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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
 (AUTONOMOUS)  
**M.Tech I Year II Semester (R16) Regular Examinations May/June 2017**  
**IMAGE AND VIDEO PROCESSING**  
 (DECS)  
 (For Students admitted in 2016 only)

Time: **3 hours**

Max. Marks:**60**

(Answer all Five Units **5 X 12 =60** Marks)

**UNIT-I**

- 1 a. What is meant by image sampling and quantization? 6M  
 b. What is kL transform? What are the advantage of KLtransform?Explain. 6M

**OR**

- 2 a. Which is criteria highlight certain feature of interest? Explain about it 4M  
 b. What is the basic set of operations used in image processing? Explain. 8M

**UNIT-II**

- 3 a. What is high pass filter? Discuss about butter worth high pass filter. 7M  
 b. What is histogram matching? Discuss. 5M

**OR**

- 4 a. Perform histogram equalization of the image.  

4	4	4	4	4
3	4	5	4	3
3	5	5	5	3
3	4	5	4	3
4	4	4	4	4

5\*5 8M

b. Explain edge detection using gradient operators. 4M

**UNIT-III**

- 5 a. Differentiate between linear and nonlinear image restoration techniques. 7M  
 b. Discuss about Blind deconvolution. 5M

**OR**

- 6 a. What is meant by image segmentation? Explain various edge detection techniques for image segmentation. 8M  
 b. Explain region growing technique of image segmentation. 4M

**UNIT-IV**

- 7 a. With reference to image compression explain the following:  
 (i) Lossless compression (ii) Transform coding 12M

**OR**

- 8 a. What is redundancy in images? Discuss about Arithmetic coding. 6M  
 b. Explain about the image file formats. 6M

**UNIT-V**

- 9** a. Explain Region based motion estimation. 6M  
b. Explain predictive coding. 6M

**OR**

- 10** a. Discuss about video coding standards 6M  
b. How sampling is done for video signals 6M

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