CE361a: Assignment 2

Marks: 100 **Due Date: Thursday, September 14, 2017**

The attached excel file contains hourly rainfall data (in mm) for 99 years. Plot the Intensity-Duration-Frequency (IDF) curves by first estimating maximum intensity for 30-min, 1-h, 2-h and 4-h duration storms of return periods 2-, 5-, 10-, 50- and 100-years.

Notes:

1. There are 365 days in each year.
2. Use Weibull plotting position formula for estimating frequencies.
3. You can use any software of your choice.
4. Submit a single zip folder in the Brihaspati server under Hmwk02. The name of the zip-folder should be “your roll-number_Hmwk02” (e.g. If your roll no. is 99999, the folder name should be '99999_Hmwk02.zip'). The folder should include – (a) all the computer program file(s), (b) a pdf file containing the table showing the values of intensities for different durations and return periods, and a figure showing the IDF curves.
5. Optional: Fit an equation of the form given below. You will get 20 bonus marks for correctly fitting the equation.

$$i = \frac{KT^{x}}{\left(D + a\right)^{n}}$$

The symbols have usual meanings as discussed in the class.