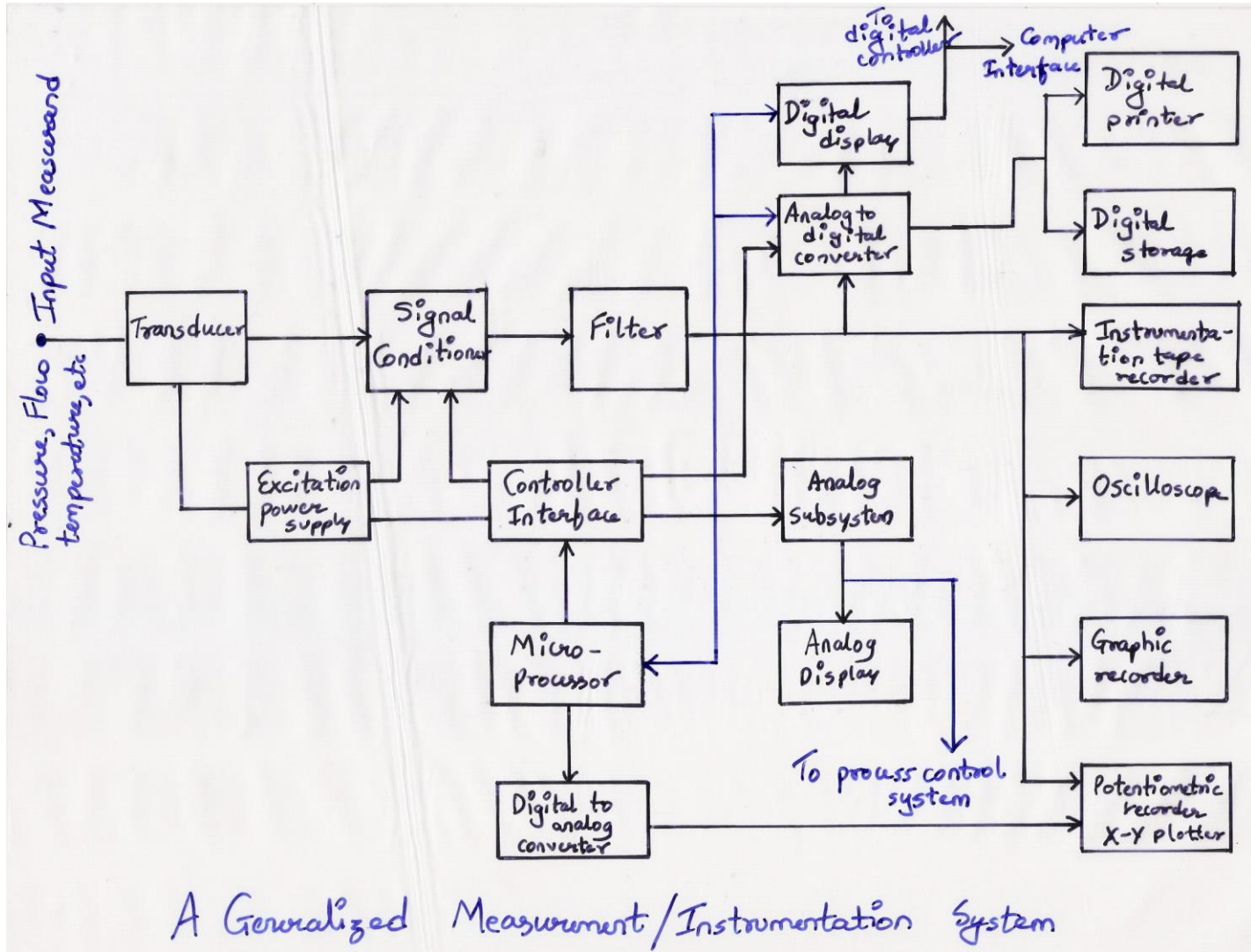


Elements of Measuring Systems



- A generalized measurement system comprises of the following elements:

- a) The Transducer which converts the measurand (measured quantity, property or condition) into a usable electrical output.
- b) The Signal Conditioner which converts the transducer output into an electrical quantity suitable for control, recording or display.
- c) The display or readout devices which displays the required information about the measurand generally in engineering units.
- d) The electrical power supply which provides the required excitation to the transducer and the necessary electrical power to signal conditioners and display devices.

- Transducer is defined as a device which, when actuated by one form of energy, is capable of converting it to another form of energy.

The transduction may be from mechanical, electrical or optical to any other related form.

- The signal conditioner can vary in complexity from a simple resistance RL to complex multistage amplifiers with or without detectors, demodulators, and filters.

- Alternately, they are termed as signal modifiers or signal processors. The o/p signal may be an analog or digital quantity.

- Readout or display devices may be in analog or digital format.