Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER- II(New course) • EXAMINATION (Remedial) - WINTER- 2015

Subject Code: 2720208 Subject Name: Image Processing Time:2:30 pm to 5:00 pm Instructions: Date: 10/12/ Total Mark			Date: 10/12/2015	
		70		
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a) (b)	Discuss types of adjacency between pixels with example. Explain how zooming and interpolation method work in images.	07 07	
Q.2	(a) (b)	Explain sharpening filters in detail. What would be the effect on the histogram if we set to zero the lower-order bit planes instead?	07 07	
	(b)	OR What would be the effect on the histogram if we set to zero the higher-order bit planes instead?	07	
Q.3	(a) (b)	Explain linear filter and non-linear filters in spatial and frequency domain Explain Segmentation using HIS and RGB Model. Which would yield better results? OR	07 07	
Q.3	(a) (b)	Explain Image Pyramid. What is the use of creating image pyramid? Explain smoothing and sharpening in color images?	07 07	
Q.4	(a) (b)	Explain Huffman coding compression technique in detail Explain following morphological operation with example. 1. Boundary Extraction 2. Hole filling OR	07 07	
Q.4	(a) (b)	Explain global processing using Hough transform in detail. Explain following morphological operation with example. 1. Thinning 2. Thickening	07 07	
Q.5	(a)	Differentiate between image enhancement and image restoration process with example. Explain various noise models.	07	
	(b)	Explain canny edge detection algorithm in detail. OR	07	
Q.5	(a) (b)	Explain polynomial fit algorithm of an image boundary. Explain run-length coding compression technique in detail	07 07	
