



## **IQRA NATIONAL UNIVERSITY PESHAWAR**

**SUBJECT:- Human Anatomy II**

**CLASS /SECTION:- BSDT/B.**

**Submitted to:- . Dr. Arooba.**

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1. A metatarsal bone has the following basic parts:

A. Head, shaft, and tail

B. Head, shaft, and base

C. Head, neck, tubercle, and base

D. Head, neck, tubercle, and tail

2. Sustentaculum tali is located on \_\_\_\_\_ of calcaneum.

A. Medial surface

B. Lateral surface

C. Anterior surface

D. Superior surface

3. Circumduction is the combination of?

A. Flexion, extension, medial rotation, and lateral rotation

B. Flexion, extension, abduction, and adduction

C. Abduction, adduction, medial rotation, and lateral rotation

D. Extension, adduction, medial rotation, and lateral rotation

4. It looks like inverted Y shaped:

- A. Iliofemoral ligament
- B. Pubofemoral ligament
- C. Ischiofemoral ligament
- D. Plantar aponeurosis

5. The increase in neck angle with the shaft of the femur is called:

- A. Coxa valga
- B. Coxa vara
- C. Coxa benda
- D. Coxa increase

6. The floor of the acetabulum is non-articular called:

- A. Acetabular fossa
- B. Acetabular margin
- C. Acetabular notch
- D. Capsule

7. The tubercle separating the tendons of peroneus longus and peroneus brevis is:

- A. Anterior tubercle
- B. Posterior tubercle
- C. Medial tubercle
- D. Peroneal tubercle

8. The symphysis pubis is:

- A. Primary cartilaginous joint
- B. Secondary cartilaginous joint

C. Synovial joint

D. Fibrous joint

9. Which bone does not part in the formation of the knee joint?

A. Femur

B. Tibia

C. Fibula

D. Patella

10. Regarding tibia:

A. Anterior border is subcutaneous

B. Lateral border is subcutaneous

C. Medial border is subcutaneous

D. Medial surface is subcutaneous

**Give brief answers to the following questions. Add diagrams/ pictures where needed.**

**Each question carries 5 marks.**

**1. Describe the arches of foot. Name the factors responsible for the maintenance of these arches.**

Ans)

**Arches of foot:**

*The foot has three arches: two longitudinal (medial and lateral) arches and one anterior transverse arch. These arches are formed by the tarsal and metatarsal bones and are supported by the ligaments and tendons in the foot.*

*The arches shape is designed in a similar manner to spring; bears the weight of the body and absorbs*

*the shock that is produced with locomotion. The foot's flexibility conferred by the arches is what facilitates everyday loco-motor functions such as walking and sprinting. The energy-sparing spring theory of the foot's arch has become central to interpretations of the foot's mechanical function and evolution. The metabolic energy saved by the arch is largely explained by the passive-elastic work it supplies that would otherwise be done by active muscle.*

**FACTORS RESPONSIBLE FOR MAINTENANCE OF ARCHES:**

*1: Shape of the bones.*

*2: Intersegment ties or ligaments and muscles hold different segments of arch together.*

*3: The beams that connect the two ends of the arch.*

*4: Slings keep the summit of arch pulled up.*

**2. Mention the attachments, nerve supply and actions of the muscle largely responsible for the prominence of buttocks. Which site is safe for the intramuscular injection in this region?**

Ans)

*The superolateral quadrant of the buttock is relatively free of nerves and vessels and is frequently used for intramuscular injections in order to avoid the sciatic nerve and other important structures. An alternative site is over the gluteus medius in a triangular area bounded by the anterior superior iliac spine, the tubercle of the iliac crest, and the greater trochanter.*

*The largest nerve in the body, the sciatic nerve, consists of two parts, tibial and fibular, which are initially bound together and then separate at a variable level into two nerves.*

*Gluteus maximus. Gluteus maximus is the largest muscle of human body. It lies superficial in the gluteal region and is largely responsible for the prominence of buttock.*

**Safe site for the intramuscular injection:**

*The best locations for an IM injection are your upper arms, thighs, hips, and buttocks. These sites have large, easy to locate muscles and a little fatty tissue covering them.*

**3. How greater and lesser sciatic foramina formed and enlist the structures passing through them**

Ans)

*It is formed by the sacrotuberous ligament and the sacrospinous ligament which runs between the sacrum and the ischial spine. Alternatively, the foramen can be defined by the boundaries of the lesser sciatic notch and the two ligaments*

*Sacrospinous ligament converts greater sciatic notch into greater sciatic foramen. Sacrotuberous ligament and sacrospinous ligament converts lesser sciatic notch into lesser sciatic foramen.*

*Pudendal canal is a fascial canal formed by splitting of the obturator fascia and is located on the lateral wall of ischioanal fossa.*

4. What are hamstring muscles? Give their origin, insertion, nerve supply and action.

Ans)

**Hamstring muscles:**

*The muscles in the posterior compartment of the thigh are collectively known as the hamstrings. They consist of the biceps femoris, semitendinosus and semimembranosus, which form prominent tendons medially and laterally at the back of the knee. As group, these muscles act to extend at the hip, and flex at the knee.*

**Origin:**

*tuberosity of the ischium,  
linea aspera*

**Insertion:**

*tibia, fibula*

**Nerve supply:**

*sciatic nerve (tibial nerve  
and common fibular  
nerve)*

**Actions:**

*flexion of knee, extension  
of hip.*