SOMAIYA VIDYAVIHAR UNIVERSITY

Semester: October 2022 – January 2023 Examination: Mid Term Examination		
Programme code: 03 **Programme:TY B.Tech.**	**Class:** TY COMP	**Semester: VI (SVU 2020)**
Name of the Constituent College: K. J. Somaiya College of Engineering	**Name of the department:** COMP	
Course Code: 116U01C601	**Name of the Course: Digital Signal and Image Processing**	

Question No.		Max. Marks	CO Mapped
Q1	Determine linear Convolution of following two sequences and solve using graphical method. $x(n) = \{3,2,1,2\}$ $\uparrow$ $h(n) = \{1,2,1,2\}$ $\uparrow$ **OR** Apply Circular Convolution on the given sequences. x(n)={-1,1,2,-2) ↑ h(n)={0.5,1,-1,2,0.75) ↑	10	CO1
Q2a	Apply average filters of (3 ✖ 3 mask) on the following image. 1 1 2 3 2 2 1 1 2 3 2 2 4 4 2 5 1 1 1 1 2 6 3 3 2 2 4 6 7 7 2 2 4 6 7 7	5	CO1
Q2b	Apply histogram equalization on the following image 2 3 3 2 4 2 4 3 3 2 3 5 2 4 2 4	5	CO1

Q3	Given an image of size 3*3 as f(m,n)=	10	CO1

128	212	255
54	62	124
140	152	156

Determine the output image g(m,n) using logarithmic transformation by choosing

i) C=1

ii) $$C = \frac{L}{\log_{10}(1+L)}$$