**Iqra National University Peshawar**

**Midterm exam 2020**

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**Paper ; Anatomy**

**Question No 1: define the following term?**

1. **Motor unit**
2. **Ipsilateral**
3. **Supination**
4. **Axial skeleton**
5. **Artherioscrlerosis**
6. **Shunt**

**Answer: Motor Unit**

A motor unit is made up of a motor neuron and the skeletal muscle fibers innervated by that motor neurons axonal terminals. Group of motor unit often work together to coordinate the contractions of a single muscle are considered a motor pool.

**Ipsilateral**

**ipsilateral**  on the same side , as opposed to contralateral. **For example**  a tumor involving the right side of brain may affect vision ipsilaterally that is in the right eye.

**Supination**

Rotation of the forearm and hand so that the palm faces forward or upward also a corresponding movement of the foot and leg in which the foot rolls outward with an elevated arch 2: the position resulting from supination

**Axial Skeleton**

The axial skeleton is the part of the skeleton that consists of the bones of the head and trunk of a vertebrate . in the human skeleton,it consists of 74 bones and is composed of six parts; the skull

(22 bones) the ossicles of the middle ear , the hyoid bone , the rin cage sternum and the vertebral column.

**Arteriosclerosis**

Arteriosclerosis occurs when the blood vessels that carry oxygen and nutrients from your heart to the rest of your body (arteries) become thick and stiff – sometimes restricting blood to your orangs and tissue.

**Shunt**

**A** shut is a hollow tube surgically placed in the brain (or occasionally into the spine) to help drain cerebrospinal fluid and redirect it to another location in the body where it can be reabsorbed.

**Question no 2: Differentiate between type 1 and type 2 muscle fibers?**

**Answer:** The key difference between type 1 and type 2 muscle fibers is that the type 1 muscle fibers contract slowly while the type 2 muscle fibers contract rapidly moreover , type 1 muscle fiber depend on aerobic respiration while type 2 muscle fibers depend on anaerobic respiration

There are two main types of muscle fibers namely type 1 and type 2 muscle fibers. They are also known as slow – twitch and fast- twitch muscle fibers respectively . type 1 muscle are rich in mitochondria and also contain more myoglobin. Therefore, these fibers are more efficient in using oxygen to produce ATP continuously over a long time

Type 2 muscle two types 2a and type 2b Furthermore, these fibers use anaerobic respiration to produce fuel. Type 2a fibers are known as intermediate fast twitch fibers or fast oxidative fibers and they are a combination of type 1 and type 2 muscle fibers. On the other hand type 2a fibers use both aerobic and anaerobic metabolism. Type 2b fibers use only anaerobic metabolism and they are known as fast glycolytic fibers, both of these types are rapid firing .

**Question no 3 : classify the bone according to their shape?**

**Answer:**  Bone can be classified according to their shapes . long bones such as the femur, are longer than they are wide short bone , such as carpals, are approximately equal in length. , width , and thickness. Flat bones are thin, but are often curved such as the ribs.

**Question no 4: what is the different between artery , vein , and capillary?**

**Answer:**  **Arteries** carry blood away from the heart; the main artery is the aorta

**Capillaries** carry blood away from the body and exchange nutrients, waste , and oxygen with tissues at the cellular level.

**Veins** are blood vessels that bring blood back to the heart and drain blood from organ and limbs .

**Question no 5 : what is the mechanism of skeletal muscle contraction?**

**Answer:** A muscle contraction is triggered when an Action potential travels along the nerves to the muscles muscle contraction begins when the nervous system generates a signal . the signal , an impulse called an action potential , travels through a type of nerve cell called a motor neuron.

**Muscle contraction**  occurs when the thin actin and thick myosin filaments slide past each other. It is generally assumed that this process is driven by cross-bridges which extend from the myosin filaments and cyclically interact with the actin filaments as ATP is hydrolysed.

**Question no 6: what Is the anatomically position of scapula and clavicle in human body ?**

**Answer:**

**Clavicle** The collarbone is a large doubly curved long bone that connects the arm to the trunk of the body . located directly above the first rib, it acts as a strut to keep the scapula in place so that the arm can hang freely. Medially ,it articulates with the manubrium of the sternum (breastbone) at the Sternoclavicular joint.

**Scapula**  The scapula, also known as the shoulder blade, is a flat triangular bone located at the back of the trunk and resides over the posterior surface of ribs two seven.

**The End**