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* **Paper Name: Biomedical Instrumentation**

**Q1. What is Microscope? And also explain principle of microscope?**

Ans:

 A microscope is an instrument used to see objects that are too small to be seen by the naked eye. Microscopy is the science of investigating small objects and structures using such an instrument. Microscopic means invisible to the eye unless aided by a microscope.

# **Principle**

Basic Structure and Principle of Microscopes. A general biological microscope mainly consists of an

Objective lens, ocular lens, lens tube, stage, and reflector. An object placed on the stage is magnified through the objective lens.

When the target is focused, a magnified image can be observed through the ocular lens.

**Q2.Describe chromatography and also its phases?**

Ans:

Chromatography is a physical method of separation that distributes components to separate between two phases,

One stationary (stationary phase), the other (the mobile phase) moving in a definite direction. The eluate is the mobile phase leaving the column.

**Phases**

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**Stationary (stationary phase),** the other (the mobile phase) moving in a definite direction. The eluate is the

**Mobile phase** leaving the column. This is also called effluent.

**Q3.Write down the applications of Flamephotometery?**

Ans:

 Flame photometry is one of the branches of atomic absorption spectroscopy.

Flame can be used to determine the concentration of certain metal ions like sodium, potassium, lithium, calcium and cesium etc. In flame

Photometer spectra the metal ions are used in the form of atoms.

**Q4.Explain the components of Centrifuge?**

Ans:

Two major components of a centrifuge are the drive mechanism,

The rotor is large rotating element of a centrifuge into or onto which samples are loaded. It is driven about a fixed axis (or shaft) by the drive mechanism, with expenditure of large amounts of energy.

**Q5. write note on Waterbath?**

Ans: Utilizations include warming of reagents, melting of substrates or incubation of cell cultures.

It is used to enable certain chemical reactions to occur at high temperature. Water bath is a preferred heat source for heating flammable chemicals instead of an open flame to prevent ignition.

**Q6.Explain the types of centrifuge ?**

Ans: There are multiple types of centrifuge, which can be classified by intended use or by rotor design:

**Types by rotor design:**

Swinging head (or swinging bucket) centrifuges, in contrast to fixed-angle centrifuges, have a hinge where the sample containers are attached to the central rotor.