



IQRA NATIONAL UNIVERSITY
DEPARTMENT OF ALLIED HEALTH SCIENCES

Mid-Term Examination (Summer 2020) (BS DT 1st, BS MLT 1st, BS RAD 1st)
Course Title: Human Anatomy-I Instructor: Ms. Maria Feroze

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Roll: 16265

Section :A (DT)

Time: 4 hours

Note:

- **Attempt all questions from this section, all questions carry equal marks.**
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Q1. Define the following terms:

A) **Motor unit,:**

Ans:A motor unit,the functional unit of muscle contraction,is a single motor nerve and the associated muscle fibers that are thr nerve.A collection of motor units is referred to as a motor pool.

B) **Ipsilateral:**

Ans:ON the same side as opposed to contralateral .for example ,a tumor involving the

right side of the brain may affect vision ipsilateral' that is, in the right eye.

c) **Supination:**

Ans:1)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.

D) Axial skeleton

Ans: The axial skeleton includes all the bones along the body's long axis. Let's work our way down this axis to learn about these structures and the bones that form them. The axial skeleton includes the bones that form the skull, laryngeal skeleton, vertebral column, and thoracic cage.

E) Arteriosclerosis

Ans: 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 flow to your organs and tissues.

F) Shunt.

1) To move a body fluid, such as cerebrospinal fluid, from one place to another. 2) A Cerebrospinal fluid from a ventricle in the brain to another area of the body. A shunt may be placed to relieve pressure from hydrocephalus.

Q2. Differentiate between type 1 and type 2 muscle fibers.

Type 1 vs Type 2 Muscle Fibers.

	Type 1 muscle Fibers	Type 2 muscle Fibers
Definition	Type 1 muscle fibers are one type of muscle fibers that are slow contracting.	Type 2 muscle fibers are another type of muscle fibers that are rapid firing.
Glycogen content	Has a low glycogen content	Has a moderate level of glycogen.
Contraction	Slow	Fast
Synonyms	Slow Twitch muscles	Fast Twitch muscles.
Color	Red	Red or white
Respiration:	Uses aerobic Respiration.	Uses anaerobic respiration.
Mitochondria:	Are more Prevalent	Are less Prevalent.

Oxygen Richness	Contain more oxygen within them.	Contain less or no oxygen within them.
Resistance To Fatigue	High	Intermediate.
Resistance to Fatigue		
Occurrence	Recruited first during activity	Recruited second during activity.
Function	Help to enable long endurance feats such as distance running.	Help powerful bursts of movements like sprinting.

Q3. Classify the bones according to their shape.

Ans:

Classification of bone:

1:Long bones

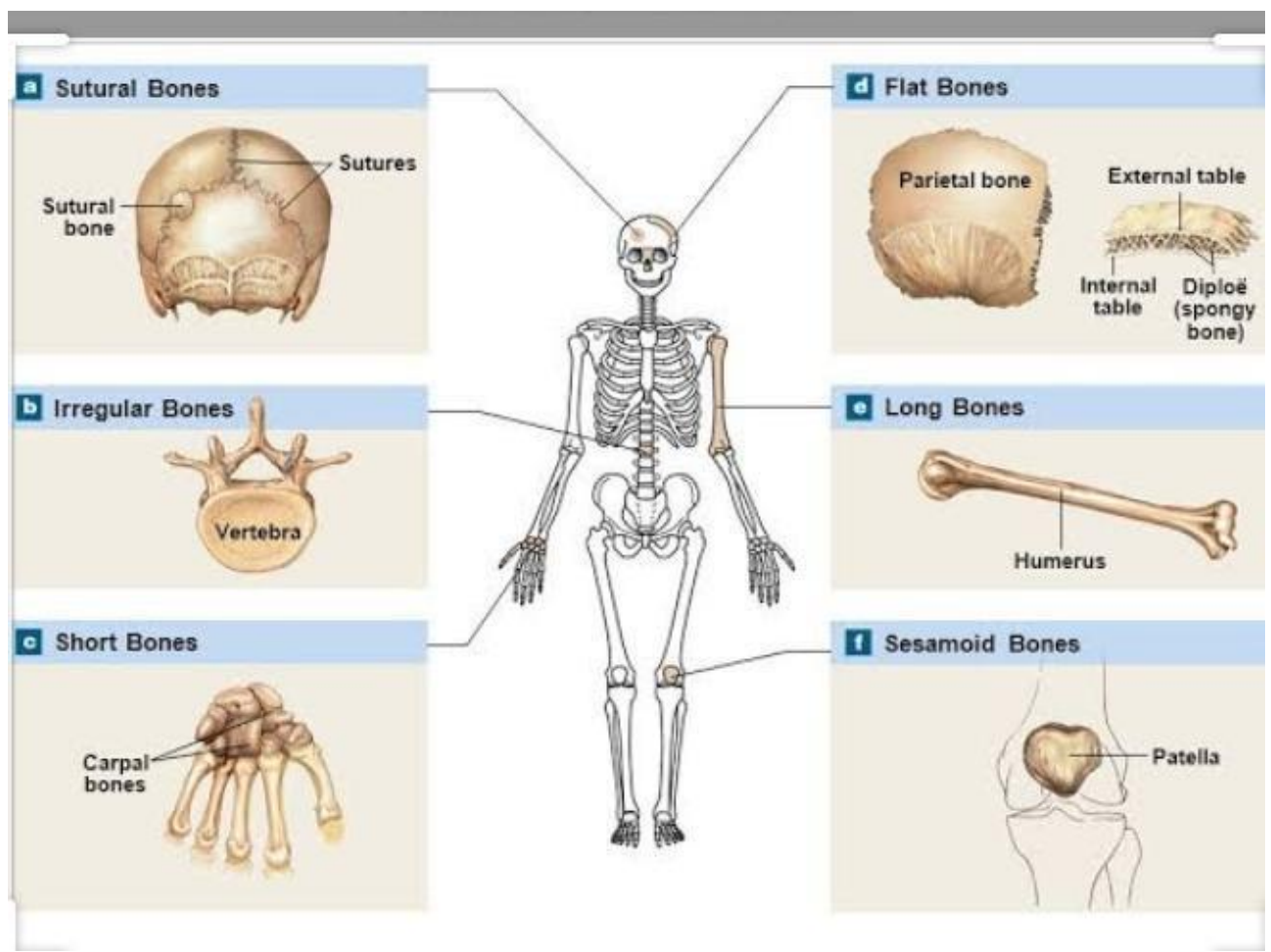
2:Short bones

3:Flat bones

4:Irregular bones

5:Sesamoid bones

Structure :



	Arteries	Capillaries	Veins
Function:	Carry blood away from the heart at high Pressure.	supply all cells with their requirements Take away waste Products.	Return blood to the heart at low Pressure.
Structure of wall:	Thick Strong contain muscles, elastic fibers and fibrous tissue.	very thin, only one cell thick	- Thin - Mainly fibrous tissue. - Contain far less muscle and elastic tissue than arteries.
Lumen:	- Narrow - Varies with heartbeat - Increases as a pulse of blood passes through	- Very narrow - just wide enough for a red blood cell to pass through	Wide.

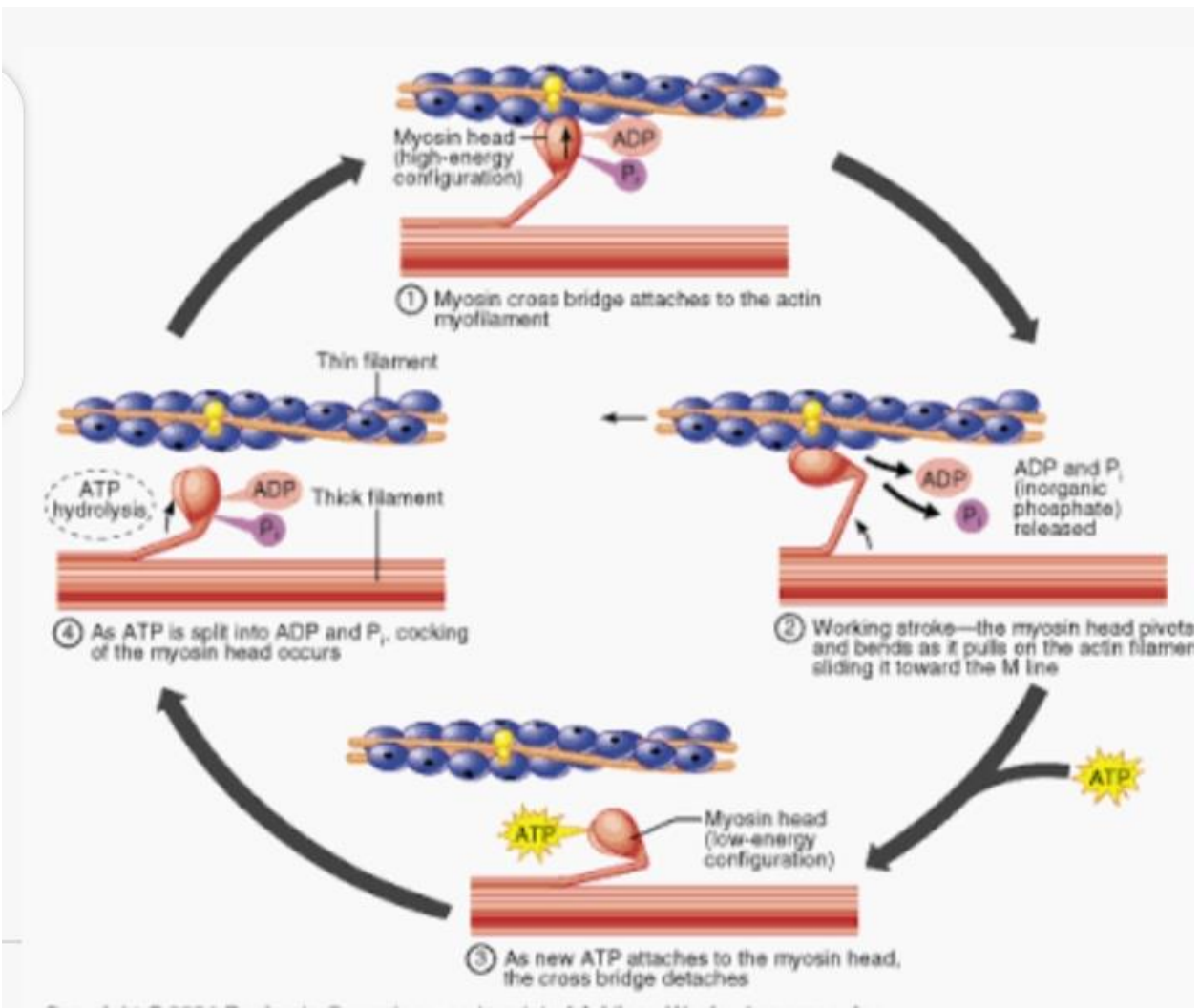
Valves	(-)	(-)	(+) Prevent back flow.
How	- strength and	- No need for	- No need for
Structure	elasticity needed	strong walls, as	strong walls,
First Junction:	to withstand	most of the blood	as most of
	the pulsing of	pressure has	the blood
	the blood, prevent	been lost	pressure has
	bursting and main-	- Thin walls and	been lost.
	tain pressure wave	narrow lumen	- While lumen
	- Helps to maintain	bring blood into	offers less
	High blood pressure,	close contact	resistance to
	preventing blood	with body tissues,	blood flow
	flowing backwards,	allowing diffusion	
		of materials	
		between capillary	
		and surrounding	
		tissues. - While	
		blood cells can	
		squeeze between	
		cells of the wall	

Ans:

Muscle contraction:

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.

Diagram :





.Q6. What is the anatomical position of scapula and clavicle in human body

Ans:

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.

clavicle

scapula

