



# HANSRAJ MODEL SCHOOL

PUNJABI BAGH, NEW DELHI

CLASS -

IX

SUBJECT -

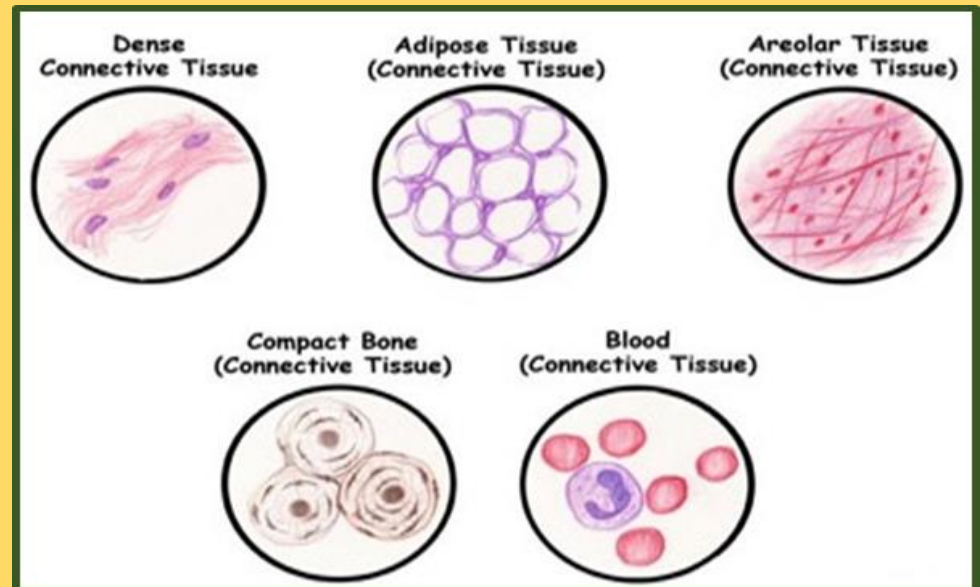
BIOLOGY

TOPIC -

L-6, TISSUES  
(MODULE-4)

# CONNECTIVE TISSUE

- Connective tissue acts as packaging tissue and binds other tissues.
- The cells of connective tissue are loosely spaced and embedded in an intercellular matrix.
- The matrix may be jelly like, fluid, dense or rigid.
- The nature of matrix differs in concordance with the function of the particular connective tissue.



# TYPES OF CONNECTIVE TISSUE

## CONNECTIVE TISSUE

### CONNECTIVE TISSUE PROPER

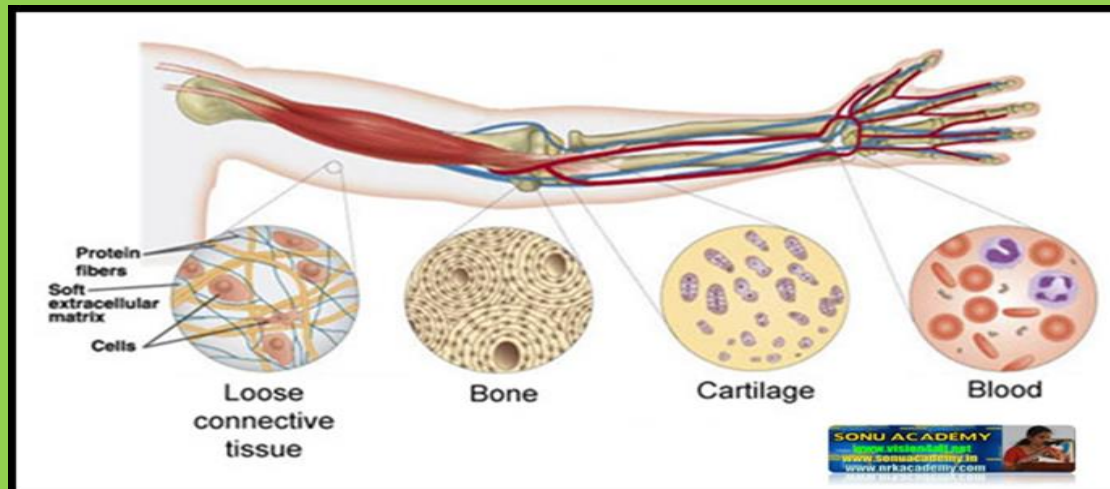
- TENDON
- LIGAMENT
- AREOLAR TISSUE
- ADIPOSE TISSUE

### SKELETAL TISSUE

- CARTILAGE
- BONE

### FLUID CONNECTIVE TISSUE

- LYMPH
- BLOOD

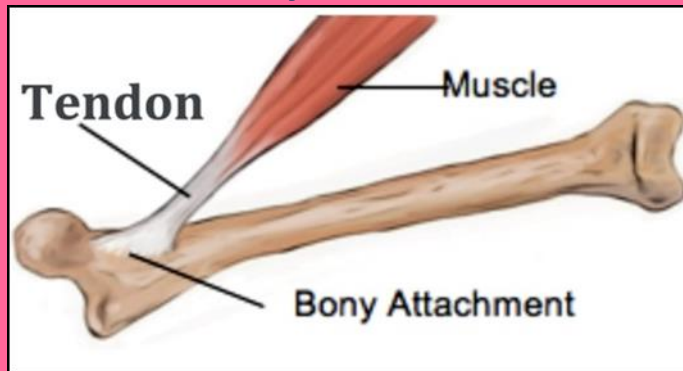


# CONNECTIVE TISSUE PROPER

## TENDON

FUNCTION: Tendons connect muscles to bones .

- Tendons are fibrous tissue with great strength but limited flexibility.

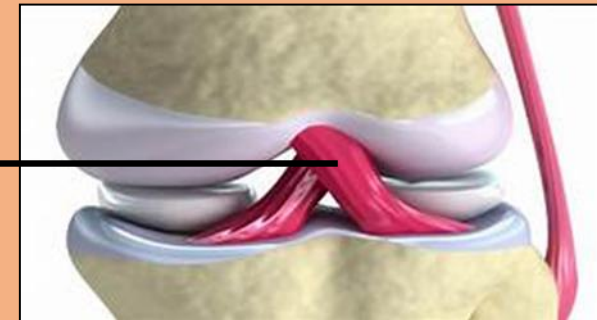


## LIGAMENT

FUNCTION: Ligaments connect bones with bones.

- This tissue is very elastic.
- It has considerable strength.
- It contains very little matrix.

LIGAMENT ←



# CONNECTIVE TISSUE PROPER (CONTD.)

## AREOLAR TISSUE

LOCATION: Areolar connective tissue is found between the skin and muscles, around blood vessels, and nerves and in the bone marrow.

FUNCTION: It fills the space inside the organs, supports internal organs and helps in repair of tissues.

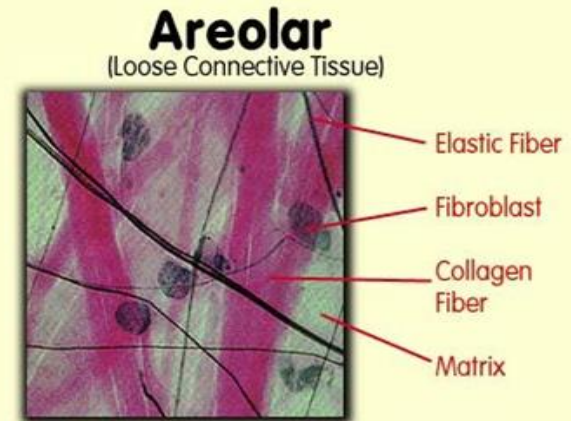
## ADIPOSE TISSUE

LOCATION: Fat storing adipose tissue is found below the skin and between internal organs.

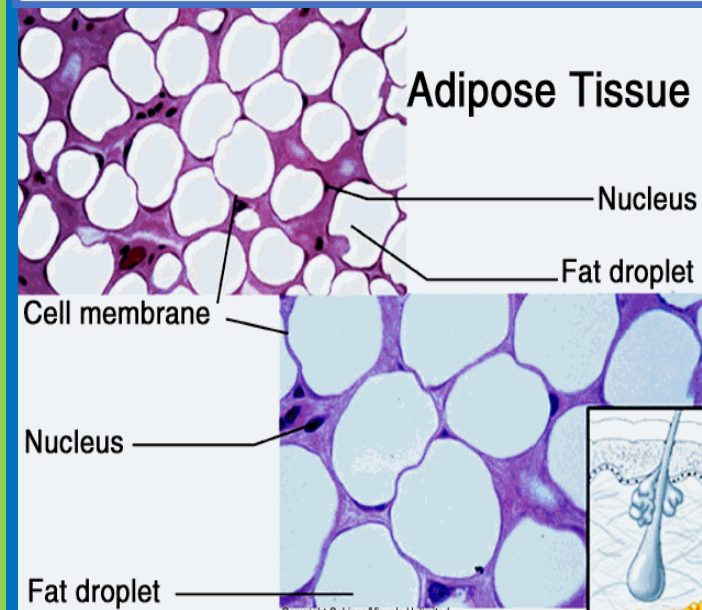
FUNCTION: The cells of this tissue are filled with fat globules. Due to fat storage it acts as an insulator.

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Tissue with a gel-like matrix. Fibroblast cells, collagen fibers and elastic fibers are usually visible.



# SKELETAL TISSUE

## ❑ CARTILAGE

### COMPOSITION

- Cartilage has widely spaced cells. The solid matrix is composed of proteins and sugars.

### FUNCTIONS

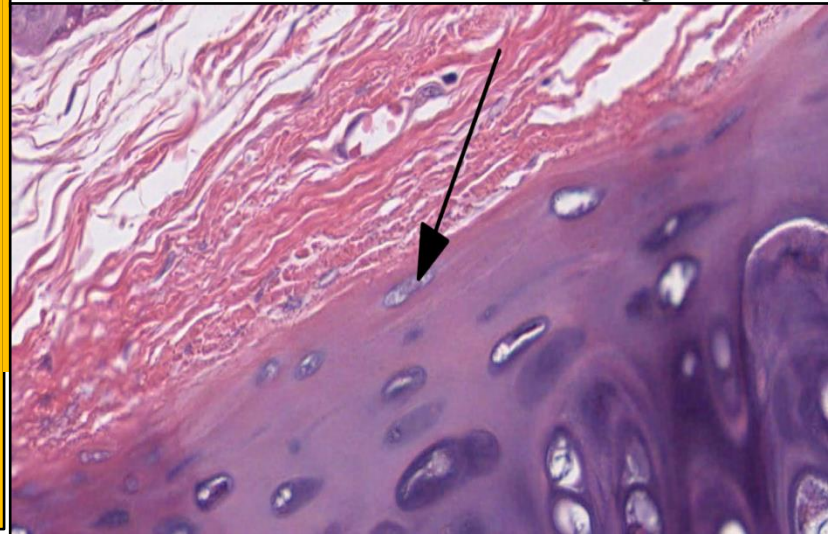
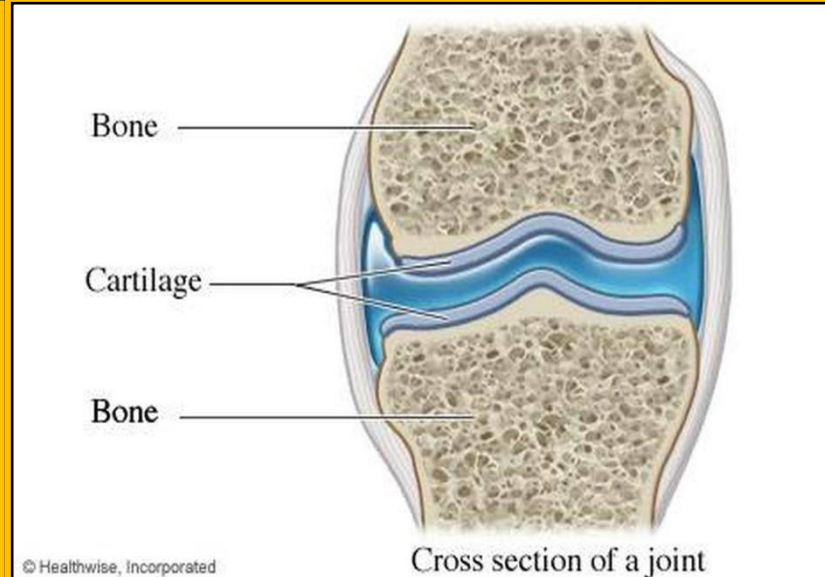
- Cartilage smoothens bone surfaces at joints.
- It provides support and gives flexibility and shape to the body parts.

### LOCATION

- Found in the nose tip, ear pinna, trachea and larynx.

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# SKELETAL TISSUE (CONTD.)

## □ BONE

- IT IS A STRONG, POROUS AND NON-FLEXIBLE TISSUE MADE UP OF LIVING CELLS CALLED OSTEOCYTES OR OSTEOBLAST.

## COMPOSITION

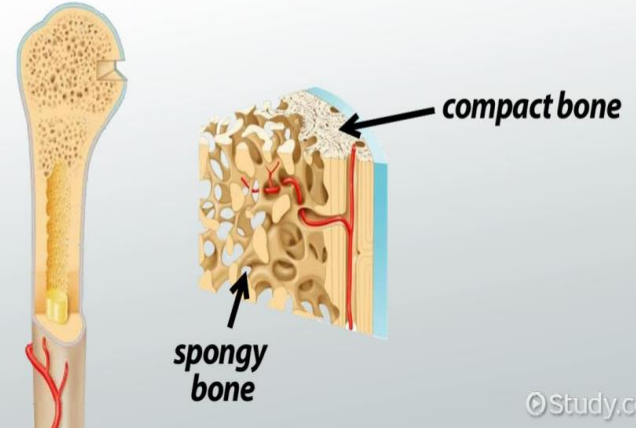
- Bone cells are embedded in a hard matrix that is composed of calcium and phosphorus compounds which make it hardest connective tissue.
- FUNCTIONS
- Bones form the framework that supports the body and provides shape.
- It also anchors the muscles and supports the main organ of the body.
- it protects the important organs like brain, heart, lungs and spinal cord etc.

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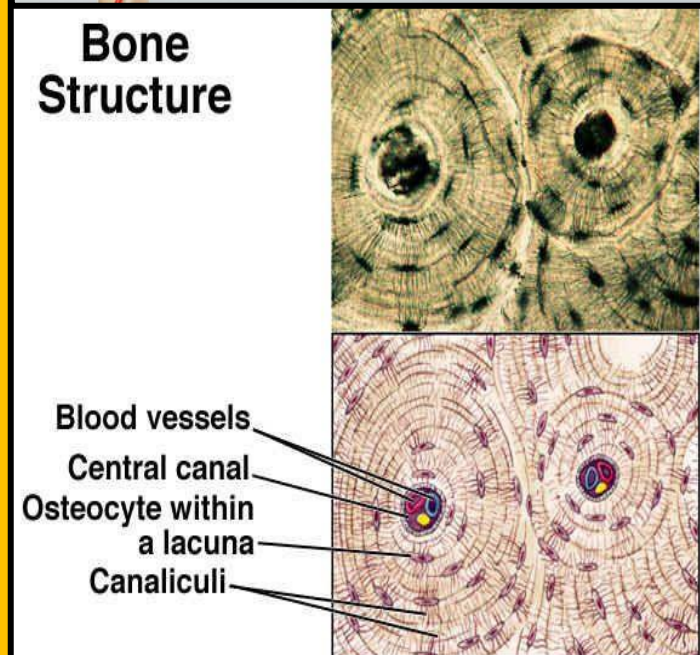
WHAT IS COMPACT BONE?

## STRUCTURE OF BONE



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## Bone Structure



# FLUID CONNECTIVE TISSUE

## BLOOD

### COMPOSITION

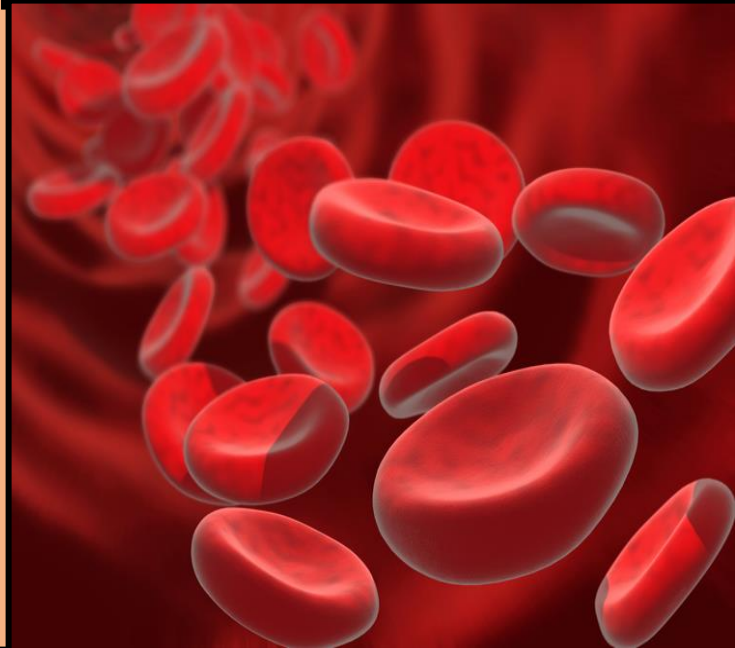
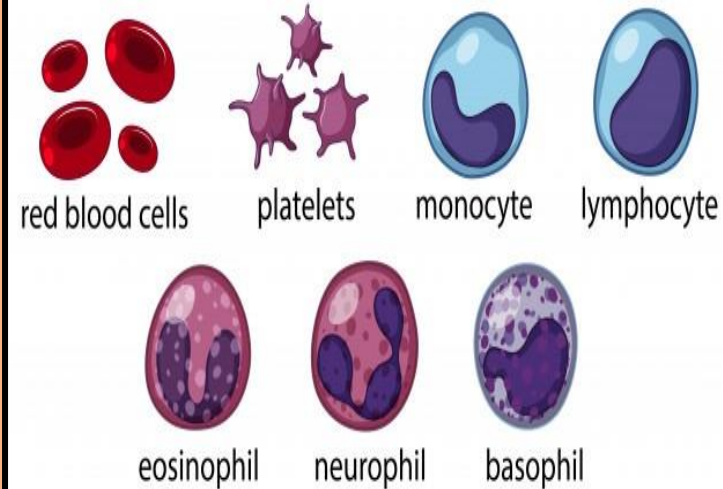
- Blood has a fluid (liquid) matrix called plasma, in which red blood corpuscles (RBCs), white blood cells (WBCs) and platelets are suspended.
- The plasma contains proteins, salts and hormones.

### FUNCTIONS

- Blood flows and transports gases, digested food, hormones and waste materials to different parts of body.

**LYMPH:** A clear yellowish, slightly alkaline, coagulable fluid, containing white blood cells in a liquid resembling blood plasma, that is derived from the tissues of the body and conveyed to the bloodstream by the lymphatic vessels.

### Types of Blood Cells



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