Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026

Second Semester

Computer Science and Engineering

PCSE2408 – DIGITAL IMAGE PROCESSING

Regulations - 2024

Duration : 3 Hrs ***Maximum : 100 Marks***

PART – A(ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BTL	CO	Marks
1.	Differentiate Sampling and Quantization.	L2	1	2
2.	Recall the mechanics of spatial filtering.	L1	1	2
3.	What is the importance of Fourier transform in image processing?	L1	2	2
4.	Outline RGB color model.	L2	2	2
5.	Infer the concept of boundary descriptors.	L1	3	2
6.	Quote the role of thresholding in image segmentation.	L1	3	2
7.	Identify the morphological image processing.	L1	4	2
8.	Extract the operation of erosion in image processing.	L1	4	2
9.	Define region-based segmentation.	L1	5	2
10.	Show the concept of string matching in pattern recognition.	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No		Questions	BLT	CO	Marks
11.	a	Explain the components of image processing system.	L2	1	16
		Or			
	b	Describe the various enhancement techniques performed in spatial domain.	L2	1	16
12.	a	Explain the model of image degradation and restoration with a neat diagram.	L2	2	16
		Or			
	b	Discuss different color models with examples.	L2	2	16
13.	a	Explain region-based segmentation techniques such as region growing and splitting/merging.	L2	3	16
		Or			
	b	Discuss the applications of morphological operations in image processing.	L2	3	16
14.	a	Organize the different image compression techniques and evaluate their performance in real-time applications.	L3	4	16
		Or			

	b	Implement various morphological operations and explain how they are used for image enhancement and pattern detection.	L3	4	16
15.	a	Examine the different segmentation techniques and evaluate their effectiveness in real-world applications.	L4	5	16
		Or			
	b	Compare the various object recognition methods including structural methods, matching techniques, and neural networks with suitable examples.	L4	5	16

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