**Assignment 19 (February 20 – 25)**

1. Find the particular integral of each of the following equations by the method of undetermined coefficients:



2. Without finding their characteristic roots, determine whether the following differential equations will give rise to convergent time paths:







3. Find all  such that all solutions of the differential equation converge to zero as  goes to .

4. Find the polar form of the following complex numbers:





5. Using the method of Lagrange find points of extrema and classify them for the objective function  under constraints: . How does the optimal value of the goal function change if the right side of each constraint decreases by 0,1?