

Subject: Human Anatomy II

Class: Radiology, 2nd semester

Section: B

Instructor: Dr. Arooba.

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Marks 30.

Name: Mohammad Rauf

Id:16877

Radiology

2nd Semester

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Select the best option.

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. The foot has three arches, two longitudinal (medial and lateral) arches and one anterior transverse arch.

Now we will discuss briefly about the arches and factors responsible for the maintenance of these arches.

1. Longitudinal arch: There are two longitudinal arches in the foot which are the medial and lateral arches. They are formed between the tarsals bones and the proximal end of the metatarsals

i. Medial arch: The medial arch is the higher of the two longitudinal arches. It is formed by the calcaneus, talus, navicular, three cuneiforms and the first three metatarsals bones.

Factor responsible for maintenance of this arch:

- Soft tissue Support: It is of two types, which is given below.

Muscles Support

Ligaments Support

- Bony Support

ii. Lateral arch: The lateral arch is the flatter of the two longitudinal arches, and lies on the ground in the standing position. It is formed by the calcaneus, cuboid and 4th and 5th metatarsal bones.

Factors supporting for maintenance of this arch:

- Soft tissue Support: It is of two types which are given below.

Muscle Support

Ligaments Support

- Bony Support.

2. Transverse arch: The transverse arch is located in the coronal plane of the foot. It is formed by meta tarsals bases, the cuboid and the Three cuneiform bones.

Factor responsible for maintenance of this arch:

- Soft tissue Support: It is of two types which are given below.

Muscle Support

Ligaments Support

- Bony support

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 Muscles of the Buttock:

There are group of three muscles of the gluteal muscles which are glutes maximus, glutes medius and glutes minimus.

Attachments:

These muscles are originated from ilium and sacrum and insert on the femur.

Nerve Supply:

The nerves supplying to this muscles are Superior and inferior gluteal nerves which are L4,L5,S1,S2 nerve roots.

Actions:

The functions of the muscles include extensions, abductions, external and internal rotation of the Hip joint.

The site which is safe for im injection is upper lateral part of the buttock.

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

Ans: The greater sciatic foramen is opening in posterior human pelvis. It is formed by sacrotuberous and sacrospinous ligaments.

The lesser sciatic foramen is a opening between the pelvis and the back of the thigh. The foramen is formed by the sacrotuberous ligament and sacrospinous ligament.

Structures passing through sciatic foramina:

The structures which pass through greater sciatic foramen are, the perforating cutaneous nerve, the superior gluteal vein and artery, and the superior gluteal nerve, the inferior gluteal vein and artery and the inferior gluteal nerve; the sciatic and posterior femoral cutaneous nerves, the internal pudendal artery and veins; and the nerves to the internal obturator and quadrants.

The structures which pass through lesser sciatic foramen are tendon and nerve of obturator internus as well as the pudendal nerve and vessels.

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

Ans: 1) hamstring muscles: these are a group of muscles and their tendons at the rear of the upper leg. They include the biceps femoris, semitendinosus, and semimembranosus. The hamstrings flex the knee joint and extend the thigh to the backside of the body. They are used in walking, running and many other physical activities.

ORIGIN: Superoletral impression of ischial tuberosity.

Insertion: medial condyle of tibia.

Action: hipjoint: thigh external and internal rotation

Knee joint: flexion and internal rotation of the leg.

Nerve: blood supply: perforating branches of femoral and popliteal arteries.