## Indian Institute of Science

Mathematical Methods and Techniques in Signal Processing

Instructor: Shayan Srinivasa Garani Home Work #2, Spring 2022

Late submission policy: Points scored = Correct points scored  $\times e^{-d}$ , d = # days late

**Assigned date:** Mar. 1st, 2022 **Due date:** Mar. 15th, 2022, 11:59 pm.

Solve problems 4.11 (along with the plots for  $Y(e^{j\omega})$  and  $S(e^{j\omega})$ , obtain the expressions after each stage in the signal flow diagram, be it filtering or downsampling or upsampling), 4.15 (Work out the problem with parameters L=3 and M=5), 4.25, 4.27 and 4.30 from P. P. Vaidyanathan's book. (100 pts.).