**Indian Institute of Information Technology Guwahati**
**CS360: Lab Experiment 6**

# Support Vector Machine

Date: 24.09.2019 Total Marks: 20
Deadline: 30.09.2019

Before beginning, read the attached file *help.pdf* and use the attached matlab files which will direct you to proceed following experiments:

Q.1) Implement support vector machine (SVM) on the dataset *Data.csv* and predict the same dataset using the SVM (ie. same data for training and testing). Output the following:

1. Plot the data
2. Weight vector **W** and bias **b**
3. Confusion Matrix
4. Accuracy and F1 score
5. Plot the data with decision boundary

10 marks

Q.2) Now use Cancer dataset to build SVM and output Accuracy and F1 score.

a) *Training data.csv* for training and *Testing data.csv* for testing the model.

b) Combine both training and testing data, then randomly choose 80% of the data for training and remaining 20% for testing.

10 marks