Question 1 –

System identification sessions for each dataset has been attached to this document. The selected models are presented in the table below. System identification path can be followed for each system using the attached sid files.

Data set	Acceptable models
System 1 (u_1 , y_1)	oe323
System 2 (u_2 , y_2)	arx224
*System 3 (u_3 , y_3)	armax2222
**System 4 (u_4 , y_4)	armax2211 / armax2111
System 5 (u_5 , y_5)	bj11221

* This dataset has sinusoidal noise which should be removed by filtering frequencies around 0.9 Rad/s.

** Both models are acceptable, however armax2211 is preferred due to better residual analysis results.