# Assignment-6

# Image Classification using Transfer Learning & CNN

## 1st Question Carries 50 Marks & 2nd Question Carries 50 Marks

1. Two Class Classification of Skin_Cancer Dataset
   a. Use a pretrained VGG-16 model on Imagenet dataset by removing the top fully connected layers and adding three dense layers having 64, 32 and 2 neurons with relu, sigmoid and softmax activation functions respectively for classifying the two class Skin_Cancer RGB dataset given in Teams.

   b. Use a pretrained VGG-16 model on Imagenet dataset by removing the top fully connected layers and extracting the deep features and modelling them using a Random Forest classifier for classifying the two class Skin_Cancer RGB dataset given in Teams.

   c. Use pretrained VGG-16 and VGG-19 model on Imagenet dataset by removing the top fully connected layers and extract the deep features, fuse the deep features and model them using a Random Forest classifier for classifying the two class Skin_Cancer RGB dataset given in Teams.

2. Three Class Classification of Orange_Dataset
   a. Use a pretrained VGG-16 model on Imagenet dataset by removing the top fully connected layers and adding three dense layers having 64, 32 and 3 neurons with relu, sigmoid and softmax activation functions respectively for classifying the three class Orange_Dataset RGB dataset given in Teams.

   b. Use a pretrained VGG-16 model on Imagenet dataset by removing the top fully connected layers and extracting the deep features and modelling them using a Random Forest classifier for classifying the three class Orange_Dataset RGB dataset given in Teams.

   c. Use pretrained VGG-16 and VGG-19 model on Imagenet dataset by removing the top fully connected layers and extract the deep features, fuse the deep features and model them using a Random Forest classifier for classifying the three class Orange_Dataset RGB dataset given in Teams.