● ID….14642

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● BIOMEDICAL INSTRUMENTATION

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**QNO1…..**

 **ANSWER….**

**MICROSCOPE……**

A microscope is an instrument which is used to see a very small object such virus and bacteria and we didn't see normal eye so that we use microscope.

The word microscope id’s a Greek word which the micro mean small and skopien mean to see.

 **PRINCIPAL….**

 Many lenses are arranged in sequence to see the fine detail. The basic principles of microscope.. magnification, resolution, contrast.

  **Magnification…**

 As we can define the magnification process to enlarge the image.

 **Resolution….**

 Which two distinct points of a specimen can still to be seen.

 **Contrast…**

 In contrast the detail is too visible to eye.

**QNO2..**

**ANSWER….**

 **CHROMATOGRAPHY…**

 CHROMATOGRAPHY is a laboratory technique for the separation of a mixture.

The first who discovered the chromatography it was Russian, Italian botanist Mikhail Tsvet

It's also called separation of a mixture

 **PHASES….**

There are two phases of chromatography

**1.Mobile phase..**

 The mixture is dissolved in a fluid called the mobile phase

**2.Stationary phase..**

 The solid or liquid phase of a chromatography system on which the materials to be separated are selectively absorbed.

 **QNO3…**

**ANSWER…**

**APPLICATION OF FLAME PHOTOMETRY…**

 Determined the absorption of sodium and potassium ions in mixture solutions such as NacL solution Ringer solution or others. Product resistor and indirect quality testing of several substances over sodium, potassium or lithium. Concentration resolve in medicinal substance.

**QNO4…**

**ANSWER….**

**COMPONENT OF CENTRIFUGE…**

1. **1.SHIELDS…**cylindrical metal cube into which tube are fixed.
2. **Drive Mechanisms**.. The source of the rotary motion either electric motors or air or oil turbines depending upon the type of centrifuge that turns the shaft
3. **Rubber Cushions.** Rubber pads placed at the bottom of the SHIELDS, provide protective medium for the tube and prevent
4. **Rotor.** Rotor component of centrifuge which rotate centrifuge to very high speed.

**QNO5….**

**ANSWER….**

**Water bath…**

Water bath is an instrument which is used to incubate the tube or sample at constant temperature.

Water bath maintain constant temperature of water which maintain the temperature of tube.

**Component of water bath.**

1. **TROUGH.** It made of insulated metal usually stainless steel or of heart resistant glass without an insulated lid
2. **Thermometer** .it is used to detect the temperature of the water
3. **Electric Element.**  Used to heat the water contain in the trough. It helps to maintain the water it constant temperature.

**Uses of water bath..**

1. Provide indirect heat
2. Used for warming blood bag blood
3. Used for incubation of test such as PT,APTT and combos tests
4. Used for histology procedure.

**QNO6…**

**ANSWER…**

**Types of centrifuge.**

**1.Low speed centrifuge.**

Low speed centrifuge has a maximum speed of 4000-5000rpm

used for sedimentation of reed blood cells

**2.High speed…**

High speed centrifuge has a maximum speed of 15,000-20,000rpm

High speed centrifuge are used in more sophisticated biochemical applications higher speed and temperature control of the rotor chamber are essential.

**3.Ultra centrifuge..**

Ultra centrifuge has a maximum speed of 65,000(100,000,s3×g)

 Used for both preparative work and analytical work.

 Intense heat is generated due to high speed thus the spinning chambers must be refrigerated and kept a high vacuum.