Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 170307 **Date: 29/04/2017**

Subject Name: Image Processing (Department Elective-I)

Time: 02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	(a)	Explain Image Acquisition technique in detail.	07
	(b)	Explain DICOM image format with its application in Medical imaging.	07
Q.2	(a)	Explain Smoothing filtering in Spatial domain.	07
	(b)	Explain Log transformation and Gamma correction with one example.	07
		OR	
	(b)	Explain Contrast stretching and Intensity level slicing with one example.	07
Q.3	(a)	Explain Histogram Matching technique with one example.	07
	(b)	Write short note on Canny Edge Detection.	07
		OR	
Q.3	(a)	Explain method of line and edge detection at various angles in image.	07
	(b)	Explain Linear Hough Transform for image segmentation.	07
Q.4	(a)	Explain Extraction of Connected Components and Convex Hull technique of Morphological image processing.	07
	(b)	Explain Region growing for image segmentation with one example.	07
		OR	
Q.4	(a)	Explain the hit-or-miss transform and its applications in image processing.	07
	(b)	Explain Butterworth high pass and low pass filtering in frequency domain.	07
Q.5	(a)	Explain Hadamard and K-L image Transforms with its application.	07
	(b)	Explain Arithmetic Coding.	07
		OR	
Q.5	(a)	Explain Representation and Description of image.	07
	(b)	Explain Huffman coding.	07

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