

- Q)In a generalized measurement system the function of signal manipulating element is to--> **change the magnitude of the input signal while retaining its identity**
- Q)Backlash is--> **maximum angle or distance through which any part of mechanical system may be moved**
- Q)A set of readings has a wide range and therefore it has--> **low precision**
- Q)Measurement of speed of a rotating shaft by means of electrical tachometer is a--> **tertiary measurement**
- Q)The intermediate stage of an instrument is used to--> **Condition and transmit the signal after it has been transduced**
- Q)The measurement of a quantity is an act of--> **comparison of an unknown quantity with a predefined acceptable standard**
- Q)The indirect measurement involving one translation are called--> **secondary**
- Q)The measuring instrument is an essential component of an--> **automatic control**
- Q)The following are the desirable dynamic characteristics of measurement system--> **fast response and fidelity**
- Q)In Second order system, the peak overshoot is 100%, the value of damping factor is--> **0**
- Q)A 2gm mass is suspended from a simple spring. The deflection caused is 5mm .the natural frequency of the system is--> **7 Hz**
- Q)Bandwidth , a frequency domain concept is indicative of--> **settling time in time domain**
- Q)The voltage of a circuit is measured by a voltmeter having an input impedance comparable with the output impedance of the circuit thereby causing error in voltage measurement the error is--> **error caused by loading effect**
- Q)A quantity whose magnitude has a definite repeating time cycle is called--> **steady state periodic**
- Q)Tick the odd one out--> **optical radiation pyrometer**
- Q)Indicate the externally powered type of instrument transducer--> **photo emissive cell**
- Q)A diaphragm has a natural frequency of 30 KHz,if both its diameter and thickness are halved, its natural frequency is--> **60 kHz**
- Q)A resistance potentiometer is a--> **zero order**
- Q)In a resistance potentiometer high value of resistance of POT leads to--> **high value of sensitivity**
- Q)In a wire wounded strain gauges the change in resistance on application of strain is mainly due to--> **change in both length and diameter**
- Q)One of the following acts as inverse transducer--> **piezo electrical crystals**
- Q)While selecting a transducer for a particular application--> **input, output and transfer characteristics should be considered**
- Q)A transducer converts--> **one form of energy into another form**
- Q)An inverse transducer converts--> **electrical energy into another form of energy**
- Q)Specify the transducer which is generally used for dynamic rather than static--> **piezo electric**
- Q)The resolution of wire wound voltage dividing displacement transducer can be improved by--> **reducing the diameter of the wire**
- Q)The piezoelectric transducer has the following advantage except--> **capability to measure both static and dynamic characteristics**
- Q)Identify the incorrect statement about L.V.D.T--> **is a self generating type of transducer**

- Q)A reliable instrument--> **gives reproducible results within specified limits**
- Q)THE L.V.D.T is an inductive transducer which function due to--> **variation in position in core**
- Q)Identify the first order instrument--> **piezo electric pick ups**
- Q)Which of the following is second order instrument--> **spring mass system for force measurement**
- Q)Ceramic materials are used for piezo electric transducer--> **they are crystalline in nature made of barium titanate and have peizo electric crystal.**
- Q)QUARTZ AND ROCHELLA SALT BELONG TO--> **natural group of piezo electric materials**
- Q)Which of the following photoelectric devices is most suitable for digital applications--> **photo voltaic cell**
- Q)Specify the photo electric devices which convert the light information to resistance information--> **photo conductive cell**
- Q)A thermistor exhibits--> **can exhibit either a negative change of resistance with increase in temperature**
- Q)Capacitive transducer are normally used for--> **dynamic measurement**
- Q)In a L.V.D.T, the core is made up of--> **high permeability nickel- iron hydrogen material**
- Q)Thermocouples are--> **active transducers**
- Q)Statistical analysis of measured data accounts for--> **hysteresis in elastic members**
- Q)Linear or angular velocity is measured by active transducers that depends upon--> **the movement of the conductor through a magnetic field**
- Q)Specify the transducer which is generally used for dynamic rather than for static measurement--> **capacitive**
- Q)A set of readings has wide range and therefore it is--> **high precision**
- Q)Systematic error in a bourdon tube pressure gauge may be caused by--> **incorrect zero setting of the pointer**
- Q)Errors which may be variable both in magnitude and nature are classified--> **random error**
- Q)A potentiometer produces large variations in resistance by--> **moving a slider across a resistor**
- Q)Gearing , backlash friction between moving parts , and scale inaccuracies are generally known as--> **instrument error**
- Q)Law of intermediate metals in thermocouples are--> **use extension wires of materials other than one used**
- Q)THERMOPILE IS--> **combination of number of thermocouples connected in series**
- Q)Radiation pyrometers are used in the temperature range of--> **1200-2500⁰C**
- Q)the probes used for measurement of temperature of high speed flows--> **recovery temperature**
- Q)Mercury is used in liquid filled in systems as it gives--> **wide temperature range and linear scale**
- Q)RTDs present no problem in measurement of temperature because--> **none of the above**
- Q)The pointer scale instrument have a ----- frequency response--> **very low**
- Q)Errors which may be variable both in magnitude and nature--> **random error**
- Q)Semiconductor resistors used for the measurement of temperature are called--> **Thermistors**
- Q)In optical pyrometer absorption filters are used to--> **increase the life of bulb filament**
- Q)Thermometer used to measure the temperature of furnace--> **radiation pyrometer**

- Q)Which arrangement has the manual null balance operation--> **optical pyrometer**
- Q)Thermistors are--> **semi conductors**
- Q)The frequently used metal in a resistance thermometer for temperature is--> **platinum**
- Q)Which of the following can be used temperature measurement below-40°C--> **alcohol**
- Q)The bending of bimetallic strips during rise in temperature is due to difference in their--> **coefficient of linear expansion**
- Q)A U tube differential manometer--> **used inverted when pressure difference is small**
- Q)Expansion thermometer among the following are--> **All**
- Q)When RTD is subjected to a change in temperature, change in resistance occurs mainly due to--> **change in area of cross section of wire**
- Q)The constant volume thermometer works on--> **Boyles law**
- Q)Mercury is used in barometers because it--> **has high density**
- Q)This type of bourdon tube has a small tip travels and necessitates amplification--> **C-type**
- Q)Which metal or non metal has the highest temperature range--> **copper**
- Q)A dead weight tester is used for--> **calibrating the pressure measuring instrument**
- Q)Which of the following gauges is used to measure for calibration purpose--> **dead weight tester**
- Q)Stagnation pressure is--> **both static and dynamic**
- Q)Velocity pressure is difference--> **stagnation pressure and static pressure**
- Q)Desirable property of a manometric fluid--> **low vapor pressure**
- Q)The following thermocouple arrangement is used to measure average temperature--> **parallel**
- Q)Differential manometer is used to measure--> **pressure**
- Q)According to Stefan Boltzman law the energy radiated by a hot body is proportional to its--> **fourth power of temperature**
- Q)The following instrument is well suited to measure time varying temperatures--> **RTD and thermistor**
- Q)Bridgeman gauges use--> **manganin and gold chrome**
- Q)McLeod gauge--> **sensitive to condensed vapor**
- Q)Bridgeman gauges are used to measure--> **very high pressure**
- Q)The reading of an inclined tube manometer is 10mm when the inclination of leg is 80°. if everything remains the same, what would be the reading if the inclination is changed to 60°--> **8.8mm**
- Q)A manometer has a damping factor of 0.3, suppose the volume is halved, its damping factor will be--> **0.42**
- Q)Pressure transducer using LVDTs have--> **poor dynamic response**
- Q)capacitive type pressure transducer have--> **good frequency response**
- Q)Among the following device which is not used for measuring vacuum--> **hydrometer**
- Q)High vacuum pressure is expressed in--> **torr**
- Q)One which is not used for measurement of negative pressure--> **piezometer tube**
- Q)In Knudsen gauges the temperature of plates is--> **greater than that of vane**
- Q)In thermal conductivity gauges the major source of error is heat lost on account of--> **radiation**
- Q)In thermocouple gauges, the temperature of heated strip lies between--> **50-400 °C**

- Q)Common material chosen for fabrication of bellows are--> **brass and bronze**
- Q)Which one of the following is not used for indirect measurement of level--> **float and shaft level mechanism**
- Q)Which of the following is not a obstruction meter--> **ultrasonic meter**
- Q)The inferential method of measurement of liquid level is--> **diaphragm box method**
- Q)The direct method of measurement of liquid level is--> **using sight glass**
- Q)Method involving use of mercury u-tube manometer are used for level measurement in case--> **variation of liquid level are small**
- Q)Capacitive method for liquid level--> **can be used if the tank is made of non conductive material**
- Q)In a rotating cylinder viscometer, the viscosity determines the--> **both torque and speed**
- Q)The frequency of sound or vibration in the ultrasonic range--> **20 kHz**
- Q)A flow meter that is independent of fluid density--> **electromagnetic flow meter**
- Q)The following meter does not prefer any obstruction to flow--> **electromagnetic flow meter**
- Q)Liquid level of corrosive and dirty liquids can be measured by--> **capacitive type**
- Q)In ultrasonic flow meter the liquid level is--> **directly proportional to time interval of wave travel**
- Q)Capacitance of capacitive liquid level sensor changes the--> **dielectric constant**
- Q)WIND velocity can be measured by--> **turbine meter**
- Q)In an ultrasonic flowmeter , the error caused by velocity of sound propagation in medium can be eliminated by using--> **measuring difference of frequency in the direction of flow and against the direction of flow**
- Q)The meter which is suitable for flow totalization--> **turbine meter**
- Q)Nozzles are used for the measurement of--> **clean fluid which may contain solids and also high pressure steam**
- Q)A rotameter is--> **variable area flowmeter**
- Q)Which of the following can be used for clean fluids--> **hot wire anemometer**
- Q)Variable head flow meter can be used for measurement of--> **liquid and slurries**
- Q)VENTURIMETERS HAVE--> **low head loss, high coefficients of discharge and large size**
- Q)A laser Doppler anemometer can function properly if the fluid--> **contains small tracer particles**
- Q)Tachometers are used to measure--> **angular velocity**
- Q)HOT WIRE ANEMOMETER IS USED TO MEASURE--> **gas velocities**
- Q)Which of the following flow meters is capable of measuring the rate of flow as well as totalized flow--> **lobed impeller flow meter**
- Q)hydraulic load cells have a maximum capacity of--> **50MN**
- Q)Piezoelectric type of load cells can be used for measurement of--> **dynamic force and static force**
- Q)A sink is--> **absorption dynamometer**
- Q)A seismic transducer working in the displacement mode is designed on the basis of--> **heavy mass weak springs**
- Q)Simple vibrating wedge is used to measure--> **amplitude**
- Q)Doppler shift principle is used for the measurement of--> **speed**
- Q)one of the following is a non contact type electrical tachometer--> **inductive pickup**

- Q)An automobile speedometer operates on the principle of following tachometer--> **drag cup tachometer**
- Q)The average speed measurement is given by--> **revolution counter and timer**
- Q)Which is used for the measurement of rotational speed of a shaft--> **tachometer**
- Q)The seismic transducer gives satisfactory results both in displacement mode and acceleration mode if damping factor is--> **0.7**
- Q)When the seismic transducer is operated in acceleration mode, satisfactory performance is obtained if the ratio of forcing frequency to natural frequency is--> **less than 0.4**
- Q)In an undamped seismic transducer the phase displacement between input and output is--> **0° for frequency ratios less than 1 and 180° for ratios greater than 1**
- Q)A reed type vibrometer is--> **frequency**
- Q)When a seismic instrument is used as accelerometer, it must be designed with--> **small mass, stiff spring**
- Q)Piezoelectric type accelerometer--> **have high natural frequency**
- Q)A potentiometric type accelerometer can be used for the measurement of--> **lower than 50Hz**
- Q)The fluid density does not affect the working of--> **electromagnetic flow meter**
- Q)Which of the following is not suitable for measuring the flow of a non conducting fluid--> **rotameter**
- Q)D.C tacho generators are preferred over A.C tacho generators because--> **it is possible to know the direction of rotation and magnitude of machines**
- Q)A vibrometer is an instrument which can be used for the measurement of vibration by measuring--> **displacement and velocity**
- Q)The advantage of drag cup rotor a.c tachogenerator are--> **they are rugged, inexpensive and require little maintenance**
- Q)An average human being with his finger tips can sense vibrations of sinusoidal nature having an amplitude of--> **0.3 m**
- Q)The mechanical tachometer can be used for measurement of angular speed--> **large machines having variable speed**
- Q)Device extensively used in sound measurement system--> **Vibration pick up**
- Q)The Prony brake dynamometer measures the--> **Engine brake power**
- Q)The speed of a shield compressor units can be measured by--> **Vibrating reed tachometer**
- Q)For a venturimeter the coefficient of discharge--> **increases with certain value of Reynolds number**
- Q)Which of the following is not a rate meter--> **venturimeter**
- Q)THE fluid flow between the electrodes of an electromagnetic flow meters generates an emf which is a function of--> **Dynamic pressure**
- Q)With zero shaft between the two sine waves, the Lissajou figure is--> **A Straight line with a slope of 45 to left**