Reg. No.												

Question Paper Code	11469

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

Seventh Semester

Electronics and Communication Engineering

(Common to Electronics and Instrumentation Engineering and Instrumentation and Control Engineering)

EC8093 - DIGITAL IMAGE PROCESSING

(Regulations 2017)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Define weber's ratio.	*2,K1,CO1*
2.	State the difference between photopic and scotopic vision.	*2,K1,CO1*
3.	Define box filter.	*2,K1,CO2*
4.	List the two categories of image enhancement.	*2,K1,CO2*
5.	Define Median filter.	*2,K1,CO3*
6.	List the types of noise models.	*2,K1,CO3*
7.	What is segmentation?	*2,K1,CO4*
8.	Define global thresholding.	*2,K1,CO4*
9.	What is the need for compression?	*2,K1,CO5*
10.	Define JPEG.	*2,K1,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Describe the elements of visual perception and image formation in the eye.	*13, K2,CO1*
		OR	
	b)	Describe the components of digital image processing system with a neat sketch.	*13, K2,CO1*
12.	a)	Explain in detail image enhancement using Linear spatial smoothing filters.	*13, K2,CO2*
		OR	
	b)	Explain the various gray level transformation used for image enhancement.	*13, K2,CO2*

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

13. a) Explain in detail about various noise models. *13, K2,CO3*

OR

b) Explain in detail about adaptive filters and its types. *13, K2,CO3*

14. a) Explain Region splitting and merging with detailed sketch. *13, K2,CO4*

OR

b) Explain in detail the various segmentation techniques based on discontinuities. *13, K2,CO4*

15. a) Explain in detail how compression achieved in transform coding. *13, K2,CO5*

OR

b) Explain in detail Regional Descriptors with its types. *13, K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Explain in detail watershed segmentation algorithm. *15,K2,CO4*

OR

b) Explain global thresholding techniques with an example. *15,K2,CO4*