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1) A sensor is a device, module, machine or subsystem whose purpose is to detect circuit in its environment and send the information to other electronics. A sensor is always used with other electronics.

eg a) ~~Temp~~ IR Sensor
Accelerator
Pressure sensor

ii) Actuators: These are device that convert an electric signal into a physical output place at the outer. It operates in reverse direction of a sensor. It requires a sensor when there is input from the sensor it to react and produces a response eg
A) Displays
B) Alarms
C) Electrical motor

Question No.: 2

2) Vector sensors:
This is an underwater listening device used to detect sounds in water and convert acoustic energy into electrical energy. The particular motion in a sound wave is described by displacement, velocity and acceleration.

Strain guage: it is a sensor whose resistance varies with applied force, it converts force, pressure, tensing weight etc. into a change in electrical resistance which can then be measured. When external forces are applied to a stationary object, stress and strain are result.

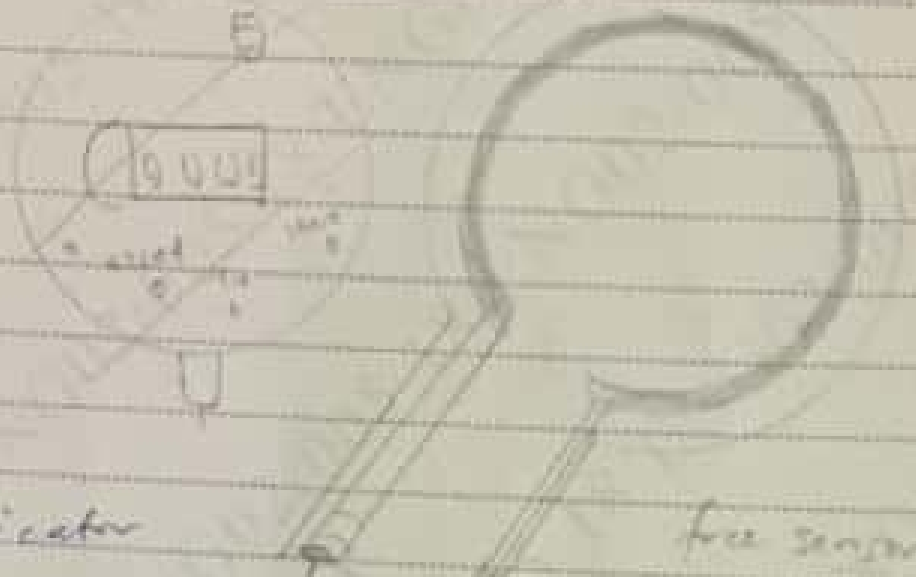
strain guage

Question No:

c Force sensor

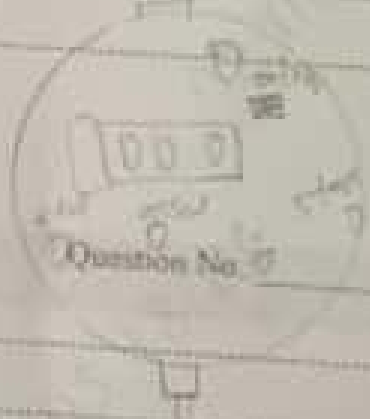
this use load cells to weigh objects and prevent machinery from ~~overload~~ overloading. At the core of force sensors are load cells, transducers that convert force into measureable electrical output.

there are hydraulic, pneumatic, piezoelectric and capacitive load cells.



Digital indicator

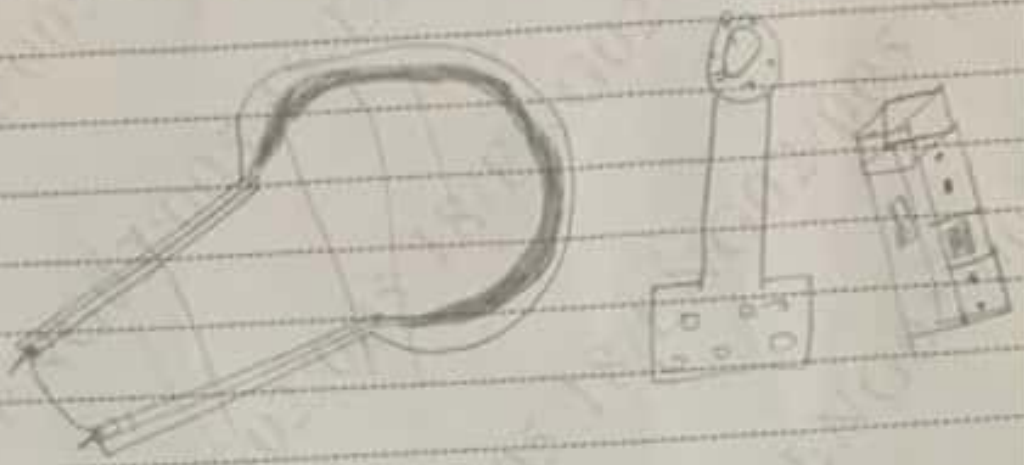
These are flexible devices which can be used in many different fields such as industry and research as well as for a wide variety of measurement works. Digital indicators allow the user to view diverse parameters such as temperature, humidity etc.



Pressure sensor

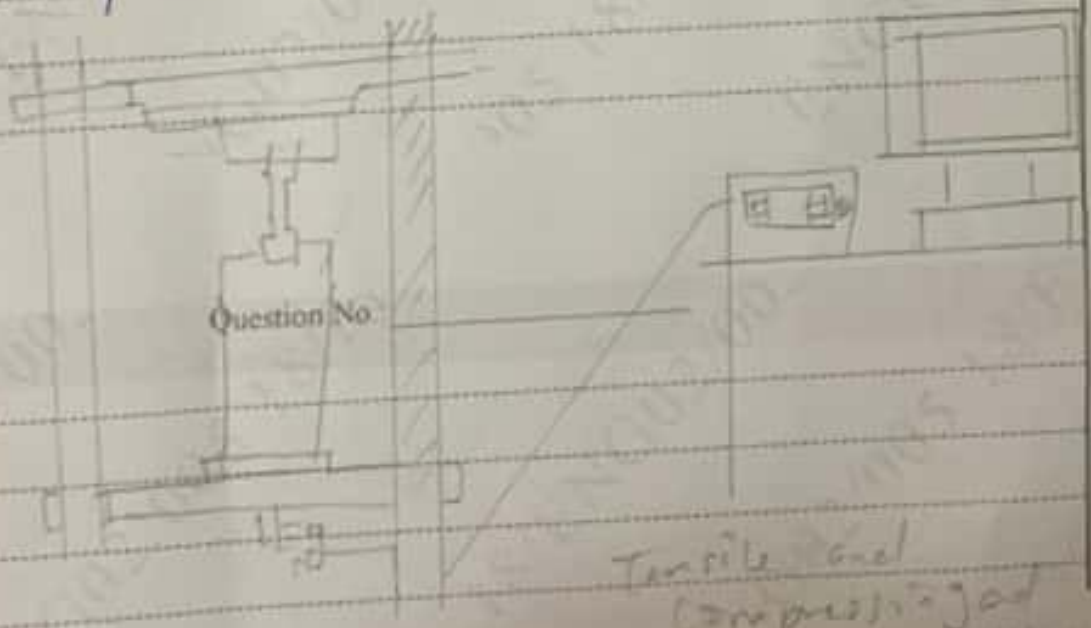
It is a device for pressure measurement of gases or liquids. It is

an expression of the force required to stop a fluid from expanding and is usually stated in terms of force per unit area. A pressure sensor usually acts as a transducer.



Tensile and compressing testing machines:

It is used to analyze the elasticity rate, bearing rate and strength of the material and the products. Also used to evaluate the product break-down test and the quality of the assembly or the process.



Question No.

Tensile and Compressing

3 Dialysis is the process of removing excess water, solutes from the blood where kidneys can no longer perform there functions properly.

This is referred to as renal replacement therapy.

Dialysis work on the principles of the diffusion of solutes and ultrafiltration of fluid across a semi-preamble membrane. Diffussion is a property of substances in water; substances in water tend to move from an area of high concentration to an area of low concentration to an area of low concentration.

there are two types of dialysis hemodialysis and peritoneal dialysis, used in different method to filter blood.

Question No: _____

3b Nebulizer

It may be used to deliver bronchodilator (airway-opening) medications such as albuterol, xopenex or Pulmicort (steroid)

In medicine, a nebulizer or nebuliser is a drug delivery device used to administer medication in the form of a mist inhaled into the lungs. Nebulizers are commonly used for the treatment of asthma