Department of biology

Microbiology Lab

((Type of microscopes))

Lab/1

2 stage

By

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Type of microscopes

The Microscope:-

Micro: small, Scope: view, It magnifies the image of the object to be visualized through it. The resolving power of the light microscope under ideal conditions is about half the wavelength of the light being used.

Types of the Microscope:

1-Light Microscope

2-Bright field Microscope

3-Dark field the Microscope

4-Ultraviolet Microscope

5-Fluorescent Microscope

6-Phase contrast Microscope

7-Electron Microscope

Light Microscope:-

A light microscope, also known as an optical microscope, is a scientific instrument that uses visible light to observe and magnify samples at a microscopic level. It is one of the most widely used tools in biological research, allowing scientists to study the structures and functions of cells, tissues, and other microscopic entities.

Bright field Microscope:-

Bright field Microscope is an optical microscope that uses light rays to produce a dark image against a bright background. It is the standard microscope that is used in Biology, Cellular Biology, and Microbiological Laboratory studies.

Dark field the Microscope:-

Dark field is an optical contrast technique for microscopy which makes unstained structures in the cells of biological specimens visible. Cell structures that appear transparent with bright field illumination can be viewed with better contrast and detail using dark field.

Ultraviolet Microscope:-

Ultraviolet (UV) microscopy is a type of light microscopy that utilizes UV light to generate a magnified image of the sample being analyzed. As a result of the shorter wavelength of UV light than visible light, it is possible to view samples with greater magnification and resolution.

Fluorescent Microscope:-

A fluorescence microscope is an optical microscope that uses fluorescence instead of, or in addition to, scattering, reflection, and attenuation or absorption, to study the properties of organic or inorganic substances.

Phase contrast Microscope:-

Phase Contrast is a light microscopy technique used to enhance the contrast of images of transparent and colourless specimens. It enables visualisation of cells and cell components that would be difficult to see using an ordinary light microscope.

Electron Microscope:-

Electron microscopy (EM) is a technique for obtaining high resolution images of biological and non-biological specimens. It is used in biomedical research to investigate the detailed structure of tissues, cells, organelles and macromolecular complexes.