GUJARAT TECHNOLOGICAL UNIVERSITY ME- SEMESTER II– EXAMINATION – SUMMER 2015

Subject Code: 2720208								Date: 30/05/2015				
Sul Tin Inst	oject ne: 23 ruction 1. 2. 3.	Name: Image :30 PM – 5:00 is: Attempt all quest Make suitable as Figures to the rig	Proc PM tions. sump ght ind	cessing tions wh dicate fu	erever no ll marks.	ecessary.			Total	Marks:	70	
Q.1	(a) (b)	Explain convolution and correlation and also discuss the use of convolution and correlation in digital image processing with appropriate example. Why sampling and quantization is required? Define interpolation and use of interpolation with example.										
Q.2	(a) (b)	Which adjacency method is a modification of 8-adjacency and explain its 0 advantage with example in detail. How to find zero crossing and what is the use of it? 0										
Q.3	(b) (a)	Explain various spatial filter used in image restoration in detail. 0' Equalize the given image histogram: 0'										
		Grey Level No. of pixel	0 500	1 750	2 900	3 856	4 250	5 300	6 150	7 80	0.	
0.2	(b)	Explain Butter Low pass filter	wort s wit	h low p h differe	ass filter ent value	s of D0 i OR	ifferent n freque	values o ency don	f n and nain.	Gaussian	07	
Q.3	(a)	Given a histog Grey level No, of pixel	ram, = 0 50		1 80	s when v	2 10		$\frac{3}{5}$		07	
0.4	(D) (a)	model in brief.	in te	norphole	spanar a	beration	with pro-	omain a	ample. A	Also write	07	
	(h)	down the advantages of these operation (1) Open (2) Close Explain Edge linking with local processing and regional processing methods										
C .	(0)	OR										
Q.4	(a) (b)	Explain Canny Edge detection in detail Explain following morphological operation with proper example. Also write down the advantages of these operation (1) Thinning (2) Thickening										
Q.5	(a) (b)	Explain image smoothing and sharpening in color images.(RGB Color space) 0 Define wavelet. What is the use of wavelet? Discuss Haar transform in detail. 0										
Q.5	(a)	Explain 2D-DWT fast Wavelet transform and discuss analysis filter bank and 0' synthesis filter bank.										
	(b)	Explain any two types of lossy image compression method in detail.										
