**Problem Statement - Part II, Assignment Part-II**

The following questions are the second part of the graded assignment. Please submit the answers in one PDF file. For writing normal text, please use MS Word (or similar software that can convert documents to PDF). For equations and figures, you can write/draw them on a blank sheet of paper using a pen, click images and upload them in the same Word document.

The final submission will be in the form of one PDF file. A sample PDF to illustrate the submission format is provided below.

**Note**: **DO NOT** copy or paste answers from *anywhere,* and type the answers in your own words; your solution files will be tested using automatic plagiarism checkers and will attract a heavy penalty if plagiarism is detected.

Please limit your answers to less than 500 words per question.

**Question 1**

What is the optimal value of alpha for ridge and lasso regression? What will be the changes in the model if you choose double the value of alpha for both ridge and lasso? What will be the most important predictor variables after the change is implemented?

**Question 2**

You have determined the optimal value of lambda for ridge and lasso regression during the assignment. Now, which one will you choose to apply and why?

**Question 3**

After building the model, you realised that the five most important predictor variables in the lasso model are not available in the incoming data. You will now have to create another model excluding the five most important predictor variables. Which are the five most important predictor variables now?

**Question 4**

How can you make sure that a model is robust and generalisable? What are the implications of the same for the accuracy of the model and why?

The sample solution format is attached below.