MCAE – 404 Digital Image Processing
Minor-I

Time: 1 Hour **Total Marks: 15**

1. A common measure of transmission for digital data is the baud rate, defined as the number of bits transmitted per second. Generally the transmission is accomplished in packets consisting of a start bit, a byte (8 bits) of information and a stop bit.

   Using these facts, how many minutes would it require to transmit a 1024×1024 image with 256 intensity levels using a 56K baud modem?

   [3]

2. Give a single intensity transformation function for spreading the intensities of an image so the lowest intensity is 0 and the highest is L-1.

   [2]

3. Describe the process of Histogram Equalization mathematically. Suppose that a digital image is subjected to histogram equalization. Show that a second pass of the histogram equalization (on the histogram equalized image) will produce exactly the same result as the first pass.

   [2+4]

4. Define a Laplacian. Where and how it is used in image processing? Explain with the help of an example.

   [4]