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		GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016		
Subject Name: Biomedical Image Processing		` '	Date: 25/05/2016	
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		<u>*</u>	Total Marks: 70	
Ins	1 2	ions: . Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.		
Q.1	(a)	Define image, image processing, image analysis and image understanding. Give the comparison between image processing, image analysis and image understanding.	07	
	(b)	· · · · · · · · · · · · · · · · · · ·	07	
Q.2	(a)	Explain in brief õImage Registrationö. Enlist its applications in biomedical image analysis.	07	
	(b)	Explain histogram equalization in detail.	07	
	(b)	OR Explain any two point wise operations in detail.	07	
Q.3	(a) (b)	Enlist Sharpening Spatial Filter & Explain any one in detail. Design an algorithm for edge detection operations on an input image. (You can write already available/designed algorithm/technique also.) OR	07 07	
Q.3	(a) (b)	Enlist Smoothing Spatial Filter & Explain any one in detail. Design an algorithm for line and edge detection operations on an input image. (You can write already available/designed algorithm/technique also.)	07 07	
Q.4	(a)	Design an algorithm for performing the boundary detection of an input image. (You can write already available/designed algorithm/technique also.)	07	
	(b)	Explain level set edge detection method. OR	07	
Q.4	(a)	Design an algorithm for transforming the input image into low pass filtered image for performing the smoothing operation on the input image. (You can write already available/designed algorithm/technique also.)	07	
	(b)	Explain with suitable example the Graph cut algorithms for image segmentation.	07	

Write a technical note on Diffusion Tensor Imaging

What do you understand by õSnakeö? Write a short note on Active Shape Model

(b) Write a technical note on Hypothesis testing and statistical mapping@

(b) Write a technical note on functional Neuroimaging.

in Image Segmentation.

Q.5 (a)

Q.5 (a)

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