Results and Discussion:

There are many Approaches for image enhancement, but they occur at a cost of non-uniform illuminance. Apart from this, preservation of details in an image is also another necessary task. However, both these statement contradict each other.

Hence, technique has to be devised which can increase contrast as well as preserve image details. Our proposed algorithm, gives freedom to the user by manually setting the parameters, lambda and gamma, to obtain image as per requirement. Increase in lambda, increases contrast, while at the same time, increasing the parameter gamma, preserves detail. Value of lambda is usually varied on the scale 0-20, where 0 stands for no contrast enhancement, while change in gamma occurs in range of 1000-109. For Lambda value as 4 with gamma 50000 is suitable, and provides good results with almost every Image. Our proposed technique, when compared with state of art techniques like Histogram Equalization, provides outstanding results.

We have optimised the input histogram with cuckoo search as apart from increasing the contrast and preserving details, it also preserves the original colours of the image, making it superior over other Optimization Techniques.