**L’Arbi Ben M’Hidi University – OEB-**

**Faculty of Exact Science and Natural Life Sciences**

**Animal Biology and Physiology**

**Third Year**

**Name: /05/2024**

**Group:**

**Second Term English Exam**

THE SKELETON AND MUSCLES

The human skeleton is made up of more than 200 bones. It gives our muscles a firm place to anchor themselves and also protects our body’s more fragile organs. For example, the brain is protected by the skull and the lungs are protected by the ribs. The bones of our skeleton vary in shape and size to fit their function. The spine has 33 separate bones. It is shaped to protect the spinal cord, which travels through it, while also giving the spinal muscles a place for attachment.

The male skeleton is different to the female skeleton. For example, the female pelvis is specially designed to allow a baby’s safe journey down the birth canal. Bones have an outer layer called the periosteum. This contains nerves and blood vessels. Underneath lies the toughest part – compact bone. This part is hollow and is lined with spongy bone, which makes it strong but not too heavy. Cells in the bone take calcium and phosphorus from the blood to keep the bony substance hard. Bone marrow lies as the center of bone. The bone marrow at the end of long bones is responsible for making new blood cells.

We have lots of muscles of different shapes and sizes, ranging from the large gluteus maximum on which we sit, to the tiny muscles that control the movements of our eyes. Many of our movements – when riding a bicycle for example – involve a number of muscles that have to work together, and these are controlled by the brain. Every muscle in our body is made up of muscle fibers. Messages from the brain can make muscle fibers contract, making them shorter. As they shorten they become more powerful and are able to pull the bones to which they are attached. This causes movement.

Although we can control many of our muscles, we also have muscles in our body that work automatically. These include the muscles that make our heart beat and the muscles in our intestine that help us to digest food.

**1. Say whether the following statements are True or False.(6 Ps)**

1. The skeleton is a firm structure to which muscles are attached. True

2. The skeleton does not determine the shape and movements of the body. False

3. Cardiac muscles, smooth muscles, glands work automatically. True

4. 33 separate bones of the spine are shaped to protect the brain. False

5. The outer layer of the bones contains nerves and blood vessels. True

6. The bone narrow is responsible for making new blood cells. False

**2. Answer the following questions (5 Ps)**

1. What role does the human skeleton play?

* It gives our muscles a firm place to anchor themselves and protects our body’s more fragile organs.

2. What is the structure of the bones?

* Bones have an outer layer called the periosteum. This contains nerves and blood vessels. Underneath lies the toughest part – compact bone.

3. What causes the movement?

* Messages from the brain can make muscle fibers contract, making them shorter. As they shorten, they become more powerful and are able to pull the bones to which they are attached. This causes movement.

4. Do male and female skeletons differ? Give an example.

* Yes, They do. For example, the female pelvis is specially designed to allow a baby’s safe journey down the birth canal.

**3. Find in the text: a) synonyms and b) antonyms to the following words. (2 Ps)**

**a)** Consist of = Made up , various = Different

**b)** To exclude ≠ Include , inside ≠ Outer

**4. Fill in the blanks with the appropriate word.(4 Ps)**

**-** Physiologyis the study of the function of the living organisms, animals or plants and of functioning of their constituent tissues or cells**.**

**-** Biology is a science that studies life and living Organisms It involves understanding the structure, function, behavior, evolution and interaction of animals with their Environment**.**

**-** An animal cell is the fundamental functional unit of life of animal and it is the basic unit of Reproduction.

**5. Identify whether the following sentences are simple, complex, compound or complex compound sentences. (3 Ps)**

**1.** Red cells contain a chemical called hemoglobin, which is responsible for carrying oxygen to all the body’s cells. Complex S

2. Histamine causes nose cells to secrete more mucus, so if more viruses try to invade, they will be trapped in the sticky fluid there. Compound Complex S

3. The term ‘biosphere’ had been coined to highlight the interdependence of living  
and non-living world. Simple S