



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR**

FIRST YEAR SECOND TRIMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN MIDWIFERY**

COURSE CODE: NRM 123

COURSE TITLE: HUMAN ANATOMY-UPPER & LOWER LIMB

DATE: 8TH APRIL, 2024

TIME: 3 PM – 6 PM

INSTRUCTIONS TO CANDIDATES

All Questions Are Compulsory

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

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SECTION I

1. The great saphenous vein:
 - a) Joins the femoral vein above the inguinal ligament
 - b) Begins as the upward continuation of the lateral marginal vein of the foot
 - c) Runs behind the medial malleolus
 - d) Enters the femoral vein on its anteromedial side
2. Which of the following is found in the popliteal fossa?
 - a) Sciatic nerve
 - b) Femoral vein
 - c) Common peroneal nerve
 - d) Femoral artery
3. The skin crease of the hip:
 - a) Is where the inguinal ligament is attached to the fascia lata
 - b) Is where the external oblique aponeurosis is joined to Scarpa's fascia
 - c) Is where Scarpa's fascia is attached to the fascia lata
 - d) Is mainly supplied by the femoral nerve
4. At the carpal tunnel:
 - a) The flexor tendon synovial sheath is incomplete on the ulnar side
 - b) The superficial tendons lie in the same plane
 - c) The four profundus tendons have not yet separated
 - d) The median nerve lies lateral to flexor digitorum superficialis
5. The nerve supply of serratus anterior is:
 - a) Axillary nerve
 - b) C4
 - c) Dorsal scapular nerve
 - d) Long thoracic nerve

6. Which carpal bone is most commonly dislocated?
 - a) Lunate
 - b) Scaphoid
 - c) Trapezium
 - d) Capitate

7. Tensor fasciae latae is supplied by:
 - a) Anterior division of femoral nerve
 - b) Superior gluteal nerve
 - c) Nerve to vastus lateralis
 - d) Inferior gluteal nerve

8. Which structure is intrasynovial at the knee joint:
 - a) Oblique popliteal ligament
 - b) Medial and lateral menisci
 - c) Anterior cruciate ligament
 - d) None of the above

9. Tibialis anterior:
 - a) Is supplied by the tibial nerve
 - b) Inserts into the second metatarsal bone
 - c) Is pierced by the posterior tibial artery
 - d) Tendon perforates the superior extensor retinaculum

10. The adductor canal:
 - a) Contains the femoral artery and nerve
 - b) Contains no muscular nerves
 - c) Has adductor longus forming the roof
 - d) Always has the femoral artery lying between the saphenous nerve and the femoral vein

11. Gluteus maximus:

- a) Forms the gluteal fold
- b) Has four bursae beneath it
- c) Has blood supply solely from the inferior gluteal artery
- d) Is the chief control of hip flexion

12. The sciatic nerve:

- a) Lies deep to the posterior femoral cutaneous nerve
- b) Passes down over obturator internus, quadratus, femoris and piriformis
- c) Tibial and common peroneal components separate behind the hip joint
- d) In the buttock it lies midway between the greater trochanter and pubic tuberosity

13. Regarding the hamstring compartment:

- a) The cutaneous nerve supply is from the posterior circumflex femoral nerve
- b) Ischial fibres of adductor magnus degenerate to form the tibial collateral ligament
- c) Semitendinosus lies deep to semimembranosus
- d) The oblique popliteal ligament is an expansion of biceps femoris

14. Regarding the popliteal vessels:

- a) The tibial nerve lies between the popliteal artery and vein
- b) The sural arteries supply soleus
- c) The middle genicular artery supplies the cruciate ligaments
- d) Lymph nodes lie alongside the popliteal artery

15. At the knee joint:

- a) There are three main gaps in the joint capsule
- b) The tibial collateral ligament is tight in flexion
- c) The posterior cruciate ligament is attached to the lateral condyle of the femur
- d) The cruciate ligaments are sensitive and the menisci are not

16. Regarding nerve supply of the lower limb:

- a) Superficial peroneal nerve supplies the muscles in the anterior compartment of the leg
- b) The cruciate ligaments are supplied by the tibial nerve
- c) The obturator nerve supplies obturator internus muscle
- d) The sciatic nerve does not make contact with bone

17. Regarding flexor digitorum longus:

- a) Its four tendons divide under the flexor retinaculum
- b) It arises from the tibia and interosseous membrane only
- c) The medial two tendons receive a strong slip from the tendon of flexor hallucis longus
- d) The tendons have no flexor sheaths

18. With respect to the posterior compartment of the thigh:

- a) Blood supply is mainly from the femoral artery
- b) The sciatic nerve lies lateral to the long head of biceps
- c) The long head of biceps is supplied by the common peroneal nerve
- d) The hamstrings form the apex of the popliteal fossa

19. The most medial structure passing under the inferior extensor retinaculum of the foot is:

- a) Deep peroneal nerve
- b) Tibialis anterior
- c) Extensor hallucis longus
- d) Anterior tibial artery

20. The femoral canal:

- a) Is the lateral compartment of the femoral sheath
- b) Lies medial to the pubic tubercle
- c) Contains the femoral nerve
- d) Is medial to the femoral vein

21. Which of the following structures lies within the knee joint?

- a) Patellar ligament
- b) Tibial collateral ligament
- c) Fibular collateral ligament
- d) Tendon of popliteus

22. The stability of the weightbearing flexed knee is maintained by:

- a) Anterior cruciate ligament
- b) Iliotibial tract
- c) Posterior cruciate ligament
- d) Popliteus and posterior cruciate ligament

23. Inversion of the foot is performed by which pair of muscles?

- a) Peroneus longus and peroneus brevis
- b) Peroneus longus and tibialis posterior
- c) Tibialis anterior and tibialis posterior
- d) Peroneus brevis and plantaris

24. The anterior tibial artery:

- a) Pierces the interosseous membrane
- b) Supplies the lateral compartment of the leg
- c) Lies lateral to the deep peroneal nerve
- d) Lies lateral to tibialis anterior

25. The suprapatellar bursa:

- a) Does not communicate with the knee joint
- b) Lies in front of the vastus intermedius muscle
- c) Extends 5cm or more above the patella
- d) Lies deep to the patellar retinacula

26. Regarding the femoral artery:

- a) It enters the thigh directly beneath the deep inguinal ring

- b) It lies lateral to the femoral nerve in the femoral sheath
- c) It gives rise to the profunda femoris artery which pierces the femoral sheath
- d) Its branches include the superficial epigastric artery and the deep external pudendal artery

27. Regarding the popliteal fossa:

- a) The common peroneal nerve passes through the lateral part of the fossa
- b) It contains no lymph nodes
- c) It has a roof pierced by the tibial nerve
- d) The popliteal artery lies superficial to the popliteal vein throughout the fossa

28. Regarding the movements at the knee joint:

- a) Popliteus 'unlocks' the extended knee by producing medial rotation of the femur
- b) There is no active rotation of the extended knee
- c) Passive extension of the knee does not result in 'locking' of the joint
- d) The posterior cruciate ligament prevents backward displacement of the femur on the tibial plateau

29. The dorsalis pedis artery:

- a) Lies medial to the tendon of extensor hallucis longus
- b) Lies lateral to the deep branch of the deep peroneal nerve
- c) Crosses superficial to the tendon of extensor hallucis brevis
- d) Joins the lateral plantar artery to form the plantar arch

30. The psoas muscle:

- a) Passes across the front of the capsule of the hip joint
- b) Is a powerful lateral rotator of the femur
- c) Inserts into the greater trochanter
- d) Is supplied by L4 and L5 nerve roots

31. Regarding the femoral triangle:

- a) Adductor magnus makes up part of the floor
- b) No motor branches of the femoral nerve leave the triangle to enter the sartorius canal
- c) The femoral artery occupies the lateral compartment of the femoral sheath
- d) The main cutaneous nerve supply of the skin overlying the triangle is by the ilioinguinal nerve

32. The popliteal artery:

- a) Is superficial to the tibial nerve
- b) Extends from the hiatus in adductor longus
- c) Enters the popliteal fossa on lateral aspect of the femur
- d) Supplies the cruciate ligaments

33. The obturator nerve:

- a) Adductor magnus
- b) Obturator internus
- c) Quadratus femoris
- d) Sartorius

34. The anterior cruciate ligament:

- a) Lies within the synovial membrane of the knee joint
- b) Attaches from the anterior tibial plateau to the medial condyle of the femur
- c) Produces lateral rotation of the femur in the 'screw home' position of full extension
- d) None of the above

35. The medial compartment of the thigh:

- a) Contains obturator internus
- b) Contains the femoral triangle
- c) Is limited superiorly by the obturator membrane
- d) Is supplied mainly by the obturator artery

36. The strongest fibres of the 'deltoid' ligament in the ankle run from the tibial malleolus to:

- a) Medial tubercle of the talus
- b) The neck of the talus
- c) The sustentaculum tali
- d) The medial cuneiform

37. The musculocutaneous nerve passes through which muscle?

- a) Coracobrachialis
- b) Short head of biceps
- c) Medial head of triceps
- d) Long head of biceps

38. Latissimus dorsi:

- a) Is an accessory muscle of inspiration and expiration
- b) Is supplied by the dorsal scapular nerve
- c) Forms the lower border of the medially axillary fold
- d) Laterally rotates the humerus

39. Which artery is the main supply of triceps?

- a) Dorsal scapular artery
- b) Brachial artery
- c) Profunda brachii artery
- d) Posterior circumflex humeral artery

40. Teres major:

- a) Receives its nerve supply from the lateral cord of the brachial plexus
- b) Forms the medial border of the triangular space
- c) Is separated from teres minor by the long head of triceps
- d) Has the same nerve supply as teres minor

41. Regarding the brachial plexus:

- a) The dorsal scapular nerve is the only branch from the trunks

- b) The axillary nerve is derived from C5, 6, 7, 8, T1
- c) The ulnar nerve is the largest branch of the whole plexus
- d) The Thoracodorsal nerve supplies lateral dorsi

42. Flexor pollicis longus:

- a) Is a bipennate muscle
- b) Arises from the common flexor origin
- c) Inserts into the radial border of the proximal phalanx
- d) Has fleshy fibres to a point, just above the wrist

43. Which nerve supplies serratus anterior?

- a) Axillary nerve (C5, C6)
- b) Long thoracic nerve (C5, C6, C7)
- c) Musculocutaneous nerve (C5, C6)
- d) Thoracodorsal nerve (C6, C7, C8)

44. At the elbow joint:

- a) There is no communication with the proximal radioulnar joint
- b) The capsule is attached to the neck of the radius
- c) The radial collateral ligament is made up of three bands
- d) The ulnar nerve passes between the anterior and posterior bands of the ulnar collateral ligament

45. The clavipectoral fascia is pierced by all but one of the following structures:

- a) Lymphatic drainage from the infraclavicular nodes to apical axillary nodes
- b) Lateral pectoral nerve
- c) Thoracoacromial artery
- d) Pectoralis minor

46. The blood supply to the breast involves all but one of the following:

- a) Lateral thoracic artery

- b) Long thoracic artery
- c) Posterior intercostal artery
- d) Thoracoacromial artery

47. Which muscle takes origin (in part) from both the medial and lateral intermuscular septa?

- a) Biceps
- b) Brachioradialis
- c) Extensor carpi radialis longus
- d) Triceps

48. The metacarpophalangeal joints are:

- a) Planar
- b) Ellipsoid
- c) Saddle
- d) Ball in socket

49. Which structure lies in the deltopectoral groove?

- a) Median pectoral nerve
- b) Lateral pectoral nerve
- c) Cephalic vein
- d) Axillary vein

50. Which lymph nodes drain the ulnar side of the forearm?

- a) Infratrochlear
- b) Supratrochlear
- c) Infraclavicular
- d) Anterior axillary

51. Extensor pollicis brevis:

- a) Origin – radius and interosseous membrane
- b) Lies on ulnar side of snuffbox

- c) Inserts into the base of the first distal phalanx
- d) Nerve supply = ulnar nerve

52. Trapezius inserts into:

- a) Vertebral border scapula
- b) Scapula spine
- c) Proximal humerus
- d) Medial clavicle

53. The nerve supply to supraspinatus is from the:

- a) Lower subscapular nerve
- b) Dorsal scapular nerve
- c) Suprascapular nerve
- d) Upper subscapular nerve

54. The nerve supply to teres major is from the:

- a) Lower subscapular nerve
- b) Dorsal scapular nerve
- c) Suprascapular nerve
- d) Upper subscapular nerve

55. Brachialis is supplied by:

- a) Musculocutaneous nerve
- b) Radial nerve
- c) Median and musculocutaneous nerves
- d) Musculocutaneous and radial nerves

56. Which nerve arises from both radius and ulna?

- a) Extensor pollicis longus
- b) Extensor pollicis brevis
- c) Abductor pollicis longus

d) Extensor indicis

57. Paralysis of which nerve results in inability to initiate abduction of the arm?

- a) The axillary nerve
- b) The suprascapular nerve
- c) The subscapular nerve
- d) The dorsal scapular nerve

58. The musculocutaneous nerve:

- a) Supplies brachioradialis
- b) Terminates as the posterior interosseous nerve
- c) Contains fibres from C5, C6, C7 and C8
- d) Arises from the lateral cord of the brachial plexus

59. Which of the following lies immediately medial to the tubercle of the radius (Lister's tubercle)?

- a) Extensor carpi ulnaris
- b) Extensor carpi radialis
- c) Extensor pollicis longus
- d) Extensor pollicis brevis

60. Compression of the median nerve in the carpal tunnel produces:

- a) Anaesthesia over the thenar eminence
- b) Wasting of the hypothenar eminence
- c) Loss of power of opposition of the thumb
- d) Anaesthesia of the little finger

SECTION II: SHORT ANSWER QUESTIONS (20 MARKS)

1. State the Lymphatic drainage of the upper limb (4 Marks)
2. State eight the joints of the lower Limb (8 Marks)
3. State eight functions of the bones of the Lower Limb (8 Marks)

SECTION III: LONG ANSWER QUESTIONS (20 MARKS)

1. Mrs. X is admitted with the fracture of the femur in surgical ward.
 - a) Draw and name the diagram of the femur (5 Marks)
 - b) State the muscle of anterior thigh, indicate the origin and insertion. (8 Marks)
 - c) Discuss nursing management of Mrs. X
..... (7 Marks)