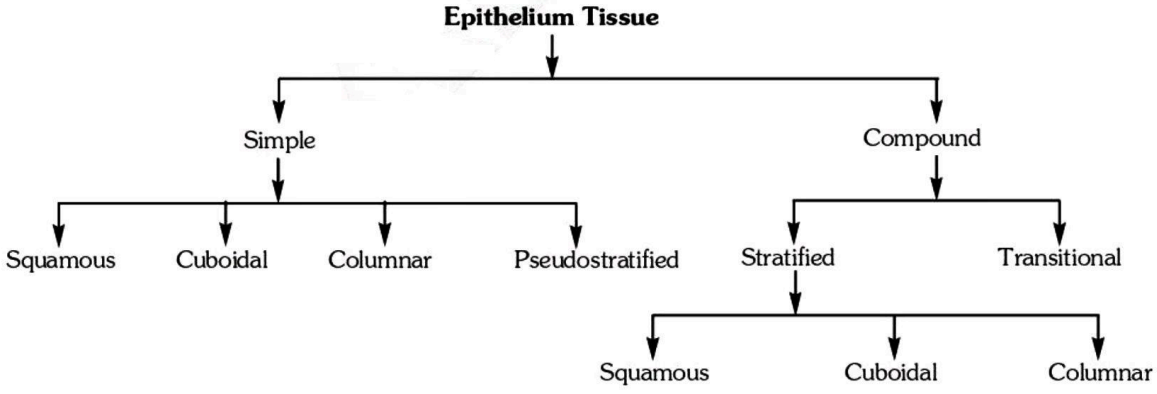
ANIMAL TISSUE

- A tissue is defined as group of cells along with intercellular substance having similar origin and performing similar function.

EPITHELIUM TISSUE

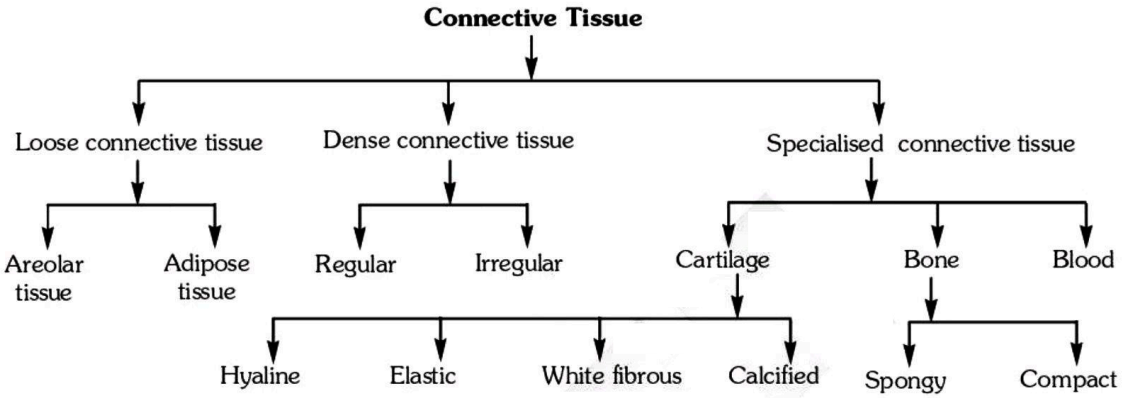
- Epithelium tissue has a free surface, which faces either a body fluid or the out side environment.
- Epithelium is of two type : simple and compound epithelium.
- Simple epithelium is made up of a single layer of cells and functions as a lining for body cavities, ducts and tubes. The compound epithelium consists of two or more cell layers and has protective function.
- Simple squamous epithelium is made of a single layer of flattened cell with irregular boundaries. Found in blood vessel and inner lining on lungs and are involved in forming a diffusion boudary.
- The cuboidal epithelium is commonly found in ducts of glands and tubular part of nephrons and its main function is secretion and absorption.
- The columnar epithelium is made up of pillar shaped cells in which nucleus is located at the base. When free surface has microvilli, found in the lining of stomach and intestine.
- When their free surface has cilia they are called as ciliated epithelium, found in the lining of bronchioles and fallopian tubes.
- Compound epithelium has a limited role in secretion and absorption. Their main function is to provide protection against chemical and mechanical stresses. They cover the moist surface of buccal cavity, pharynx, inner lining of ducts of salivary gland and of pancreatic ducts.
- Some of columnar or cuboidal cells get specialised for secretion and are called as glandular epithelium. They are mainly of two types, unicellular (goblet cells) and multicellular (salivary glands)
- On the basis of mode of pouring their secretion glands are exocrine and endocrine.
- Three types of cell junctions are found in epithelium : Tight junction (help to stop substances from leaking across a tissue) Adhering junctions (perform cementing - to keep neighbouring cells together) Gap junction (for rapid transfer of ions, small molecules and some times big molecules)



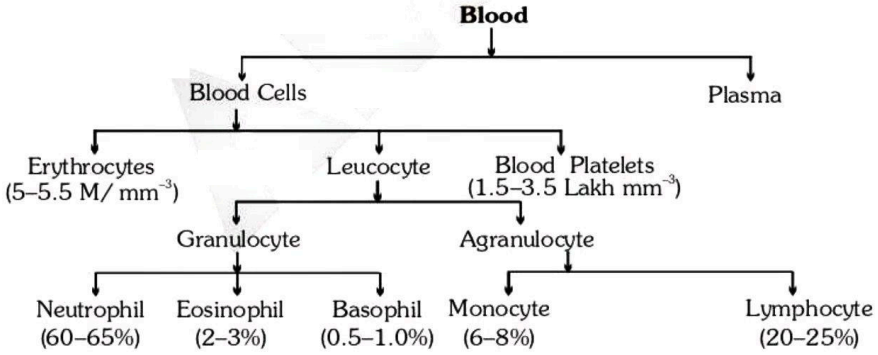
CONNECTIVE TISSUE

- Connective tissue are most abundant and widely distributed in the body.
- Their special function are linking and supporting other tissues/organs of the body.
- In all connective tissues except blood the cells secret fibres like collagen, elastic and reticular.
- These cells also secrete modified polysaccharides which accumulate between cells and fibres which acts as matrix (ground substance).

- Connective tissues are classified into three types
  (i) Loose connective tissue.
  (ii) Dense connective tissue.
  (iii) Specialised connective tissue.
- Loose connective tissue consists of Areolar and Adipose tissue, present beneath the skin.
- In Dense connective tissue fibres and fibroblasts are compactly packed.
- Dence connective can be regular namely Tendon and Ligament where as irregular are oriented differently in the skin.



- In cartilage intercellular material is solid and pliable e.g.– tip of nose, ear pinna etc.
- Bone have a hard and non-pliable ground substance rich in calcium salt. Bone cells (osteocytes) are present in the Lacunae. The bone marrow in some bone is the site of production of blood cells.



- Blood is fluid connective tissue containing plasma, RBC, WBC and platelets. It is main circulating fluid that helps in the transport of various substances.