

Code No: R18A0422 MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous Institution – UGC, Govt. of India)

IV B.Tech I Semester Supplementary Examinations, April 2023

Digital	Image	Processing
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(ECE)

Roll No	
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Time: 3 hours

Max. Marks: 70

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

		SECTION-1	
1		Describe the fundamental steps in image processing?	[14M]
		OR	
2	\boldsymbol{A}	Discuss the properties of Discrete Cosine Transform?	[7 M]
	B	State and prove shifting/Translation property, Convolution of 2-D-FFT.	[7M]
		SECTION-II	
3	Δ	Explain Spatial filtering in Image enhancement and explain any two	[7 M]
0	1	techniques?	[/174]
	R	With an example, explain the concept of histogram equalization?	[7]
	D		[/1 VI]
4		UN Driefly explain image smoothing using ideal laws near filters and Dutters with	[1/IN/I]
4		binerry explain image smoothing using ideal low pass inters and butterworth	[141/1]
		IOW pass filters.	
_		SECTION-III	
5	A	Explain the need for Image restoration.?	[7 M]
	B	Discuss the minimum mean square error filtering?	[7 M]
		OR	
6	A	Compare image enhancement and restoration techniques?	[7M]
	B	Explain image degradation model with a neat diagram.	[7M]
		SECTION-IV	
7	\boldsymbol{A}	Explain about detection of discontinuities.	[7M]
	B	Discuss briefly the region based segmentation.	[7M]
		OR	
8	\boldsymbol{A}	Explain dilation and erosion operations.	[7 M]
	B	Determine the importance of Hit-or-Miss morphological transformation	[7 M]
		operation on a digital binary image	
		SECTION-V	
9	\boldsymbol{A}	Specify the characteristics of lossless and lossy compression.	[7 M]
	B	Discuss Huffman coding with an example?	[7M]
	-	OR	[]
10	A	Explain IPEG 2000 standards?	[7M]
	R	Draw and explain image compression model	[7M]
	D	****	['***]