



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF REHABILITATIVE MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY
END OF JAN-APRIL 2024 SEMESTER EXAMINATIONS

UNIT CODE: PHT 123

UNIT NAME: ANATOMY OF THE UPPER AND LOWER LIMBS

DATE: 11th APRIL 2024

START: 11:15 AM STOP: 13:30AM

INSTRUCTIONS

- 1. Attempt all questions as per the instructions in each section**
- 2. This exam is marked out of 70 marks**
- 3. This Examination comprises of Sections A, B and C**

SECTION A

- 1) The following bones form the hip (innominate) bone except?
 - a. Sacrum
 - b. Ilium
 - c. Ischium
 - d. Pubis
- 2) The following are true about the acetabulum except?
 - a. Is deficient inferiorly at the acetabular notch
 - b. Has a hyaline cartilage lining the articular surface which is widest over the iliac part of the fossa, which is the weight bearing area.
 - c. The articular cartilage covers the whole concavity of the acetabulum
 - d. The non articular part is thin and translucent
- 3) All the following are true regarding iliotibial tract except?
 - a. Thickening of the fascia lata on the lateral side of the thigh
 - b. The upper end of the tract splits to enclose tensor fasciae latae and the superficial layer is attached to the iliac crest
 - c. Three quarters of gluteus maximus is attached to it
 - d. It is attached to the Gerdy's tubercle, a facet on the lateral condyle of the tibia
 - e. None of the above
- 4) Which one of the following is the longest muscle in the body?
 - a. Sartorius
 - b. Biceps femoris
 - c. Semimembranosus
 - d. Gastrocnemius muscle

- 5) Which one of the following statement is true regarding sartorius?
- It is the longest muscle in the body
 - Swings obliquely across the thigh
 - Originates anterior superior iliac spine and the notch below it
 - Inserts on the upper part of the medial surface of the tibia
 - All the above
- 6) All the following are contents of the femoral triangle except?
- Femoral nerve
 - Femoral vein
 - Femoral artery
 - Great saphenous vein
- 7) All the following are true in regards to iliacus except?
- Originates from the iliac fossa
 - Inserts into the lesser trochanter and a small area of femoral shaft just below the lesser trochanter
 - Supplied by the femoral nerve (L2,3)
 - Flexes both the hip and knee joints
- 8) All the following are true about quadriceps femoris except?
- Is the main flexor of the knee joint
 - Is the main extensor of the knee joint
 - Has four parts, rectus femoris, vastus lateralis, intermedialis and medialis
 - Forms quadriceps tendon and patella ligament

- 9) Which one of the following quadriceps femoris muscle has its fibers directly inserted into the medial border of the patella?
- a. Rectus femoris
 - b. Vastus medialis
 - c. Vastus intermedialis
 - d. Vastus lateralis
- 10) The following are contents of the adductor canal except?
- a. Femoral vein
 - b. Femoral artery
 - c. Saphenous nerve
 - d. Saphenous vein
- 11) All the following are examples of muscles of the anterior compartment of the thigh except?
- a. Biceps femoris
 - b. Rectus femoris
 - c. Iliacus
 - d. Sartorius
 - e. Vastus intermedialis
- 12) The following are examples of muscles of the posterior compartment of the thigh except?
- a. Semimembranosus
 - b. Semitendinosus
 - c. Biceps femoris
 - d. Quadratus femoris

13) The following statements are true about the costal surface of the scapula except?

- a. It is concave in shape
- b. Is divided into two fossae by the spine of the scapula
- c. Is the origin of the subscapularis muscle
- d. It faces anteriorly

14) The following statements are true about the clavicle except?

- a. Its medial third is flattened and curves backwards to form the acromion process which articulated with the first costal cartilage
- b. It is divided into medial, middle and lateral third
- c. Medial two thirds is rounded and convex forwards
- d. Ossifies in cartilage from several centers

15) All the following are true about the trapezius muscle except?

- a. It is a large flat muscle most superficial of the upper part of the back
- b. It is innervated by cranial nerve number XI (accessory spinal nerve)
- c. It shrugs the shoulders
- d. Flexes the neck
- e. All the above
- f. None of the above

16) All the following muscles form the sit muscles except?

- a. Supraspinatus
- b. Infraspinatus
- c. Subscapularis
- d. Teres minor

17) All the following muscles form rotator cuff muscles except?

- a. Supraspinatus
- b. Infraspinatus
- c. Subscapularis
- d. Teres minor
- e. Teres major

18) All the following statements are true regarding the scapular except?

- a. Its dorsal surface is also called anterior boarder
- b. Its costal surface is also called anterior border
- c. It has a superior and inferior angle
- d. It has a medial, lateral and superior borders

19) The proportion of the head of humerus to the glenoid cavity is in the ration or 4:1

- a. False
- b. True

20) All the following are true regarding latissimus dorsi except?

- a. Assist in deep inspiration (costal fivers) elevating the lower four ribs towards a fixed humerus
- b. In spinal injury, it moves pelvis and trunk
- c. Only muscle of upper limb with pelvic attachment (via lumbar fascia)
- d. It does not attach to the pelvic bone

21) The following vessels form scapular anastomosis except?

- a. Dorsal scapular artery
- b. Transverse cervical artery
- c. Suprascapular artery
- d. Radial artery

- 22) The proportion of the head of humerus to the glenoid cavity is in a ratio of 1:1
- True
 - False
- 23) All the following are static factors of shoulder stability except?
- Coracohumeral ligament
 - Glenoid labrum
 - Shoulder joint capsule
 - Supraspinatus tendon
- 24) All the following are dynamic stability factors of the hip joint except?
- Piriformis
 - Superior gemellus
 - Congruency between the head of femur and the deepened acetabulum
 - Psoas muscles
- 25) Posterior cruciate ligament prevents the knee from excessive anterior translation while anterior cruciate ligament prevents the knee from excessive posterior translation
- True
 - False
- 26) The proximal row of the carpal bones includes all the following except?
- Scaphoid
 - Lunate
 - Trapezium
 - Pisiform
- 27) Which one of the following nerves supplies the triceps muscle?
- Musculocutaneous nerve
 - Median nerve
 - Radial nerve
 - Ulna nerve

28) The following are contents of the cubital fossa except?

- a. Median nerve
- b. Radial artery
- c. Tendon of biceps
- d. Radial nerve
- e. Ulna nerve

29) Which one of the following is the correct movement that occur at the radioulnar joints

- a. Flexion and extension
- b. Supination and pronation
- c. Abduction and adduction
- d. All the above

30) All the following statements are true except?

- a. There are eight carpal bones in the wrist
- b. The first digit is the thumb
- c. The first digit is the little finger
- d. The second, third, fourth and fifth digits have three phalanges each.

SECTION B: ANSWER ALL QUESTIONS

1. State the origins, nerve supply and two actions of the deltoid muscle (3 marks)
2. State the origin and action of the infraspinatus muscle (2 marks)
3. List four muscles of the superficial group of the anterior (flexor) compartment of the forearm (2 marks)
4. State the insertion and action of the extensor pollicis longus (2 marks)
5. Discuss the most important action (function) of the subclavius muscle (1 marks)
6. Discuss the latissimus dorsi muscle under the following subheadings (5 marks)
 - i. Two origins
 - ii. Insertion
 - iii. Action
 - iv. State its significant clinical relevance in spinal cord injury
7. Define the shoulder joint (2 marks)
8. List at least 6 bones of the foot (3 marks)

SECTION C: ANSWER ONLY TWO QUESTIONS

1. Discuss the hip joint under following sub headings (10 marks)
 - i. Definition (2 marks)
 - ii. Stability factors (3 Marks)
 - iii. Movements (5 Marks)
2. Cynthia comes to your clinic with complains of pain, numbness and tingling sensation of her first three digits of her right hand that has been there for the past three weeks. She

works as a secretary in a busy set up. Upon examination you notice wasting and weakness of the muscles of the thenar compartment of the same hand.

- i. What is the most likely diagnosis? (1 mark)
- ii. What structure is most likely involved that is causing her symptoms and your clinical findings above? (1 mark)
- iii. In your further examination, you do sensory test on the thenar eminence;
 - a) What would be your likely finding? (1 mark)
 - b) Justify your answer (1 mark)
- iv. Discuss the boundaries of the carpal tunnel (3 marks)
- v. Name at least four contents of the carpal tunnel (2 marks)
- vi. List two treatment options of the condition you've stated in (i) above (1 mark)

3. Answer the following questions

- i. List the arteries that form both the cruciate and trochanteric anastomosis (4 marks)
- ii. You are examining an elderly lady with right hip joint osteoarthritis. When you load her hip joint during climbing upstairs, she perceives pain in her right knee. Justify your finding (1 mark)
- iii. List the muscles that form the pes anserinus (1 mark)
- iv. Mr. John was involved in a road traffic accident and suffered a posterolateral dislocation of the left hip. When he started walking again after reduction, he realized that he had weakness of the muscles of the lateral compartment of the leg and left foot drop.
 - a) Name the muscles found in the lateral compartment of the leg (2 marks)
 - b) Justify why Mr. John had weakness of the above muscles and foot drop (2 marks)

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