

THE UNIVERSITY OF BOLTON

SCHOOL OF SPORT AND BIOLOGICAL SCIENCES

SPORT REHABILITATION & MEDICAL BIOLOGY

SEMESTER ONE EXAMINATIONS 2018/19

CLINICAL ANATOMY

MODULE NO: SRB4001

Date: Wednesday 16 January 2019

Time: 10.00 am – 12.00 pm

INSTRUCTIONS TO CANDIDATES:

There is one section, Section A

Section A is multiple choice

You have to answer all the questions

Each question is awarded one mark, total of 70

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Section A Multiple Choice –

There are 70 Questions answer all of them

1. Which ligaments are associated with the Hip joint?

- a. Iliofemoral ligament, pubofemoral ligament, ischiofemoral ligament, ligamentum teres
- b. Iliofemoral ligament, pubofemoral ligament, iliopubis ligament, ischiofemoral ligament
- c. Iliofemoral ligament, puboiliac ligament, ischiofemoral ligament, ligamentum teres
- d. Iliofemoral ligament, pubofemoral ligament, medial femoral ligament

2. What are the limiting factors to Hip extension?

- a. Superior joint capsule, iliofemoral and pubofemoral ligaments, hip adductors.
- b. Anterior joint capsule, iliofemoral, ischiofemoral and pubofemoral ligaments, hip flexors
- c. Inferior joint capsule, pubofemoral ligament, iliofemoral ligament (inferior fibres), hip adductors
- d. Posterior joint capsule, ischiofemoral ligament and lateral rotators

3. What are the attachments of the iliofemoral ligament?

- a. ASIS, greater trochanter
- b. Lower part of AIIS and adjacent part of acetabular rim, base of intertrochanteric line.
- c. iliopubic eminence, superior pubic ramus, base of intertrochanteric line.
- d. ASIS and adjacent part of acetabular rim, lesser trochanter

4. Which bony landmarks are palpable around the Hip region?

- a. ASIS, acetabular notch, ischial tuberosity, iliac crest, pubic tubercle
- b. ASIS, pubic tubercle, greater trochanter, ischial tuberosity, superior pubic ramus
- c. ASIS, PSIS, lesser trochanter, ischial tuberosity, superior pubic ramus
- d. ASIS, PSIS, quadratus tubercle, iliac crest, ischial tuberosity

5. How is the hip joint identified anteriorly?

- a. 1.5 cm below the ASIS
- b. 4 fingers width below the mid point along a line between the ASIS and the pubic tubercle
- c. 1.5cm below the mid point along a line between the ASIS and the pubic tubercle
- d. 1.5cm above the pubic tubercle

6. Which of these muscles does not flex the Hip?

- a. Iliacus
- b. Gracilis
- c. TFL
- d. Sartorius

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7. What are the origin and insertion for the Psoas Major?

- a. Transverse processes of L4-L8 inserts into iliotibial band and lesser trochanter of femur.
- b. Transverse processes of L1-L5, vertebral bodies and discs of T12-L4, inserts into lesser trochanter of femur
- c. Transverse processes of L1-L5, vertebral bodies and discs of T12-L4, inserts into greater trochanter of femur
- d. Transverse processes of T10-L2, vertebral bodies and discs of T10-L1 inserts into lesser trochanter of femur

8. Tensor Fascia Lata (TFL) is responsible for which actions at the Hip?

- a. Flexion, lateral rotation, abduction
- b. Flexion, lateral rotation, adduction
- c. Flexion, medial rotation, abduction
- d. Flexion, medial rotation, adduction

9. What is the nerve supply for the Adductor Longus?

- a. Femoral nerve
- b. Tibial nerve
- c. Obturator nerve
- d. Sciatic nerve

10. Which muscles abduct the Hip?

- a. Gluteus Maximus, Gluteus Minimus, Gluteus Medius, Pectineus
- b. Gluteus Maximus, Gluteus Minimus, Pectineus, Gracilis
- c. Gluteus Maximus, Gluteus Minimus, Gluteus Medius, Gracilis
- d. Gluteus Maximus, Gluteus Minimus, Gluteus Medius, Tensor Fascia Lata

11. What are the origin and insertions for the Pectineus?

- a. Anterior surface of pubis, inferior to pubic tubercle, inserts into medial lip of linea aspera on middle half of femur
- b. Anterior surface of pubis, inferior to pubic tubercle, inserts into lesser trochanter
- c. Pectineal line and superior pubic ramus, inserts into intertrochanteric line
- d. Pectineal line and superior pubic ramus, inserts into pectineal line of femur

12. Due to rotation of the tibia the knee is classed as a ball and socket joint.

- a. True
- b. False

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13. Which ligaments of the Knee are classed as extracapsular?

- a. Lateral collateral ligament, medial collateral ligaments
- b. Anterior cruciate ligament, posterior cruciate ligament
- c. Lateral collateral ligament, anterior cruciate ligament
- d. Medial collateral ligament, anterior cruciate ligament

14. What movement is not limited by the medial collateral ligament?

- a. Medial tibial rotation
- b. Knee extension
- c. Knee lateral tibial rotation
- d. Both b and c

15. Which is not a function of the meniscus?

- a. Reduces joint congruency
- b. Acts as shock absorbers
- c. Participates in weight distribution across the joint
- d. Participates in locking mechanism

16. What are the limiting factors to Knee flexion?

- a. Posterolateral joint capsule, posterior collateral ligament, lateral cruciate ligament, knee extensors
- b. Posterior joint capsule, anterior and posterior cruciate ligaments, medial collateral ligament, oblique popliteal ligament, arcuate popliteal ligament, knee flexors.
- c. Soft tissue opposition calf and thigh, knee extensors.
- d. Posterior joint capsule, oblique popliteal ligament, arcuate popliteal ligament, patella ligamentum, knee flexors.

17. What are the attachments of the oblique popliteal ligament?

- a. Anterior intercondylar area of tibia, to posterior fibula head
- b. Expansion of semimembranosus tendon close to its insertion on posterior aspect of medial tibial condyle, to posterior fibula head
- c. Anterior intercondylar area of tibia, to intercondylar line of femur
- d. Expansion of semimembranosus tendon close to its insertion on posterior aspect of medial tibial condyle, to intercondylar line of femur

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18. What are the attachments for the anterior cruciate ligament?

- a. Anterior to tibial spine (anterior intercondylar area), to posterior part of medial surface of lateral femoral condyle
- b. Posterior intercondylar area, to anterior part of lateral surface of medial femoral condyle
- c. Anterior to tibial spine (anterior intercondylar area), to posterior part of lateral surface of medial femoral condyle
- d. Posterior intercondylar area, to anterior part of medial surface of lateral femoral condyle

19. The Arcuate Popliteal ligament strengthens which aspect of the joint capsule?

- a. Anteriolateral aspect
- b. Posterolateral aspect
- c. Medial aspect
- d. Lateral aspect

20. What are the attachments for the posterior cruciate ligament?

- a. Anterior to tibial spine (anterior intercondylar area), to posterior part of lateral surface of medial femoral condyle
- b. Anterior to tibial spine (anterior intercondylar area), to posterior part of medial surface of lateral femoral condyle
- c. Posterior intercondylar area of tibia, to anterior part of lateral surface of medial femoral condyle
- d. Posterior intercondylar area of tibia, to anterior part of medial surface of lateral femoral condyle

21. Which muscle promotes Tibial external rotation?

- a. Biceps Femoris
- b. Glute Minimus
- c. Rectus Femoris
- d. Vastus Lateralis

22. What is the origin and insertion for Rectus Femoris?

- a. Upper part of intertrochanteric line, inferior border of greater trochanter, inserts into lateral tibial condyle via pes anserine
- b. AIIS, and ilium just above acetabulum, inserts into medial tibial condyle via pes anserine
- c. Upper part of intertrochanteric line, inferior border of lesser trochanter, inserts via common quads tendon into patella and via patella ligamentum to tibial tuberosity
- d. AIIS, and ilium just above acetabulum, inserts via common quads tendon to patella and via patellar ligamentum to tibial tuberosity

23. What is the nerve supply for Vastus Lateralis?

- a. Tibial nerve
- b. Femoral nerve
- c. Common peroneal nerve
- d. Deep peroneal nerve

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24. Which muscle does not extend the Knee?

- a. Rectus Femoris
- b. Tensor Fascia Lata
- c. Gracilis
- d. Vastus Lateralis

25. What is the origin and insertion of Vastus Intermedius?

- a. ASIS, inserts into medial aspect of proximal tibia, contributes to pes anserine
- b. Anterior & lateral surfaces of upper 2/3rds of femur, inserts into common quads tendon via patella tendon to tibial tuberosity
- c. ASIS, inserts into lateral tibial condyle
- d. Ischial spine, inserts into lateral aspect of proximal tibia, contribute to pes anserine

26. What is the nerve supply for Gastrocnemius?

- a. Tibial nerve
- b. Common peroneal nerve
- c. Obturator nerve
- d. Femoral nerve

27. What are the articulating surfaces of the talocrural joint?

- a. Superior aspect of calcaneus, inferior aspect of talus
- b. Trochlear surface of talus, trochlear surface of tibia
- c. Superior aspect of calcaneus, inferior aspect of cuboid
- d. Trochlear surface of talus, trochlear surface of calcaneus

28. Describe the location of the sustentaculum tali?

- a. Medial aspect of calcaneus, inferior to medial malleolus
- b. Lateral aspect of foot, proximal to medial cuneiform
- c. Lateral aspect of calcaneus, inferior to lateral malleolus
- d. Lateral aspect of talus, superior to calcaneus

29. Which of the following ligaments reinforce the joint capsule at the talocrural joint medially?

- a. Anterior talofibular ligament
- b. Calcaneofibular ligament
- c. Posterior talofibular ligament
- d. Deltoid ligament

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30. What movements occur at the Subtalar joint?

- a. Dorsiflexion, inversion
- b. Plantar flexion, eversion
- c. Abduction, adduction
- d. Supination, pronation

31. Which joint is responsible for the pure movement of Dorsiflexion?

- a. Calcaneocuboid
- b. Subtalar joint
- c. Talocalcaneonavicular joint
- d. Talocrural joint

32. What are the limiting factors to Inversion?

- a. Anterior joint capsules, anterior talofibular ligament, anterior parts of deltoid ligament, bifurcate ligament, spring ligament, ankle dorsiflexors
- b. Posterior joint capsules, posterior parts of deltoid ligament, posterior talofibular ligament, ankle plantarflexors
- c. Lateral joint capsule, calcaneofibular, calcaneocuboid and ATFL ligaments, evertors
- d. Posterior joint capsules, calcaneofibular ligament, spring ligament, invertors

33. What are the attachments of the Plantar Calcaneocuboid ligament (short plantar ligament)?

- a. Lateral aspect of calcaneus, to lateral aspect of navicular and cuboid
- b. Anterior end and medial border of sustentaculum tali, to ridge of peroneal groove on plantar aspect of cuboid
- c. Anterior tubercle of calcaneus, medial facet on cuboid
- d. Anterior tubercle on calcaneus, to ridge of peroneal groove on plantar aspect of cuboid

34. Which muscles are responsible for plantarflexion of the ankle?

- a. Gastrocnemius, soleus, plantaris, tibialis posterior, peroneus tertius, flexor hallucis longus, flexor digitorum longus,
- b. Gastrocnemius, soleus, plantaris, tibialis posterior, peroneus longus, flexor hallucis longus, flexor digitorum longus
- c. Gastrocnemius, soleus, plantaris, tibialis posterior, peroneus longus, extensor hallucis longus, extensor digitorum longus
- d. Gastrocnemius, soleus, plantaris, tibialis anterior, peroneus longus, flexor hallucis longus, flexor digitorum longus,

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35. What are the origin and insertion of the Peroneus Tertius?

- a. Distal 1/3 of anterior fibula, inserts into base of 1st and 2nd metatarsal, plantar surface of medial cuneiform
- b. Proximal 1/3 of anterior tibia, inserts into posterior calcaneus via Achilles tendon
- c. Upper fibula, head of fibula, inserts into dorsal surface of 5th metatarsal
- d. Distal 1/3 of anterior fibula, interosseus membrane, inserts into dorsal surface of 5th metatarsal

36. What is the action of Tibialis Anterior?

- a. Dorsiflexion, inversion
- b. Knee extension, dorsiflexion
- c. Knee flexion, dorsiflexion
- d. Dorsiflexion, eversion

37. Which movements combine to make up Gross Eversion?

- a. Adduction, supination, plantarflexion
- b. Adduction, pronation, plantarflexion
- c. Abduction, pronation, dorsiflexion
- d. Adduction, supination, dorsiflexion

38. Which structures run under the flexor retinaculum (posterior aspect of medial malleolus)?

- a. Tibialis posterior, peroneus longus, peroneus brevis, Posterior tibial nerve, peroneal artery
- b. Peroneus longus, peroneus brevis, plantaris, soleus, posterior tibial nerve, posterior tibial artery
- c. Tibialis posterior, extensor digitorum longus, extensor hallucis longus, posterior tibial nerve, posterior tibial artery
- d. Tibialis posterior, flexor digitorum longus, flexor hallucis longus, posterior tibial nerve, posterior tibial artery

39. What is the nerve supply to Soleus?

- a. Common peroneal nerve
- b. Tibial nerve
- c. Superficial peroneal nerve
- d. Deep peroneal nerve

40. What structure deepens the glenoid cavity and increases stability within the Glenohumeral joint?

- a. Acetabular rim
- b. Glenoid labrum
- c. Glenoid fossa
- d. Supraglenoid tubercle

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41. What is the available range of movement into extension of the humerus?

- a. 45 - 50°
- b. 80 - 90°
- c. 5 - 20°
- d. 100 - 120°

42. Which of the following is not a palpable bony landmark of the Shoulder region?

- a. Bicipital groove
- b. Anatomical neck of humerus
- c. Angle of acromion
- d. Greater tubercle of humerus

43. Where is the corocoid process located?

- a. Anterior aspect of scapula, inferior and medial to acromion process
- b. Anteromedial aspect of scapula, inferior to medial end of clavicle
- c. Posterior aspect of scapula, inferior to spine of scapula
- d. Posterior aspect of lateral end of spine of scapula

44. Which 4 muscles make up the Rotator cuff?

- a. Supraspinatus, infraspinatus, teres minor, subscapularis
- b. Supraspinatus, infraspinatus, teres minor, serratus anterior
- c. Supraspinatus, infraspinatus, teres major, serratus anterior
- d. Supraspinatus, infraspinatus, teres major subscapularis

45. What are the attachments of the trapezoid part of the corococlavicular ligament?

- a. Ridge on upper surface of corocoid process, to trapezoid line of clavicle
- b. Ridge on upper surface of corocoid process, to greater tubercle of humerus
- c. Anterior superior aspect of glenoid labrum, to trapezoid line of humerus
- d. Anterior aspect of corocoid process, to trapezium tubercle of humerus

46. Which ligament is not associated with the Glenohumeral Joint?

- a. Corocohumeral ligament
- b. Superior Glenohumeral ligament
- c. Costoclavicular ligament
- d. Corocoacromial ligament

47. Which muscles protract the Scapula?

- a. Rhomboids ,major and minor and trapezius
- b. Serratus anterior, pectoralis minor and major
- c. Levator scapula, lower fibres of trapezius
- d. Rhomboid, upper trapezius and deltoids

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48. What is the origin and insertion of Infraspinatus?

- a. Medial 2/3rds of infraspinous fossa, inserts into medial facet of greater tubercle of humerus and posterior aspect of joint capsule.
- b. Lateral border of inferior angle of scapula, inserts into medial lip of bicipital groove
- c. Spinous process of T2-T5, intervening supraspinous ligament, inserts into medial border of scapula between base of its spine and inferior angle
- d. Lateral border of inferior angle of scapula, inserts into medial facet of greater tubercle of humerus

49. Which of the following muscles is innervated by the Radial Nerve?

- a. Triceps Brachii
- b. Biceps Brachii
- c. Latissimus Dorsi
- d. Deltoid

50. What is the degree available during Shoulder medial rotation?

- a. 45 - 50°
- b. 170-180°
- c. 5 - 20°
- d. 80-90°

51. What is the origin and insertion of Latissimus Dorsi?

- a. Spinous process of T2-T5, intervening supraspinous ligament, inserts into medial border of scapula between base of its spine and its inferior angle
- b. Spinous process of C7-T1, intervening supraspinous ligament, inserts into medial border of scapula at the base of its spine.
- c. Spinous process of T7-T12, L1-L5 & S1-S5, posterior part of iliac crest, outer surface of lower 3-4 ribs, inferior angle of scapula, inserts into bicipital groove.
- d. Spinous process of T5--T12, L1-L5 & S1-S5, anterior part of iliac crest, intervening supraspinous ligament, inserts into medial border of scapula between base of its spine and superior angle

52. What limiting factors give an elastic end feel to elbow supination?

- a. Anterior joint capsule, annular ligament, elbow extensors
- b. Posterior joint capsule, posterior part of radial collateral ligament, posterior part of ulna collateral ligament, elbow flexors
- c. Lateral joint capsule, quadrate ligament and interosseous membrane, supinators
- d. No joint capsule, quadrate ligament and interosseous membrane, pronators

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53. The ulna rotates around the radius during pronation and supination of the forearm?

- a. True
- b. False

54. What are the attachments of the Annular ligament?

- a. Anterior margin of the radial notch to the posterior margin of the radial notch, and adjacent areas of the ulna above and below the notch
- b. Anterior margin of the radial notch, to lateral aspect of olecranon
- c. Posterior margin of the radial notch, lateral aspect of the proximal radius
- d. Depression on the anterolateral aspect of the lateral epicondyle, margins of radial notch of ulna

55. Which muscles are responsible for pronation of the forearm?

- a. Pronator Teres, Biceps Brachii, Brachioradialis
- b. Pronator Teres, Pronator Quadratus, Brachioradialis
- c. Pronator Teres, Pronator Quadratus, Biceps Brachii,
- d. Pronator Brachii, Brachioradialis

56. What is the origin and insertion of the Supinator muscle?

- a. Medial epicondyle, supinator crest and fossa of radius, inserts into ulna tuberosity
- b. Distal 2/3rds of anterior surface of humeral shaft, inserts into radial tuberosity
- c. Lateral epicondyle, radial collateral and annular ligament, supinator crest and fossa of ulna, inserts into posterior, lateral, and anterior aspects of proximal radius
- d. Distal 2/3rds of anterior surface of ulna, inserts into posterior, lateral and anterior aspects of proximal radius

57. What is the nerve supply for Triceps?

- a. Median nerve
- b. Radial nerve
- c. Musculocutaneous nerve
- d. Tibial nerve

58. Which of the following is not an action of the Biceps Brachii?

- a. Elbow flexion
- b. Elbow supination
- c. Shoulder extension
- d. Shoulder flexion

59. Which bones make up the distal row of carpals?

- a. Hamate, trapezoid, capitate, trapezium
- b. Hamate, capitate, triquetral, trapezium
- c. Scaphoid, lunate, triquetral, pisiform
- d. Hamate, lunate, trapezoid, trapezium

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60. Which of the following is not an attachment for the flexor retinaculum?

- a. Scaphoid tubercle
- b. Pisiform
- c. trapezium tubercle
- d. capitate tubercle

61. Where is the triangular fibrocartilagenous disc located?

- a. Proximal end of radius, associated with superior radioulnar joint
- b. At the base of the thumb, associated with the first carpometacarpal joint
- c. Distal end of the ulna, associated with the inferior radioulnar joint
- d. At the base of the 5th finger, associated with the 5th carpometacarpal joint

62. What are the limiting factors to flexion of the Wrist?

- a. Dorsal capsule, dorsal radiocarpal ligament, dorsal intercarpal ligament, wrist flexors
- b. Dorsal capsule, dorsal radiocarpal ligament, dorsal intercarpal ligament, wrist extensors
- c. Palmar capsule, palmar ulnocarpal ligament, palmar radiocarpal ligament, palmar intercarpal ligament, wrist flexors
- d. Palmar capsule, palmar radiocarpal ligament, palmar intercarpal ligament, wrist extensors

63. What are the attachments of the palmar radiocarpal ligament?

- a. Posterior edge of radius, to posterior surface of scaphoid, lunate, triquetral and capitate.
- b. Anterior edge of radius and its styloid process, to anterior surface of scaphoid, lunate, triquetral, pisiform, and capitate
- c. Posterior edge of ulna, to posterior surface of scaphoid, lunate, triquetral
- d. Anterior edge of ulna, to anterior surface of scaphoid, lunate, triquetral, and pisiform

64. What are the attachments of the ulna collateral carpal ligament?

- a. Ulna styloid process, to base of pisiform, and medial and posterior aspects of triquetral
- b. Neck of radius, to inferior edge of head of ulna
- c. Ulna styloid process, to inferior edge of ulna notch on radius
- d. Neck of radius, to base of pisiform, and medial and posterior aspects of triquetral.

65. Which muscles are responsible for radial deviation?

- a. Flexor carpi ulnaris, extensor carpi ulnaris
- b. Flexor carpi ulnaris, extensor carpi ulnaris longus, extensor carpi ulnaris brevis
- c. Flexor carpi radialis, extensor carpi radialis brevis
- d. Flexor carpi radialis, extensor carpi radialis longus, extensor carpi ulnaris

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66. Which of the following muscles pass through the carpal tunnel?

- a. Abductor pollicis longus
- b. Flexor digitorum superficialis
- c. Palmaris longus
- d. Extensor carpi radialis longus

67. What is the nerve supply to Flexor Carpi Ulnaris?

- a. Ulna nerve
- b. Median nerve
- c. Subscapular nerve
- d. Tibial nerve

68. Which muscle is not responsible for wrist extension?

- a. Extensor carpi ulnaris
- b. Extensor digiti minimi
- c. Palmaris longus
- d. Extensor digitorum

69. What is the origin and insertion of the Palmaris longus?

- a. Lateral epicondyle via common extensor origin, inserts into flexor retinaculum and palmar aponeurosis
- b. Lateral epicondyle via common extensor origin, inserts into distal row of carpal bones
- c. Medial epicondyle via common flexor origin, inserts into distal row of carpal bones
- d. Medial epicondyle via common flexor origin, inserts into flexor retinaculum and palmar aponeurosis

70. Which muscles make up the hypothenar eminence?

- a. Flexor pollicis brevis, abductor pollicis brevis, opponens digiti minimi
- b. Abductor digiti minimi, flexor digiti minimi, opponens digiti minimi
- c. Flexor pollicis brevis, abductor pollicis brevis, opponens pollicis
- d. Abductor digiti minimi, flexor digiti minimi, opponens pollicis

END OF QUESTIONS