Code No: 127DU

R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, May/June - 2019
IMAGE PROCESSING AND PATTERN RECOGNITION
(Common to CSE, IT)

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)	What is Quantization?	[2]
b)	Write a short note on Interpolation.	[3]
c)	What is Erosion?	[2]
d)	Explain briefly about Edge Detection.	[3]
e)	Explain about Requirements of Image Compression.	[2]
f)	What is Statistical Compression?	[3]
g)	What are Polygonal Approximations?	[2]
h)	Write a short note on Signatures.	[3]
i)	Enumerate the Fundamental problems in Pattern Recognitions.	[2]
j)	Write a short note on Methodologies of Pattern Recognitions.	[3]

PART-B

(50 Marks)

2.	Write detailed note on Sharpening Spatial Filters.	[10]
	OR	
3.	Explain in detail about Histogram Processing.	[10]
4.	Explain in detail about the following Morphological Algorithms:	
	a) Skeletons b) Pruning	[10]
	OR	
5.	Write a detailed note on Segmentation by Morphological Watersheds.	[10]
6.a)	Explain in detail about Spatial Compression Techniques.	
b)	Explain in detail about Pixel Coding.	[5+5]
	OR	
7.	Write a detailed note on Lossy Prediction Type Coding.	[10]
8.	Explain in detail about Regional Descriptors.	[10]
	OR	
9.	Write a detailed note on Principal Components for Description, Relational Descriptors.	[10]
10.	Explain in detail a simple Automatic Pattern Recognition Model.	[10]
	OR	
11.	Write a detailed note on Bayes Classifier for Normal Classifiers.	[10]

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