R13

Code No: 117CJ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, April/May - 2018
DIGITAL IMAGE PROCESSING
(Common to ECE, ETM)

Time: 3 Hours **Max. Marks: 75**

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

1.a)	Define a digital image.	[2]
b)	Draw an image for image processing system.	[3]
c)	Present a note on smoothing linear filters.	[2]
d)	What are the applications of gray level slicing?	[3]
e)	Present a note on WEIGHT parameter.	[2]
f)	What are the spatial and frequency properties of noise?	[3]
g)	What are the applications of image segmentation?	[2]
h)	What is meant by watermarking?	[3]
i)	Define image compression.	[2]
j)	What is meant by error free compression?	[3]

PART-B

(50 Marks)

2.a)	Distinguish between digital image and binary image.	
b)	Explain a simple image model.	[5+5]
	OR	
3.a)	Explain the properties of slant transforrm.	
b)	Write short notes on hadamard transform.	[5+5]
4.	Explain image enhancement by point processing.	[10]
	OR	
5.a)	Explain about Ideal Low Pass Filter(ILPF) in frequency domain.	
b)	What is high frequency filtering?	[5+5]
6.a)	Write about component image observation model.	
b)	Discuss about Erlang noise.	[5+5]
	OR	
7.	Discuss about constrained and unconstrained restorations.	[10]

8.a) Explain about Hough transform with an example.
b) What is the role of thresholding in segmentation? [5+5]

OR

9.a) Write short notes on dilation and erosion.
b) Give an overview of digital image watermarking methods. [5+5]

10. Discuss various image compression models. [10]

OR

11.a) Write a short note on fidelity criterion.
b) Explain Huffman coding technique. [5+5]

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