

APL103 – EXPERIMENTAL METHODS Minor 2

Student name: Aamna

Entry #: 2016TT10898

Question 1 (6 Marks): Design a length (linear) measuring instrument, based on:

- (i) Variation in resistance
- (ii) Variation in inductance

You should briefly explain their working along with their sketches. Also explain the source of error.

Question 2 (4 Marks): what should be the ideal frequency response of the instrument? Plot likely frequency response of the instrument that is:

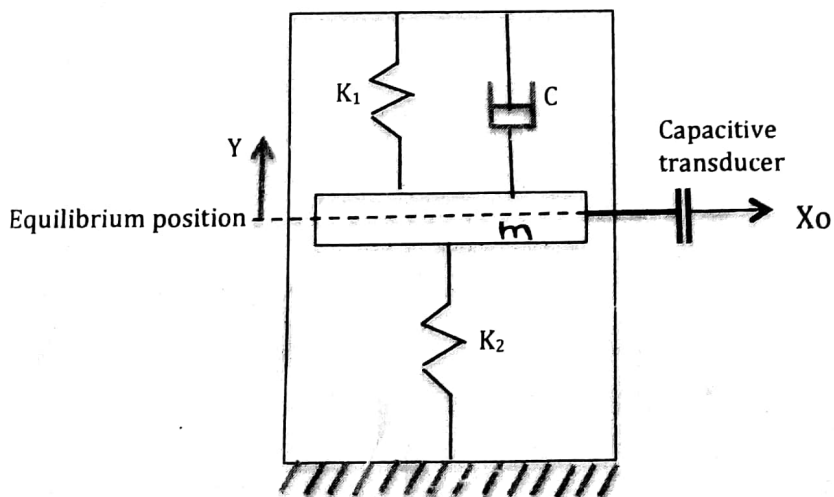
- (i) Good for slow varying signal
- (ii) Good for fast varying signal

Question 3 (4 Marks): Describe briefly along with the figures:

- (i) Hysteresis of the instrument
- (ii) 1st and 2nd order instruments

Question 4 (4+2 Marks): For a fig. shown below:

- (i) Determine the equation of motion and the order of the equipment.
- (ii) Draw/plot the likely variation of X_0 against Time for the capacitance based transducer as shown in the figure.



----- END -----

NOTE: IF you think something is missing, please feel free to assume the data. But do not forget to clearly mention your assumption/s.