

Name: Egburhe Ogheneochuno Jeffrey
matric no: 181eng021035
Department: Computer Engineering
Course: ENG 311

- 1) Application of Smart Actuators in Biomedical field
- In various areas is utilized in the field of biomedical research and application are discussed below performed by the actuator. A smart actuator in the biomedical field are based on MEMS technology. Smart actuators have multiple applications in the biomedical field
- i) Analysis
 - ii) Diagnosis
 - iii) Drug Delivery
 - iv) Cell Culture

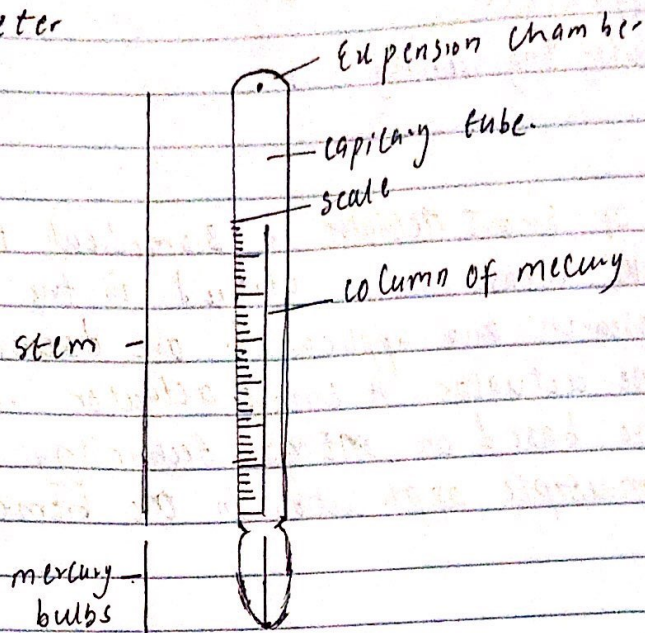
Drug-Delivery Management Using Smart Micropump

The success of this system is only possible through MEMS technology. The pump can be guided wirelessly and their effectiveness can be monitored with ease. When current is applied to electrode (platinum), water (electrolyte) splits into hydrogen and oxygen gases. This changes result in the pressure increase within the electrolyte chamber, which thus expands and drives the drug out of the reservoir.

Microwalves For Controlled Direction And Delivery of Fluid

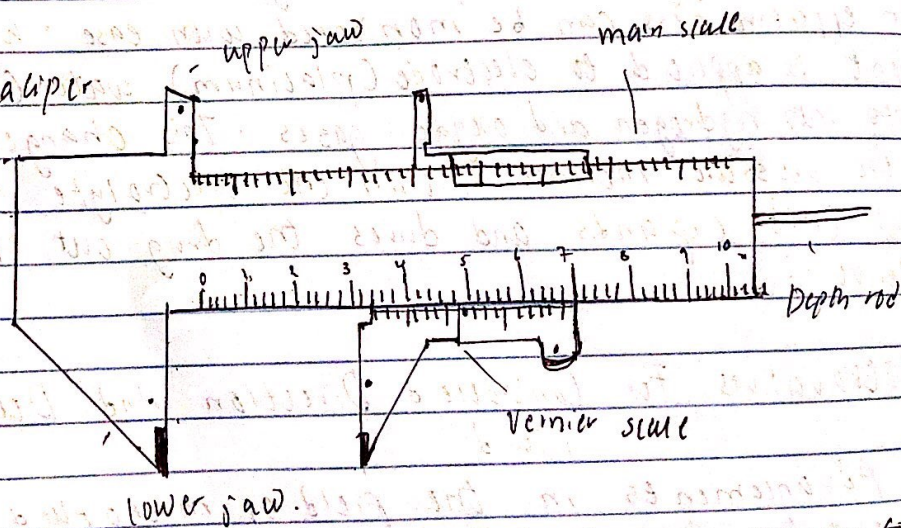
Advancements in the field of microfluid systems in last two decades has raised concerns with regard to the manipulation and handling of minute samples of fluids, such as heating, transport, flow control or mixing.

2) Thermometer



- *mercury bulbs : It acts as a reservoir to hold mercury
- *capillary tube : is the tube in which mercury flows up
- * Expansion chamber : is to form a large volume through which the mercury can fill the maximum temperature scale is exceeded.

1) Vernier Caliper



lower jaws! the lower jaws allow the vernier caliper to measure outer dimensions of object

upper jaws: the upper jaws are used in measuring inside dimensions of hollow objects such as inside diameters of pipes