ASSIGNMENT

Develop a generalized retinal blood vessel segmentation algorithm using Neural Network (NN).

i. Analyse and make an optimal set of features for 'complete' vessel-map extraction, which specifically differentiates : **(40)**

   a) Optic Disc boundary from vessel pixels

   b) Dark edges of abnormalities from vessels

   c) Low contrast, thin vessels from background pixels

ii. Follow 'leave-one-out' strategy to train and test the NN i.e. first, train using images from 1 to 19 and test it on image 20. Then, train using images 1 to 18 and 20, test on 19 and so on. Thus, display the results corresponding to each image. **(40)**

iii. Evaluate the performance of algorithm in terms of accuracy, sensitivity, specificity and Area Under Receiver Operating Characteristics Curve (AUC under ROC). **(20)**