Course: Digital Image Processing and Pattern Recognition
Class Test: 2   Total marks: 20

1) Consider the following 8-bit image: Apply the following transformation to this image   5
   and show the histogram of the new image. Here C is constant, and R is input pixel.

$$S = C \times R^{1/2}$$

16	16	64	64
4	16	16	4
4	16	16	4
100	225	225	100

Answer:

2) Explain how can you sharpen an image using Laplacian operator?   4
   Answer:

3) Prove that the SNR will be improved if we use average filter on an image.   4
   Answer:

4) Given the 3-bit 4 × 4 image:

$$M = \begin{array}{|c|c|c|c|} \hline 0 & 0 & 0 & 4 \\ \hline 1 & 1 & 1 & 5 \\ \hline 1 & 2 & 2 & 7 \\ \hline 2 & 2 & 2 & 7 \\ \hline \end{array}$$

Perform histogram equalization and find the resulting image.
Answer: