

## Remaining Part of Instrumentation of AFS

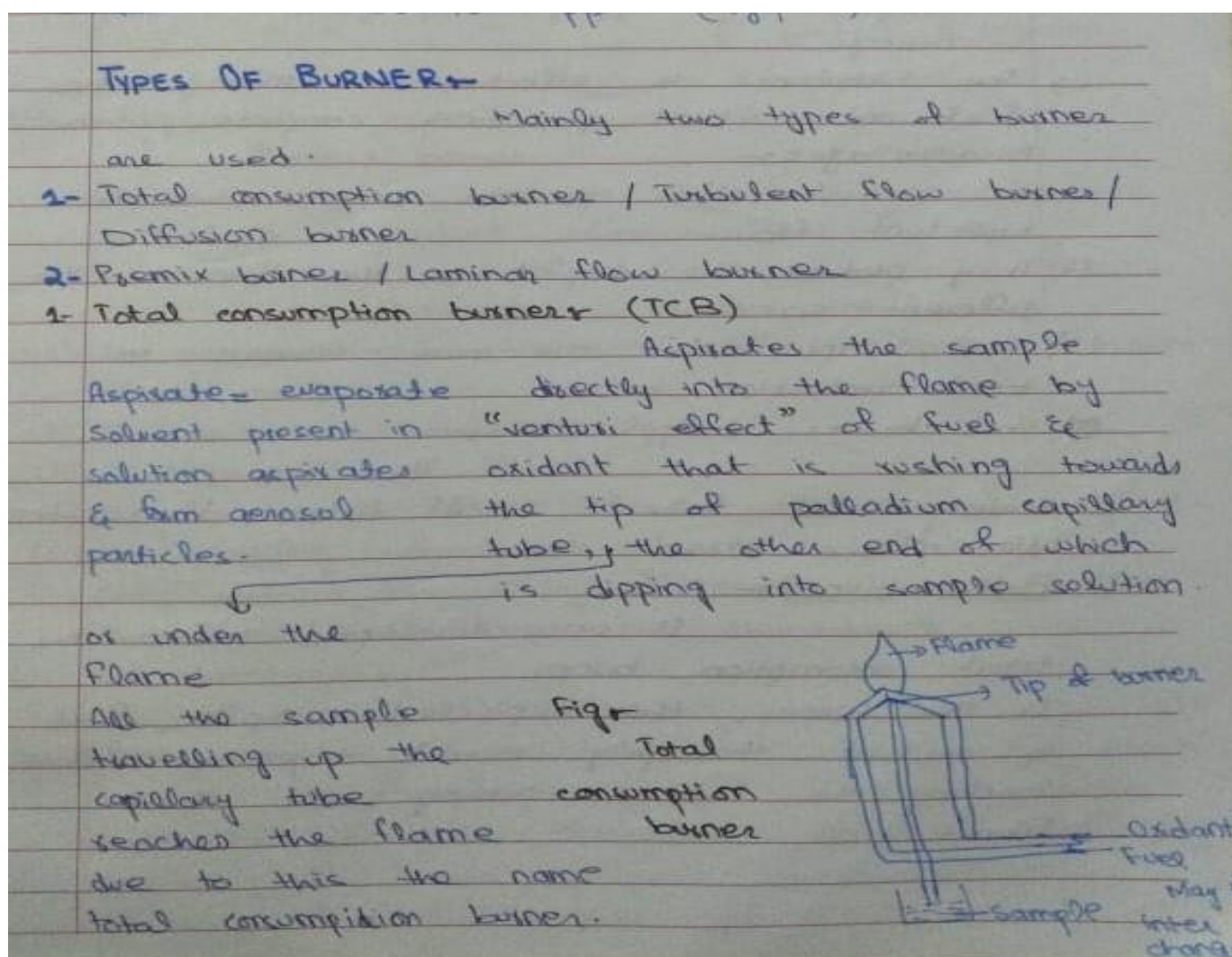
### Atomizer

#### a) Flame atomization

It can take place by two types

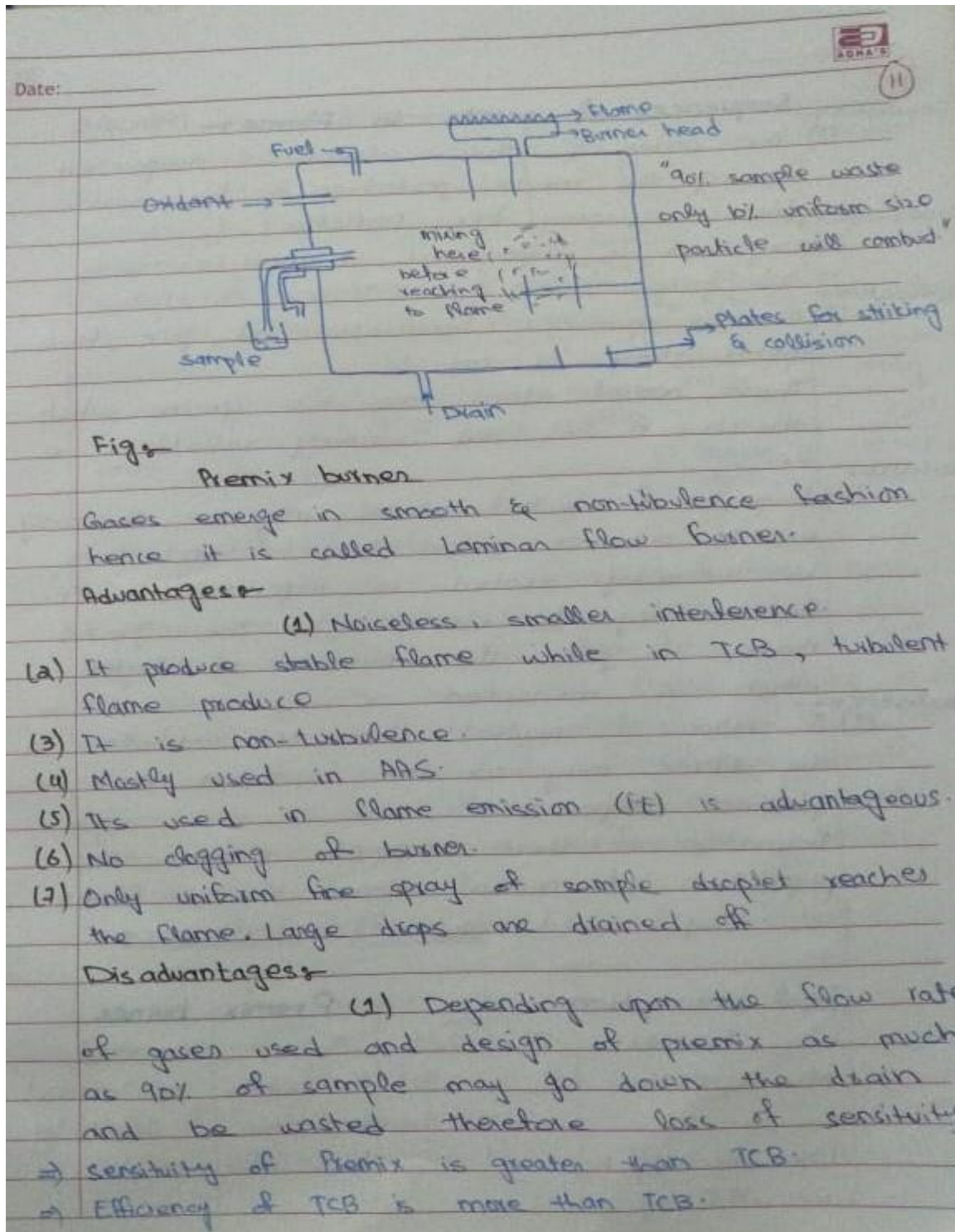
- 1) Total consumption burner and 2) Premix burner

#### Total Consumption Burner/ Turbulent flow burner:



**Fig: Total consumption burner**

## Premix Burner/Laminar Flow Burner



**Fig Premix Burner**

## **b) Electrothermal Atomization**

An electrothermal atomizer is defined as a device which is heated to the temperature required for analyte atomization by the passage of electrical current through its body.

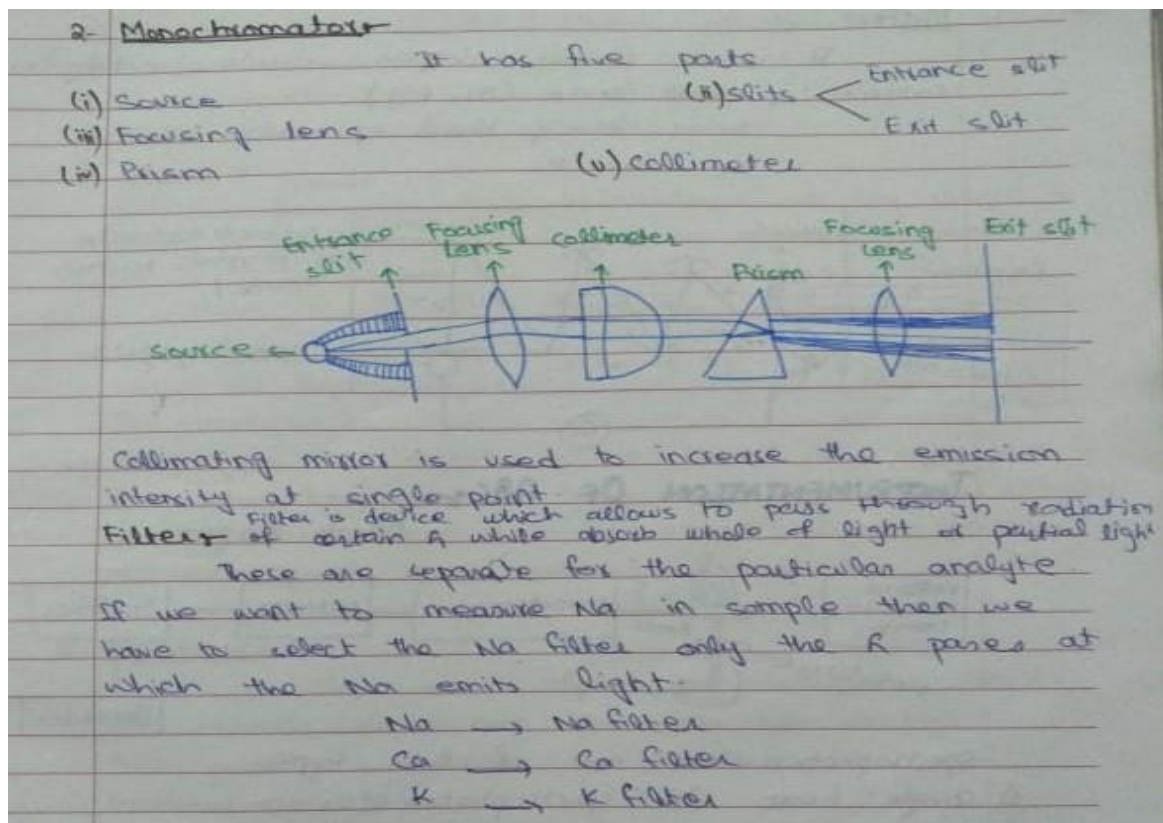
### **Advantages of Electrothermal Atomization**

- 1) electrothermal atomizers offer the advantage of unusually high sensitivity for small volumes of sample.
- 2) Absolute detection limits lie in the range of  $10^{-10}$  to  $10^{-13}$  g of analyte.
- 3) The relative precision of electrothermal methods is generally in the range of 5% to 10% compared with the 1% or better that can be expected for flame or plasma atomization.

## **3) Monochromator/Wavelength Selector:**

It convert polychromatic light into monochromatic.

Filters and Gratings are used as monochromator.



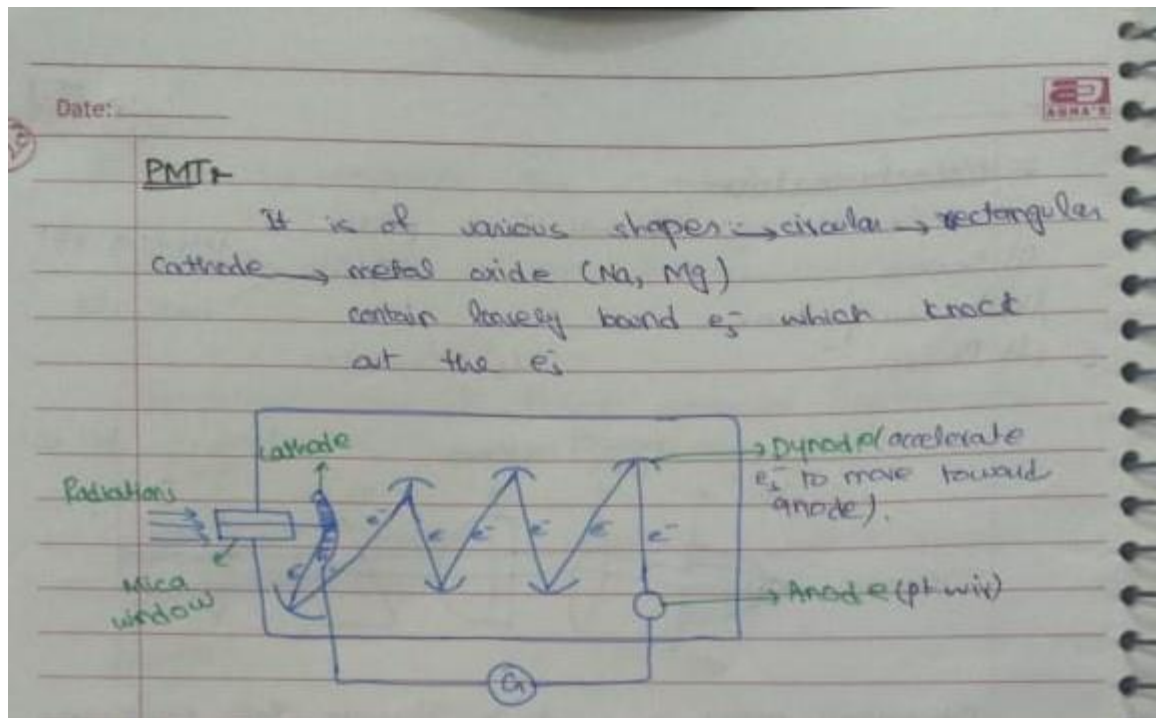
**Fig: Monochromator**

#### **4) Detectors:**

Both phototubes and photomultiplier tubes are used as detector in atomic fluorescence spectroscopy. Mostly photomultiplier tubes are used.

#### **Photomultiplier Tube (PMT):**

It convert radiant energy into electrical energy.



## 5 Read out system or Recorder:

The signals then transfer to read out device and graph obtained.