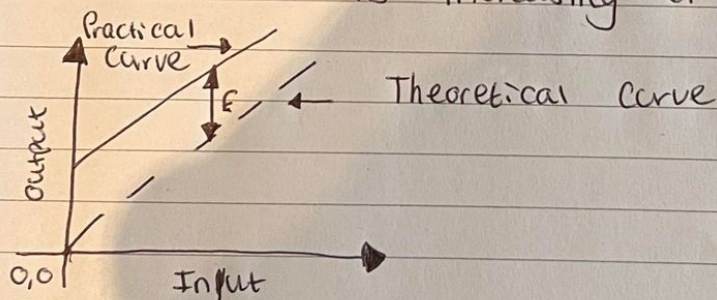


1) a) Transducers convert the physical measurement into an electrical signal. These can then be converted into a digital signal.

Although the relationship is not perfectly linear and it is necessary to find a way of using the device to get the most accurate results.

b) All transducers are affected by hysteresis. An output of a transducer depends on the input quantity but also on previous inputs. This means a different output is obtained when the same value of input quantity is applied. This change depending on if it is increasing or decreasing.



c) A resistance strain gauge will be applied to measure pressure. It measures external force that is applied to a fine wire. The wire is formed into a grid. When the pressure changes it causes a resistance change because the fine wire gets distorted. The value of pressure can be found by measuring the change in resistance of the wire grid.