R18

ANURAG Engineering College
(An Autonomous Institution)
IV B. Tech I Semester Regular/Supplementary Examinations, Dec-2024
DIGITAL IMAGE PROCESSING
(ELECTRONICS AND COMMUNICATION ENGINEERING)

Time: 3 Hours   Max. Marks: 75

Section – A (Short Answer type questions)   (25 Marks)
Answer All Questions

		Course Outcome	B.T Level	Marks
1.	What is the Kernal for Fourier Transform	CO1	L1	2M
2.	What is 4-, 8-, m- connectivity?	CO1	L1	3M
3.	What is Histogram processing?	CO2	L1	2M
4.	What is selective filtering?	CO2	L1	3M
5.	What are the applications of image segmentation?	CO3	L1	2M
6.	What are the factors affecting the accuracy of region growing?	CO3	L1	3M
7.	Explain Bit plane coding	CO4	L2	2M
8.	What is mean by redundancy?	CO4	L1	3M
9.	What are the advantages of Restoration?	CO5	L1	2M
10.	What are the three methods of estimating the degradation function?	CO5	L1	3M

Section B (Essay Questions)
Answer all questions, each question carries equal marks.   (5 X 10M = 50M)

		Course Outcome	B.T Level	Marks
11. A)	Explain Fundamental steps involved in Digital Image Processing.	CO1	L2	10M
	OR			
B)	i) Explain the properties of slant transform.	CO1	L2	5 M
	ii) Write short notes on Hadamard transform.	CO1	L3	5 M
12. A)	Classify the performance of the following sharpening filters. i) Ideal HPF ii) Butterworth HPF iii) Gaussian HPF	CO2	L3	10M
	OR			
B)	Explain image enhancement by point processing.	CO2	L2	10M
13. A)	i) What is the role of Thresholding in segmentation?	CO3	L2	5M
	ii) Discuss briefly the region-based segmentation	CO3	L3	5M
	OR			
B)	Explain Point, Line and Edge detection in detail	CO3	L2	10M
14. A)	i) Draw the general block diagram of compression model and explain the significance of each block	CO4	L2	5M
	ii) Explain the loss-less prediction code for image compression with neat diagrams and equations	CO4	L2	5M
	OR			
B)	Discuss Image compression using Arithmetic coding with an example	CO4	L3	10M
15. A)	Describe the operation of inverse filter.	CO5	L3	10M
	OR			
B)	i) Write short notes on dilation and erosion.	CO5	L2	5M
	ii) Explain Opening and Closing.	CO5	L2	5M