

GREEN MICHAEL ALIWAR (S/ENCO/1041) ELECT ELECT

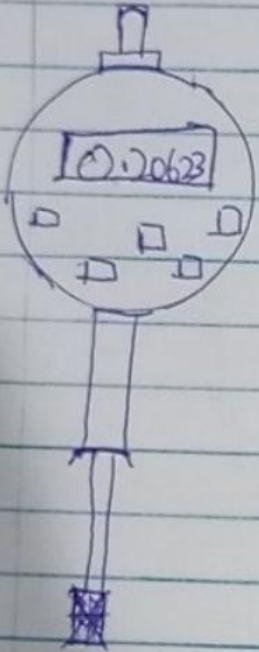
1a.) Sensors are devices that measure physical attribute such as temperature, pressure, speed etc from equipment machines and other systems. They are classified based on applications e.g. Biomedical applications (like in surgical instruments) and other medical devices examples are:

- i) Respiration sensor
- ii) Blood flow sensor
- iii) Heart sound sensor
- iv) O_2 & CO_2 sensor for blood

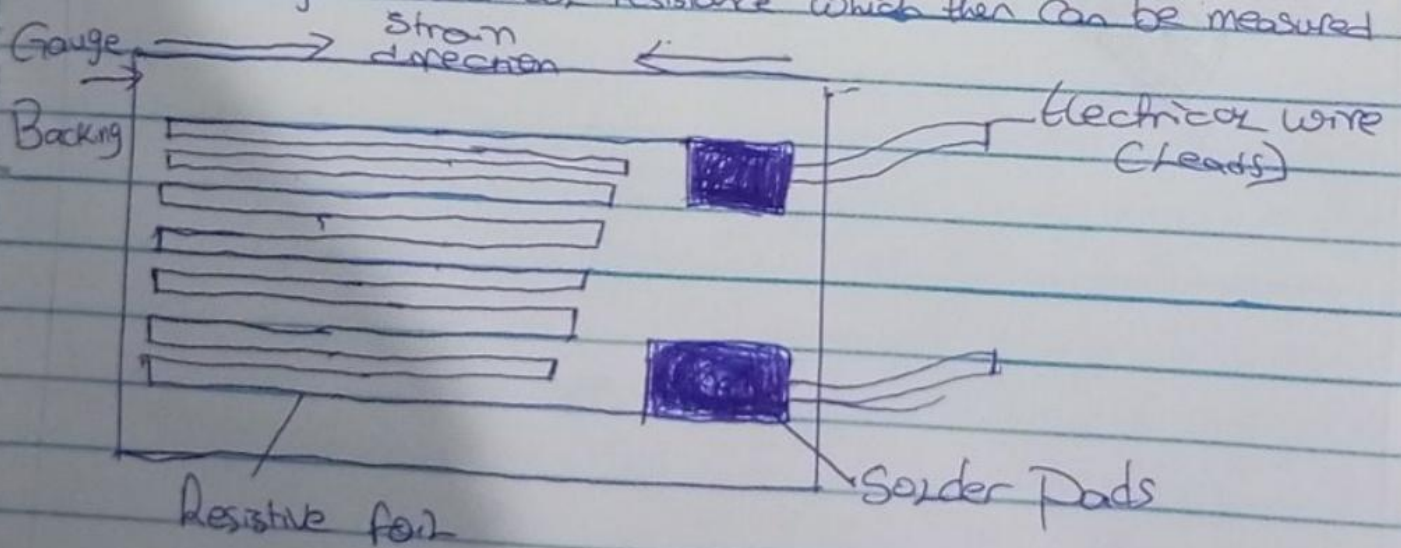
b.) Actuators are devices that use a form of power to convert a control signal to mechanical motion e.g. Electric motors; hard drives stepper motors.

Question 2

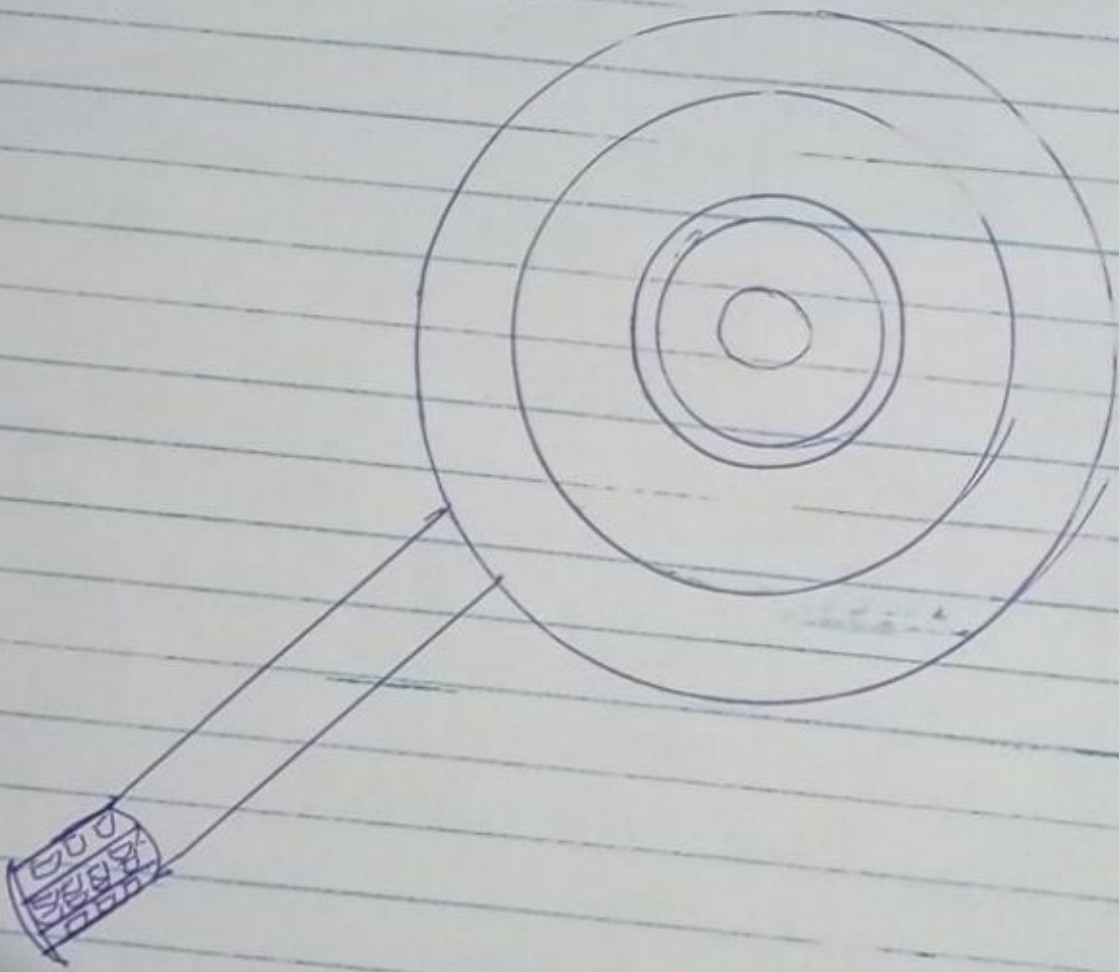
a) Digital indicators: They are used to view diverse parameters e.g. Humidity, temperature, vibration, etc.



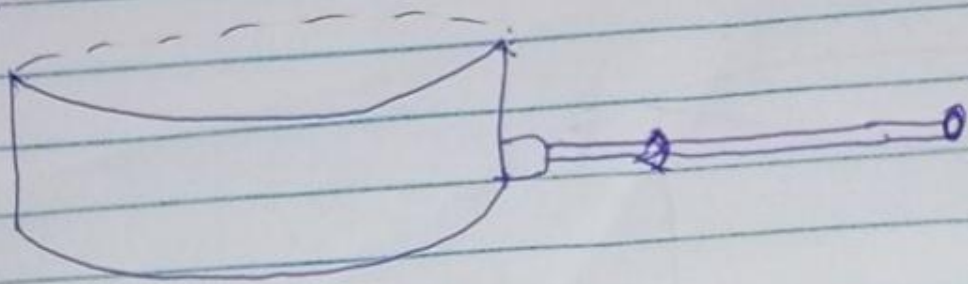
b) A strain gauge! A sensor that converts force, tension, weight, etc. into a change in electrical resistance which then can be measured



Force Sensors: They use Load Cells to weigh objects and prevent Machinery from overloading.



Good cells! Perform the same function as sensors.



Question 3

Thermometer: It is used to record body temperature

Endoscope:

There is no standardized method for the evacuation of gastric phytobezoars. Prior endoscopic attempts have used injected cellulose and various devices to disrupt bezoar

3 consecutive patients with large gastric bezoars were examined. Phytobezoar removal using a standard endoscope was attempted but unsuccessful. Each phytobezoar was successfully evacuated by directed suction through an endoscope with a large-diameter accessory channel. Each patient was followed up for bezoar recurrence.

Rapid complete bezoar evacuation was achieved.

at one session in all patients. Aspirated volumes were 500, 700 & 1000 mL, there were no procedure-related complications.

In conclusion, Endoscopic suction removal of gastric phytobezoars using a large-channel endoscope is efficacious and safe. Coupling directed endoscopic suction with other endoscopic techniques might be efficacious for removal of more complex bezoars.