OKEREKE OSINAKACHI MAC-ANTHONY

18/ENG02/074

COMPUTER ENGINEERING

1a) Sensors are electronic devices that measure physical attributes such as temperature, pressure, speed, etc. from equipments, machines and other systems. They are classified based on applications. e.g Biomedical applications like in surgical instruments and other medical devices. examples are ~~blood flow~~ Sensor;

i) ~~Res~~ Respiration Sensor

ii) Blood flow Sensor

iii) Heart Sound sensor

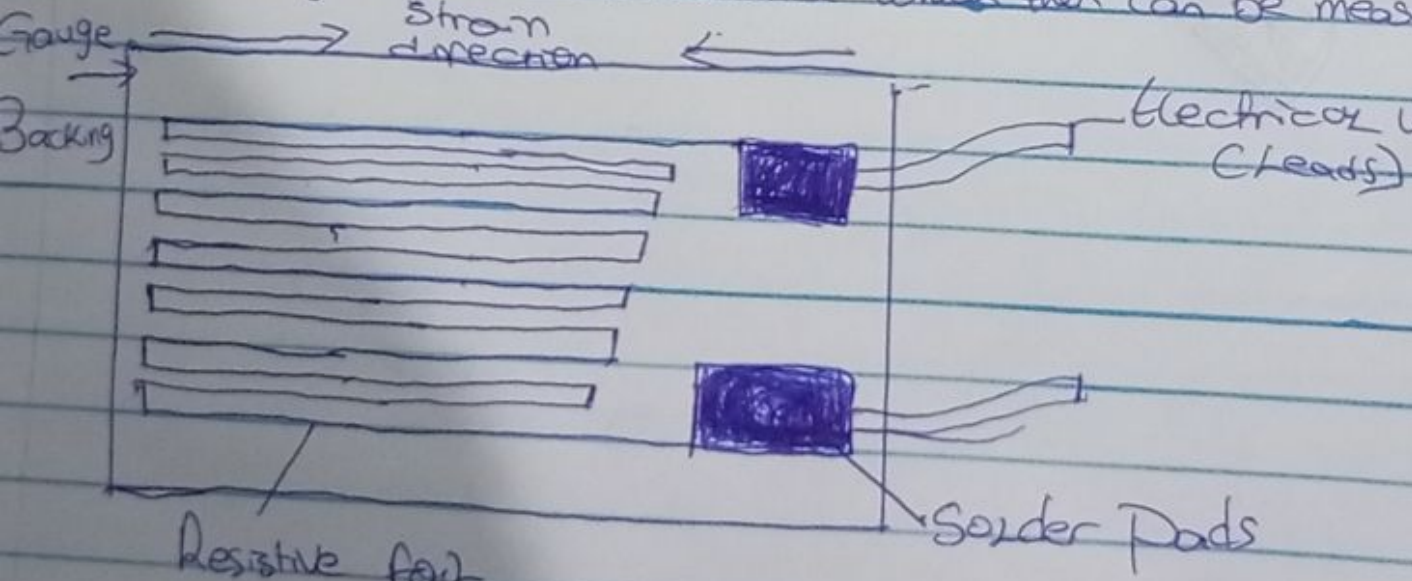
iv) O_2 & CO_2 Sensor for blood.

b) Actuators are devices that use a form of power to convert a control signal to Mechanical motion e.g Electric motors, solenoids, hard drive Stepper motors.

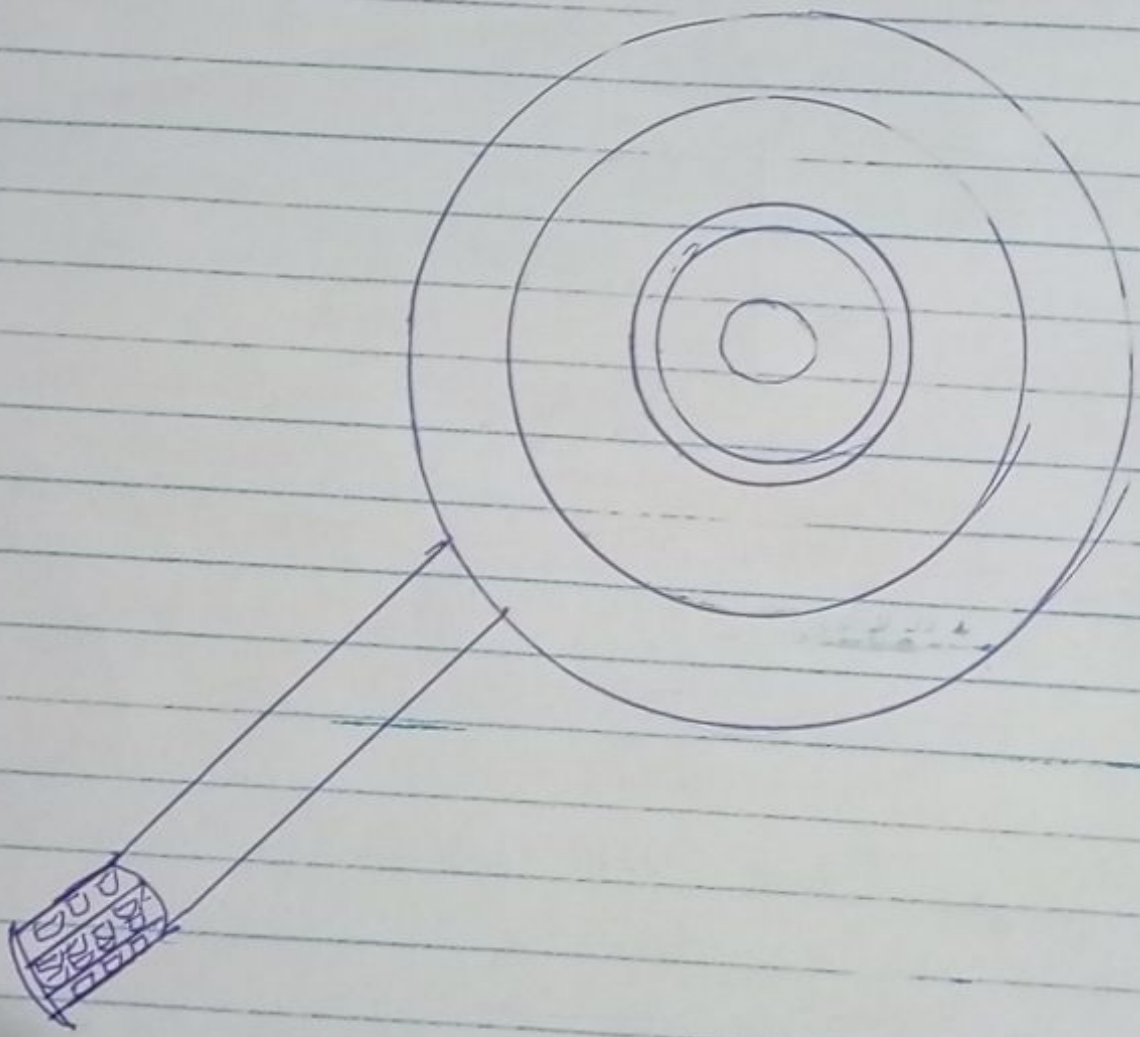
Question 2

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

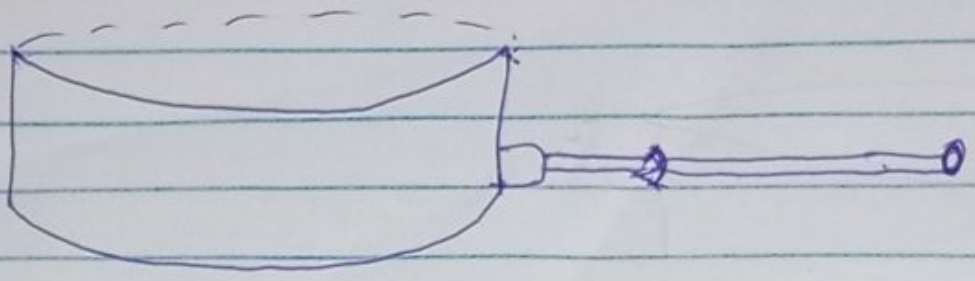
b) A strain gauge: A sensor that converts force, tension, weight, etc. into a change in electrical resistance which then can be measured



c) Force Sensors: They use Load Cells to weigh objects and Prevent Machinery from Overloading.



d) Load cells: Perform the same functions with Force Sensors.



Question 3

~~a) Thermometer: It is used to record body temperature~~

a) Endoscope:

There is no standardized method for the evacuation of gastric phytobezoars. Prior endoscopic attempts have used injected Cellulose and Various devices to disrupt bezoars.

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 & 1000mL, 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 of removal of more Complex Bezoars.