Introduction	
Instrumentation	It's a branch of engineering that studies the measurement and control of process variable
instrument	It's a device that is used to measure or control the process variable

Temperature	
Temperature	It's a degree of hotness or coldness of a body
Heat	It's a form of energy that can be used to do work
Thermo-couple	A temperature sensor that uses the principles of change in **EMF** developed between two dissimilar metals connected at one junction (*hot/measuring junction* & cold/reference junction)
Grounded hot junction	A Thermo-couple were by the sensing element is physical attached to the inside of the probe wall.
Ungrounded junction	A Thermo- couple were by the sensing element is isolated from the inside of the probe wall.
Exposed Junction	A Thermo-couple were by the sensing element is exposed to the surrounding enviroment.
Ambient temperature	It's the air temperature that surrounds us.
Resistance Temperature Detector(RTD)	A temperature sensor which measures temperature using the principles that the resistance of metal changes with temperature.
Black body	Is a body that absorbs all the radiation falling upon it.

Pressure	
Pressure	It's a force applied on a surface per unit area.
Absolute pressure	Total pressure exerted above absolute zero.pressure
Gauge pressure	It's the pressure exerted above atmospheric pressure.
Atmospheric pressure	It's the pressure exerted by the weight of atmosphere.
Vacuum	It's the pressure exerted below atmospheric pressure.
Differential pressure	It's the algebraic difference between two pressures.

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Not published yet.
Last updated 29th July, 2021.

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Final Control Element	
Final control element	It's a device that manipulates a process variable(process control system)
Control valve	It's a mechanical device that is fitted in a pipeline throttling the flow.
Actuator	It's a mechanical device that controls the valve.
Air regulator	It's a mechanical device that is used to regulate the pressure and keep it constant.
Lock-up device	It's a device that is used to seal the air system feeding a pneumatic operated control valve in the event of an air failure.
Volume booster	It's an auxiliary force balance pneumatic which speeds up the response of a diaphragm motor when actuated by a pneumatic signal.
Positioner	It's a device that receives and gives control signals for the actuator and make sure to move it to desired position.
Electropneumatic transducer (I/P)	It's a transducer which convert analog electric controller signal into proportional air signal.
Solenoid valve	It's an electromechanical operated valve.
Stroking	It's a procedure of checking out the operation of a control valve.

Electronics	
Electronics	It's a study of how to control the flow of electrons.
Soldering iron	It's an instrument use to do soldering on electronic component.
Flux	It's a chemical that removes the oxides during the soldering process, forcing the oxides away from the solder joints.
Soldering wire	It's a fusible metal alloy with a low temperature melting point used to permanently join two metals that have a higher melting point.
Resistor	It's an electrical component that resist the flow of current.
Resistance	It's an opposition to the flow of current.

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Electronics (cont)	
Potential difference	It's the difference of electrical potential between two points.
Current	It's the rate of flow of charge.
Capacitor	It's an electrical component that stores electrical energy in an electric field.
Capacitance	It's the ability of an electrical component to store energy in a form of electric charge.
Conductor	It's a material that have a low resistance.
Semi-conductor	It's a material that have moderate resistance.
Insulator	It's a material that have a high resistance.
Power	The rate at which energy is being transferred in an electric power.
Light Dependent Resistor(LDR)	It's an input transducer which converts brightness to resistance.
Thermistor	It's an input transducer which converts temperature to resistance.
Inductor	An inductor is a passive electronic component that stores energy in the form of a magnetic field.
Transducer	It's a device that convert one type of signal into another type of signal.
Input transducer	Convert a quantity to an electrical signal or resistance.
Output transducer	Convert an electrical signal to another quantity.
Alternating current	It's an electric current which periodically reverses direction and changes magnitude continuously
Direct current	It's an electric current which flows in one direction
Diode	It's an electrical component that allows current to flow in one direction.
Transistor	It's a semiconductor device with three connection used to amplify or switch electronic signals.
Integrated circuit	It's an assembly of electronic component scuffed in a chip.
Cathode Ray Oscilloscope	
Breadboard	It's a board used to make temporary circuit.
Stripboard	It's a board used to make permanent circuit.

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