Speech Signal Processing

Assignment 4 — Course Code **EC5.408**
Max. points **30**

Note:

- Always cite your sources (be it images, papers or existing libraries). Follow proper citation guidelines
- Unless specifically permitted, collaborations are not allowed.
- Do not copy or plagiarise, if you're caught for plagiarism or copying, penalties are much higher (including an **F** grade in the course) than simply omitting that question.
- Need to mention clearly if any assumptions are being considered.
- No late submissions are accepted.

Syntax to be followed for submission

- A single zip folder has to be uploaded in the moodle, which should contain the snapshots of your Numericals, oberservations to be saved in a pdf format and computer based questions (code) should be placed in the respective folder. And the name of the zip file should strictly be **EC5_408_A4_RollNo.zip**

- For this assignment you can use either ***Python*** or ***Matlab*** which ever your are comfortable.

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1. Calculate Epochs using ZFF approach. **Note : Computer based Question [10 points]**
2. Find LP Residual for a wave file of your choice and apply mfcc on it. write your observations. **Note : Computer based Question [10 points]**
3. Calculate 7 prosody features for 4 wave files of same sentence spoken by different Native speakers(Mother tongue). Comment on variations in each feature.**Note : Computer based Question [10 points]**
   Ex: Sentence be like "Mera Bharath mahan". The same sentence should be recorded by 4 different native speakers.
