS828	Vaibhav Saini	
16	22ESKCS195	Sanjay Kumawat		50	22ESKCS829	Vallari Asthana	
17	22ESKCS196	Sarthak Nagar		51	22ESKCS830	Vansh Gupta	
18	22ESKCS197	Sarthak Vijayvargiya	IV	52	22ESKCS831	Vanshika Mathur	XI
19	22ESKCS198	Satish Kumar		53	22ESKCS832	Vanshita Rajawat	
20	22ESKCS199	Satveer Gurjar		54	22ESKCS833	Vidit Khandelwal	
21	22ESKCS800	Satvik Vaishnav		55	22ESKCS834	Vijay Singh	
22	22ESKCS801	Satyam Khandelwal	V	56	22ESKCS835	Vijay Singh Gurjar	XII
23	22ESKCS802	Sharda Meghwal		57	22ESKCS836	Vijay Singh Rathore	
24	22ESKCS803	Shelja Kanwar		58	22ESKCS837	Vikas	
25	22ESKCS804	Shikha Mahar					
26	22ESKCS805	Shivam Agrawal					
27	22ESKCS806	Shivam Bora	VI				
28	22ESKCS807	Shivam Gupta					
29	22ESKCS808	Shivang Sharma					
30	22ESKCS809	Shrey Ghiya					
31	22ESKCS810	Shubham Sharma					
32	22ESKCS811	Shyam Pratap Singh	XII				
33	22ESKCS812	Siddhi Narban					
34	22ESKCS813	Snehal Vitthal					

SET- I

QN.	Question	BL	CO	MM
Q1.	In an image acquisition process, if the image sensor has a limited resolution, how does that impact the quality of the final digital image?	2	1	10
Q2.	Illustrate the factors that should be considered while selecting an appropriate device for capturing an image in terms of resolution and color accuracy?	3	1	10
Q3.	When rotating an image by a non-multiple of 90 degrees, how can you prevent pixel	2	2	10

information from being lost at the edges of the image?

QN.	Question	BL	CO	MM
Q4.	If an image is rotated by 45 degrees, identify the changes happen to the size of the image, and how would you handle resizing to retain the entire content?	2	2	10

SET- II

QN.	Question	BL	CO	MM
Q1.	When performing noise reduction on an image, how does the choice of filtering technique (e.g., median vs. Gaussian) affect the resulting image quality?	2	1	10
Q2.	If the original image has a lot of low-contrast areas, what preprocessing techniques could you apply to enhance visibility before further processing?	3	1	10
Q3.	How does the interpolation method used in image scaling (e.g., nearest neighbor, bilinear) affect the smoothness and quality of the scaled image?	2	2	10
Q4.	If you need to scale an image down for a web application, what considerations should you make to ensure the image remains visually appealing and retains detail?	2	2	10

SET- III

QN.	Question	BL	CO	MM
Q1.	You need to enhance the contrast in a medical X-ray image; what enhancement technique would you apply, and why?	2	1	10
Q2.	How would you handle an image that appears too bright due to overexposure in terms of histogram equalization?	3	1	10
Q3.	When translating (shifting) an image by a certain amount, how does the process impact the edges of the image, and what methods can you use to fill the empty areas?	2	2	10
Q4.	How does translation differ from other transformations like rotation and scaling in terms of how it affects pixel positions in an image?	2	2	10

SET- IV

QN.	Question	BL	CO	MM
Q1.	Describe the significance of thresholding in segmentation, and how does changing the threshold value affect the segmented image?	2	1	10
Q2.	In medical imaging, why might you choose region-growing segmentation over edge-detection methods for identifying tumors?	3	1	10
Q3.	What is the role of affine transformation in image processing, and how does it preserve the geometric properties of an image?	2	2	10
Q4.	How would you apply a shear transformation to an image, and what kind of changes would you expect to see in the image's structure?	2	2	10

SET- V

QN.	Question	BL	CO	MM
Q1.	If you need to rotate an image, how would you prevent it from becoming distorted during the process, and what transformation matrix would you use?	2	1	10
Q2.	When performing a Fourier transform on an image, how does it help in filtering out noise or extracting features from the image?	3	1	10

QN	Question	BL	CO	MM
Q3.	How does perspective transformation affect the geometry of an image, and in what types of applications is it commonly used (e.g., in augmented reality)?	2	2	10
Q4.	In applying a perspective transformation, what are the challenges of handling non-parallel lines, and how can they be corrected for accurate mapping?	2	2	10

SET- VI

QN.	Question	BL	CO	MM
Q1.	How do lossy and lossless image compression techniques differ, and when would you prefer one over the other?	2	1	10
Q2.	How does the choice of compression algorithm (e.g., JPEG vs. PNG) influence the quality and file size of an image?	3	1	10
Q3.	How does applying a Gaussian filter to an image help reduce noise, and what effect does it have on image sharpness?	2	2	10
Q4.	What is the difference between a low-pass and a high-pass filter, and how would each affect an image when applied during filtering?	2	2	10

SET- VII

QN.	Question	BL	CO	MM
Q1.	When using edge detection to extract features from an image, how do the choice of edge-detection operator (like Sobel or Canny) impact the results?	2	1	10
Q2.	Illustrate the steps would you take to extract and match key features from an image for object recognition purposes?	3	1	10
Q3.	How does convolution with a kernel function like the Sobel filter help in detecting edges, and what happens if the kernel is too large?	2	2	10
Q4.	When applying convolution to an image, how does the choice of kernel size influence the results, particularly in terms of detail preservation?	2	2	10

SET- VIII

QN.	Question	BL	CO	MM
Q1.	If you need to clean up small noise in a binary image, what morphological operation would you apply, and why?	2	1	10
Q2.	How would the application of dilation and erosion operations affect the structure of an object in a binary image?	3	1	10
Q3.	How does applying a filter in the frequency domain (using Fourier transform) differ from spatial domain filtering, and in which scenarios is it preferred?	2	2	10
Q4.	When filtering in the frequency domain to remove noise, how would you design a low-pass filter to target high-frequency noise components?	2	2	10

SET- IX

QN.	Question	BL	CO	MM
Q1.	In medical imaging, how does image registration help when combining images from different modalities (e.g., CT and MRI)?	2	1	10
	Discuss the challenges associated with registering images that have varying levels of scale or			

Q2.	rotation?	3	1	10
Q3.	What type of noise does median filtering effectively reduce, and why is it more suitable than Gaussian filtering for removing salt-and-pepper noise?	2	2	10
Q4.	How does the size of the median filter window affect the smoothness of the resulting image, and what trade-offs might arise from increasing the window size?	2	2	10

SET- X

QN.	Question	BL	CO	MM
Q1.	How does the conversion from RGB to HSV color space help in image processing tasks such as segmentation or object tracking?	2	1	10
Q2.	If you need to enhance an image's color saturation, what transformation or algorithm would you apply, and how does it affect the image?	3	1	10
Q3.	How does the Canny edge detector differ from Sobel edge detection in terms of noise sensitivity and accuracy in detecting edges?	2	2	10
Q4.	What steps should be followed when applying edge detection to an image to ensure accurate and reliable results in noisy environments?	2	2	10

SET- XI

QN.	Question	BL	CO	MM
Q1.	When reconstructing an image from projections in techniques like tomography, what role does interpolation play in improving image quality?	2	1	10
Q2.	Discuss the challenges that might arise when reconstructing a high-resolution 3D image from multiple 2D slices?	3	1	10
Q3.	How does applying a moving average filter (box filter) smooth an image, and what drawbacks does it have compared to more advanced filters like Gaussian filters?	2	2	10
Q4.	In what cases would you choose to apply image smoothing, and how can the kernel size affect the level of smoothness and detail in the image?	2	2	10

SET- XII

QN.	Question	BL	CO	MM
Q1.	How does machine learning assist in object recognition, and what types of algorithms would be used to classify objects in an image?	2	1	10
Q2.	In a Set where object recognition fails due to poor lighting conditions, what preprocessing or image enhancement strategies could be employed to improve accuracy?	3	1	10
Q3.	How does the unsharp mask technique work to sharpen an image, and how can you control the amount of sharpening applied?	2	2	10
Q4.	What issues can arise when sharpening an image with a high-pass filter, and how might it lead to the enhancement of unwanted noise?	2	2	10