

Modeling and Simulation, CS302
Lab-5 (Part-2)
Due Date: March 10, 2021 (Tuesday)

In this lab we look at one of the pioneering works in modeling infectious respiratory disease (SARS) via compartment model. The paper was authored by Lipsitch *et. al.* and appeared in Science in 2003. This lab should be considered as an extension of Lab-5 and hence will be a part of the same report. It is suggested to go through both the relevant material from the book (already provided) and the original paper.

1. **(Modeling SARS)** Read the SARS model and using Fig. 6.2.4 obtain the set of differential equations.
 - (a) From the set of differential equations implement and comment on project questions 5 – 7.
 - (b) Work on question 8 and discuss your findings.
 - (c) By reading the original paper by Lipsitch *et. al.* try to extract the parameters and understand the various interventions discussed in it. Reproduce Fig. 6 in the original paper and include a short summary in the lab report.