

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E Sem-I Remedial Examination April 2010****Subject code: 710404****Subject Name: Image Processing****Date: 09 / 04 / 2010****Time: 12.00 noon – 02.30 pm****Total Marks: 60****Instructions:**

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

- Q.1** (a) Explain procedure for Image sampling and quantization. **06**
 (b) Write a brief note on components of digital image processing. **06**

- Q.2** (a) Write a brief note on applications of Image Processing. **06**
 (b) Explain objectives of digital Image processing. **06**

OR

- (b) How an Image sensing and acquisition process can be performed? **06**

- Q.3** (a) Prove that image quality is depends on spatial resolution and gray level resolution. **06**
 (b) Image averaging process reduces the noise from Image, Prove. **06**

OR

- Q.3** (a) Enlist and explain basic gray level transforms for Image Enhancement. **06**
 (b) Wiener Filter. (Short note) **06**

- Q.4** (a) Explain the process of Image sharpening. **06**
 (b) Define histogram of an Image and explain its applications. **06**

OR

- Q.4** (a) Explain the process of Image smoothing. **06**
 (b) Why histogram equalization process is called automatic enhancement? **06**

- Q.5** (a) What is H.26x? Explain its structure in detail. **06**
 (b) Apply standard 3*3 smoothing filter on image A given below. **06**

OR

- Q.5** (a) Explain various steps performed in MPEG. **06**
 (b) Apply sobel operator on image A given below and find output. **06**

A =

100	230	220	115	110
150	40	50	90	100
200	240	250	80	20
90	80	130	190	180
25	35	45	75	95
