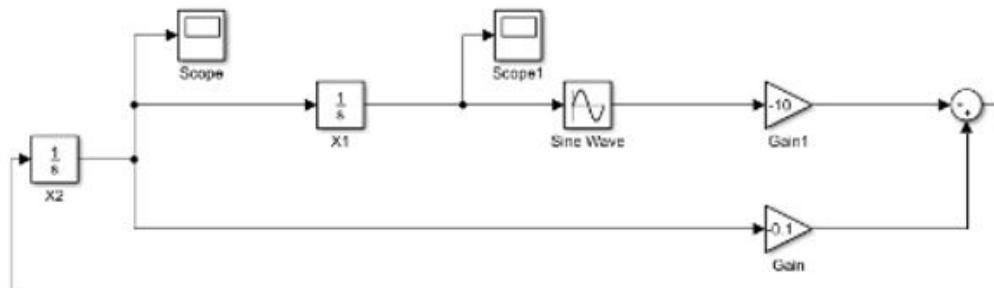


(b) Simulation model of the system in Simulink is as follows:



After putting the values, I get the equation of $X2'$ as follows:

$$X2' = -10 \sin X1 - 0.1 X2$$

The initial condition of $X1'$ is taken as 1 and is shown as follows:

