

Microscope:

They are comes from greek words which means.

Micro = Small

Skopien = to Seen

Microscope is an instrument which can use for small objects which seems several time bigger which cannot seems by naked eyes.

Principle:

There are three based lenses are arranged in sequence.

1. **Magnification:** is the principle which can make larger the image.
2. **Resolution:** is the principle of microscope which can a part of information of two image or object.
3. **Contrast:** The contrast is the principle of microscope which have change the light concentration between the copy and background concentration.

Q Nio2:

Ans: Chromatography:

Chrom means = color

Graphy means = true

Chromatography is the laboratory approach which can separation of the mixture. That discovered by Dr.Mikhail s – isvet in 19th century. The system is similar to paper chromatography.

Phase:

There are two phase of chromatography.

1. Mobile Phase:

Mobile phase is the phase of chromatography which can carries the material of solvent to the analyte sample.

2. Stationary phase:

That phase of chromatographyi in which the elements on which attach or adhesion of the analyte takes place.

Q No 2:

Ans:

Flam- photometry:

The instrument which can work done by German scientist Robert Bunsen and Gustav Kirchhoff in 1860s.

They are used for the concentration of the certain material ion such as sodium, potassium, Calcium or the electrolyte.

Application:

They are used for the concentration of the potassium ions and sodium ions in the solution that such as solution of the Ringer solution and the NaCl solution and others. They control the product and the indirect quality testing substances various over the sodium, lithium and potassium.

The determination of the concentration of the pharmaceutical range. They are used in the pharmaceutical industry.

Food industry, Beverage industry.

QNo 4:

Ans

Centrifuge ;

They come from Latin word, centrum. Means that, center, and, fuge, means to escape;

In 1864 Antonin Prandtl used that idea of dair which can separate cream from the milk.

Components:

The basic centrifuge components is a motor and rotor .

1. Drive shaft:

That is the function of the centrifuge shaft which that pump can to transmit the input power which the rotor head is turns;

2. Motor drive assembly:

That is the power which can provide the turn of the rotor.

3. Hanging baskets:

They have tubes which they are used power switch.

4. Times:

They are used for the timer.

5. Tachometer:

They are checked the speed of the tachometer.

Q No 5:

Ans:

Water bath:

- ⇒ Water bath is the equipment which can be used for the laboratories which incubate samples in which water maintains the constant temperature.
- ⇒ The water bath permits that occurrence of constant period temperature up to 100 centigrade for longer time.
- ⇒ They are used for the sample heated on the instruments.
- ⇒ The most water baths have digital or an analogue interface is used to set the temperature.
- ⇒ They control by temperature current passing through reactor.
- ⇒ The available range capacity from 2 liter to 28 liters.
- ⇒ For all water bath it can be used up to 99.9 degree centigrade.

Principle:

The water bath and the principle that water is distilled by the stirrer and with the support of an electric element.

The temperature of liquid medium is maintained thermostatically which has a constant level.

Application :

They are used in the medical laboratories for the constant temperature.

Coagulation test.

In microbiology.

Components:

1. Trough = They are isolated metal.
2. Thermometer = To maintain the temperature.
3. Electric elements: They heat the water in the trough.
4. Thermostat = They maintain the temperature at constant level.

Q No 6:

Ans:

Types of centrifuge:

Small bench top centrifuge :

with and without the refrigeration.

Slow Speed.

Common in clinical lab.

Large capacity refrigerator centrifuge .

Ultra Capacity:

They are used for the separating particles to densities.

Analytical centrifuge :

They have very high speed used in the molecular biology.

Ultra centrifuge or types of rotors.

1. Fixed angle Rotors:

The rotor body can be fixed on the fixed angle between 13° to 39° to vertically.

2. Vertical tube Rotors:

The tube is vertically in the body.

There are all times in parallel position.

3. Swinging Bucket Rotors:

They are rest and vertical position

They are acceleration the rotor swing out horizontal.