R22 Regulation *Subject code:4P6DD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Regular Examinations, May 2025

DIGITAL IMAGE PROCESSING

(ECE)

Maximum Marks: 60 Date: 23.06.2025 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	List the applications of digital image processing.	1M	CO1	L1
b)	What are the different Image transformation techniques	1M	CO1	L1
c)	Define histogram.	1M	CO2	L1
d)	Low pass filters are used for what purpose in image enhancement?	1M	CO2	L1
e)	What are the two methods of algebraic approach in image restoration ?	1M	CO3	L1
f)	What is the difference between Enhancement and Restoration?	1M	CO3	L2
g)	What is segmentation?	1M	CO4	L1
h)	What are the three types of discontinuity in digital image?	1M	CO4	L1
i)	What are the operations performed by error free compression?	1M	CO5	L1
j)	What is image compression?	1M	CO5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	Discuss the properties and applications of i) Hadamard transform ii) Hotelling transform	5M 5M	CO1	L3
	OR			
3	Explain various functional block of digital image processing.	10M	CO1	L3
4	What are image sharpening filters in sapatial domain. Explain the various types of it.	10M	CO2	L2
	OR			
5	Explain the histogram equalization method of image enhancement.	10M	CO2	L3
6	Write a short notes on i)constrained lest square restoration ii)Interactive restoration	5M 5M	CO3	L3
	OR			
7	Explain the inverse filtering with suitable example.	10M	CO3	L2
8	Explain about Hit or Miss transformation in image processing with example.	10M	CO4	L3

	OR			
9	Explain the segmentation techniques that are based on finding the regions directly.	10M	CO4	L3
10	Explain about Lossy and Lossless predictive coding compression techniques.	10M	CO5	L3
	OR			
11	Explain Huffman coding compression schemes with example.	10M	CO5	L3