FCS CEP for TE (EE) batch 2020

DC motor control for the following methods

Armature control method

Tasks:

1) Identify physical parameters (for example via system Identification toolbox on MATLAB or via step response method etc.)
2) Convert the motor differential equation into Laplace transform (Transfer function)
3) Plot or obtain different stable responses studied in FCS by adding a control parameter.
4) Apply Routh Criteria and find the range of stability for motor speed control.
5) Plot root locus indicating the all the responses.
6) Add gears at the shaft of the motor to control different speed levels and repeat above exercises (Bonus Marks)
7) Plot bode plot (Bonus Marks)
8) And any other analysis you learnt etc. (Bonus Marks)

Note: Get suitable rating of DC motor for your own choice.

Instructions for Group Details and Marks:

1) Maximum 5 members in a Group.
2) Any control method can be chosen by the group.
3) Maximum marks of the project are 20, which are distributed as follows.
   (a) Marks from Theory sessional (Max: 10)
   (b) Marks from Practical sessional (Max: 5)
   (c) Marks from final Lab Viva (Max: 5)
4) Ask the details about the bonus marking from your teacher Sir Dr. Riaz Uddin / Sir Javed / Sir Adeel.
5) For any details regarding the CEP/project, please consult your respective course teacher Sir Dr. Riaz Uddin / Sir Javed / Sir Adeel.
6) Final date of project evaluation and report submission will in the 14^{th} week (exact date will be communicated by the respective course teacher). However, mid-evaluation will be conducted by the department in the 9^{th} week.