UMBB/FS
1st year SNV - Animal Biology Examen : 1h30. May 12, 2024
Name: Registration number:
First name: Section: Group:

1- Name the characteristics of bone tissue (1 point)

It is a skeletal, mesenchymal tissue, made up of different cells and a rigid extracellular matrix impregnated with mineral salts giving the bone considerable strength. Bone tissue plays several roles in the body: support, protection, calcium metabolism and hematopoiesis .

2- Name the different types of exocrine glands depending on the nature of the product secreted (2 points)

The mucous glands

The serous glands

3- Compare between hyaline and fibrous cartilage tissue. (2 points)

Hyaline cartilage: This is the most common type of cartilage in the body. We observe small clusters of chondrocytes constituting the chondrones which are dispersed in the extracellular matrix which appears homogeneous. The electronics shows the collagen fibers arranged around the chondrones circularly and others oriented parallel to each other.

Fibrous cartilage is characterized by the dominance of fibers and a low amount of ground substance. It has many type I collagen fibers which are often oriented in bundles; hence its great resistance to pressure. It is located in the intervertebral discs, the menisci of the knee, the Achilles tendon and the pubic symphysis.

4- Give the type of gland for: (2 points)
The adrenal gland **: Trabecular type endocrine gland**

The liver: **Hetetothypic amphicrine (mixed) gland**

The salivary gland: **Compound tubulo -acinar exocrine gland**

The sebaceous gland: **Simple branched acinar exocrine gland**

5- The presence of a few particular cells is a criterion for classifying the lining epithelium; give two examples of these cells (2 points)

Mucous cells, melanocytes, keratinocytes… ..

6- Give the type of fabric for (2 points)

The intestinal epithelium: **Simple prismatic covering epithelium**

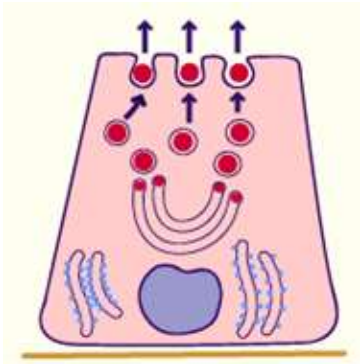
Respiratory epithelium: **Epithelium of ciliated pseudo-stratified covering with the presence of mucous cells**

7- What are the differences between elastic fibers and collagen fibers (2 points)
Collagen fibers: Long, sinuous, poorly stretchable fibers that can be isolated or grouped into bundles.

- Elastic fibers: They are long, branched and highly anastomosed, characterized by elastic stretching and relaxation properties, hence their resistance to great tensions.

8- Give the type of secretion for the following two cells (2 points)

Apocrine secretion



merocrine secreetion

9- Name the characteristics of granulocyte leukocytes (1.5 points)

They owe their name to the numerous granulations observed in their cytoplasm. Furthermore, it contains a single polylobed core. After staining with May grunwold-Giemsa , we distinguish 3 types: neutrophil, eosinophil and basophil

10- Give the functions of the following cells: (1.5 points)

Chondrocytes : **THE The role of chondrocyte is the synthesis of the constituents of the extracellular matrix (fundamental substance and fibers).**

Osteoclasts : **They are capable of destroying the mineralized matrix by playing an important role in the constant processes of bone renewal.**

Fibroblasts: **The fibroblast controls and maintains the composition of the extracellular matrix by the development of connective fibers and proteoglycans of the ground substance**