Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India

(Autonomous College Affiliated to University of Mumbai)

Mid Semester Examination

September 2018

Max. Marks: 20 | Duration: 1 Hour

Class: B.E. | Semester: VII

Course Code: ITC 7051 | Branch: Information Technology

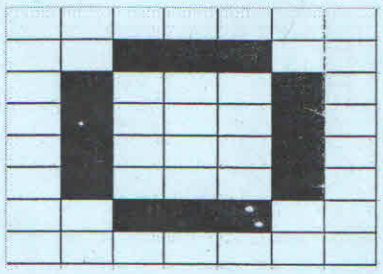
Name of the Course: Image Processing

Instruction:

(1) All questions are compulsory

(2) Draw neat diagrams

(3) Assume suitable data if necessary

Q No.		Max. Marks	CO
Q.1	If all the pixels in an image are shuffled, will there be any change in the histogram? Justify.	04	CO1
Q.2	Given an input image f of size (3*3). Find filtered image using low pass median filter mask. Assume virtual rows and column with repeated border pixels. $f =$ <table><tr><td>5</td><td>6</td><td>2</td></tr><tr><td>2</td><td>3</td><td>1</td></tr><tr><td>6</td><td>1</td><td>0</td></tr></table> **OR** Justify that Median filter is the best solution to remove salt and pepper noise.	05	CO1
Q.3	Let X(n) = {1,3,5,7}. Compute X(K) using DIT-FFT Method. Determine the suitable DFT property and compute FFT of X1(n) = {7,1,3,5} using X(K).	05	CO3
Q.4	Given the Image-A and Structuring element-B below, use Region filling to fill up the image. A =  B = 	06	CO1