**Review Questions**

**Submission Time:** 12:35 pm, 8th April, 2021

Answer the following questions based on the Lipsitch Model discussed in the class.

**a.** Suppose *k* = 10 contacts/day, and *N*0 = 10,000,00 people. Give the percentage of contacts per day.

**b.** Suppose 8% of contacts between an infectious and a susceptible person result in transmission of the disease. Give the corresponding parameter, its value, and units.

**c.** Using your answers to Parts a and b, what percentage of all possible contacts results in transmission of SARS each day?

**d.** If the sizes of *infectious\_undetected* (*IU*) and *susceptible* (*S*) are 500 and 9,000,00, respectively, give the total number of possible contacts.

**e.** Determine the rate of change of those going from *susceptible* (*S*) to *susceptible\_quarantined* (*SQ*).

**f.** Evaluate the basic reproduction number, *R*0, using the above values and *k* = 10 contacts/da, *b* = 0.06, *v* = 0.04, *m* = 0.0975, *w* = 0.0625, and *q* = 0.1.