Code: P18ECO03

R18

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)
IV B.TECH I SEMESTER END REGULAR EXAMINATIONS, NOV-2022
IMAGE PROCESSING
(Common to CSE & CSIT Branches)

Time: 3 hours Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

PART-A

Answer **all** the questions in Part-A (**5X2=10M**)

Q.No.		Questions	Marks	CO	KL
1.	a)	What are the properties of 2-D DWT.	[2M]	1	1
	b)	Mention the use of image histogram.	[2M]	2	1
	c)	What is image restoration/degradation?	[2M]	3	1
	d)	What are the applications of image compression?	[2M]	4	1
	e)	List out the color image processing models.	[2M]	5	1

PART-B

Answer One Question from each UNIT (5X10=50M)

Q.No.		Questions	Marks	CO	KL
		UNIT-I			
2.	a)	Discuss about the fields that use digital image processing.	[5M]	1	2
	b)	List and explain the important properties of Discrete Cosine Transform.	[5M]	1	1
		OR			
3.	a)	Explain the fundamental steps in digital image processing.	[5M]	1	2
	b)	Write short notes on segmentation and quantization.	[5M]	1	3
		UNIT-II			
4.		With necessary expressions explain the Histogram matching process.	[10M]	2	2
		OR			
5.	a)	Explain about the spatial smoothing and linear filters.	[5M]	2	2
	b)	Discuss about the Butterworth high pass filters.	[5M]	2	3
		UNIT-III			
6.	a)	Discuss about the noise models for image restoration.	[5M]	3	3
	b)	Explain the constrained least squares filtering process.	[5M]	3	2
		OR			
7.	a)	Explain the adaptive and inverse filters for image restoration.	[5M]	3	2
	b)	Explain about the Wiener filter for image restoration.	[5M]	3	2
		UNIT-IV			
8.	a)	Write short notes on coding and spatial redundancy.	[5M]	4	3
	b)	Explain the wavelet coding for image compression.	[5M]	4	2
		OR			

9.		Discuss about the following image compression models. (i) Huffman coding and (ii) LZW coding.	[10M]	4	3
		UNIT-V			
10.	a)	Explain the Pseudo color image processing.	[5M]	5	2
	b)	Discuss about any two color models.	[5M]	5	3
		OR			
11.		Discuss the process of converting colors from RGB to HSI and HSI to RGB.	[10M]	5	3

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