



Q1) State whether true or false and justify your answer:-

1. What eyes see is always true.
2. Computer vision is a part of the image processing field.
3. Image enhancement is needed only for human visual perception.
4. PMF and PDF are identical terms.
5. The image processing has image as input and description as output.
6. Image rotation affects the image intensity value.
7. Setting the most significant bit of the image pixels to zeros does not affect the appearance of the object on the scene.
8. The probability of the appearance of the white color in a given image equals $1/256$.
9. Images with a good contrast always have a Gaussian shaped histogram.
10. Histogram equalization enlightens dark images.

Q2) Consider the PMF, $p_r(r) = A \exp(-(r - 2)^2)$, determine the value of A if r takes values in a color set of {1, 2, 3, 4, 5}.

Q3) Find the transformation function $z=T(r)$ for a histogram matching process when the PDF of the input image is given by $p_r(r) = A \exp\left(-\frac{r}{255}\right)$, $r \in [0,255]$. Determine the value of A as well.

Good Luck