

**Mustansiriyah University**  
**College of science**  
**Biology Dept.**  
**Zoology**  
**4<sup>th</sup> class**

**Laboratory Technique { *Histological Technique* }**

**(1)**

# WHAT IS HISTOPATHOLOGY?

- **Histology** :is the study of the microscopic anatomy (microanatomy) of cells and tissues of plants and animals.
- **Histopathology** :refers to the microscopic examination of tissue in order to study the manifestations of disease.
- GREEK WORD
- **Histo-** tissue
- **Pathos-** disease suffering

# OBJECTIVES

- 1) Learn how to assess histological images under light microscope.
- 2) Describe parts of the light microscope, its characteristics and principles of work.
- 3) Understand difference between microscopes
- 4) Understand differences between microtomes.
- 5) Follow the stages of preparation and staining of histological slides.

# Goal

## 1} Processing biological material.

- tissue samples from living----→ biopsy.
- dead organism-----→ necropsy.
- Surgical -----→ specimen.

## 2} Determination of diagnosis or pathological process / cause of death.

## INTRODUCTION TO DEPARTMENT OF HISTOPATHOLOGY.

Histopathology Department: is the department of clinical lab which deals with the study of different types of tissues.

The department is based on following benches:

- Processing.
- Gross.
- Tissue processing.
- Embedding, cutting, H&E.
- Immunohistochemistry.
- Special stains.
- Cytology.
- Semen DR.
- Cytogenetics.

# Introduction

Histological technique deals with the:

- preparation of tissue for microscopic examination.
- The aim of good histological technique to preserve microscopic anatomy of tissue.
- Make them hard so that very thin section (4 to 5 micron) can be made.

## Introduction

Good staining should be possible.

- ❑ After staining, the section should represent the anatomy of the tissue as close to as possible to their structure in life.
- ❑ This is achieved by passing the total as selected part of the tissue through a series of process

## **Histological techniques are:**

- 1. Fixation**
- 2. Dehydration**
- 3. Cleaning**
- 4. Embedding**
- 5. Cutting**
- 6. Staining**