

Name:
Reg no.....

SECOND SEMESTER M.TECH DEGREE EXAMINATION OCTOBER 2014
BRANCH: EMBEDDED SYSTEMS
MODEL QUESTION PAPER

TED 2003 IMAGE PROCESSING WITH DIGITAL SIGNAL PROCESSOR

Time: 3 hrs

Max. Marks 60

(Answer any TWO from each module. Each question carries TEN marks)

MODULE I

1. (a) With neat diagram. Explain the fundamental steps in digital image processing. (5)
(b) Suppose a 3 bit image of size 64x64 pixels has the intensity distribution shown in table. Perform histogram equalization. (5)

r_k	n_k
$r_0 = 0$	790
$r_1 = 1$	1023
$r_2 = 2$	850
$r_3 = 3$	656
$r_4 = 4$	329
$r_5 = 5$	245
$r_6 = 6$	122
$r_7 = 7$	81

2. What is Filtering of image? Explain linear spatial domain filter used to blur the image. (10)
3. Explain the concept of wavelet transform with necessary equations. List its advantages over FT and STFT (10)

MODULE II

4. With required diagram. Explain the architecture of TMS320C6713 floating point processor. (10)

5. (a) With neat diagram. Explain velocity advanced VLIW architecture (5)
- (b) List the features of floating point DSP. With example explain parallel instruction and loop instruction. (5)
6. What is addressing modes? Explain in detail linear and circular addressing modes. (10)

MODULE III

7. With an algorithm explain the concept of contrast stretching and write the C code. (10)
8. Explain the edge detection algorithm and write the MATLAB sobel edge detection function (10)
9. (a) Explain TI software development tools. (5)
- (b) With an algorithm explain the process of histogram equalization. (5)

