If the space provided for an answer is not sufficient, please continue on the back or attach an additional sheet.

Name: .....

Term: ..... **Subject:** ..... **System Modeling & Control** .....

Teacher: A. Mhamdi

Do not write in this table.

Question:	1	Total
Points:	10	10
Score:		

1. Consider the following equation:

$$\frac{1}{3}y^{(3)}(t) + 2y^{(2)}(t) + 0.7y^{(1)}(t) + 1.2y(t) = 3\sqrt{2}\sin(2.5\pi t - 20°) - 0.1,$$

given $y_0^{(2)} = 0.2, y_0^{(1)} = -1$, and $y_0 = 0$

(a) (5 points) Draw the corresponding diagram using `Simulink` and run it for 25 sec.

(b) (2 points) Make a subsystem.

(c) (3 points) Mask the subsystem previously created.