



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

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR**

FIRST YEAR SECOND TRIMESTER EXAMINATION

**FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN CLINICAL MEDICINE AND
COMMUNITY HEALTH
AND
BACHELOR OF SCIENCE IN HEALTH PROFESSIONS
EDUCATION (H.P.E)**

COURSE CODE: HCA 100/HCM134/NUR106

COURSE TITLE: HUMAN ANATOMY II

DATE: MONDAY 20TH MAY 2019 DURATION: 9:00AM - 12 NOON

INSTRUCTIONS TO CANDIDATES

1. READ THE INSTRUCTIONS AT THE BEGIN OF EACH SECTION
2. THIS PAPER CONSIST OF:
Section A: Multiple Choice Questions (MCQ) 20 Marks.
Section B: Short Answer Questions (SAQ) 40 Marks.
Section C: Long Answer Question (LAQ) 40 Marks
3. NO MOBILE PHONE IS ALLOWED IN THE EXAMINATION ROOM

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of SIX Printed Pages. Please Turn Over.

1E 10B
2A 11A
3A 12E
4E 13A
5B 14D
6D 15B
7B 16C
8A 17C
9E 18E
19D
20E

SECTION A: (20 MKS) FOR EACH QUESTION CHOOSE ONE CORRECT ANSWER

1. **The following is true about the biceps brachii muscle tendon:-**
 - A. It is the least important stabilizer of the shoulder.
 - B. It originates on the margin of the glenoid cavity and passes through the joint capsule.
 - C. It emerges into the intertubercular sulcus, where it is held by the Coracohumeral ligament
 - D. Superior to the sulcus, it merges into the biceps brachii.
 - E. All of the above

2. **Which of the following muscles flexes both the hip and knee joints?**
 - A. Quadriceps
 - B. Adductor magnus
 - C. Sartorius
 - D. Semimembranosus
 - E. Gracilis

3. **Bursae associated with the shoulder joint include the following EXCEPT:-**
 - A. subscapular ✓
 - B. subdeltoid
 - C. subacromial
 - D. subcoracoid
 - E. supraspinatus

4. **The following is FALSE about muscle compartments:-**
 - A. Upper limb are divided into anterior and posterior compartments.
 - B. Lower limb is divided into anterior, posterior, medial, and lateral compartments.
 - C. Major compartments are separated from each other by thick fasciae called intermuscular septa
 - D. The muscle groups are further subdivided by thicker fasciae into superficial and deep layers.
 - E. Major compartments are separated from each other by the interosseous membranes of the forearm and leg.

5. **The following is FALSE about trapezius muscle:-**
 - A. Stabilizes scapula and shoulder during arm movements.
 - B. Elevates apex of shoulder.
 - C. produces fast, forcible depression of scapula as in swimming and hammering
 - D. It is innervated by the Accessory nerve

- E. Its skeletal attachment include Transverse processes of vertebrae C1–C4 and Superior angle to medial border of scapula
6. A muscle that prevents a bone from moving is:-
- A. Synergist
 - B. Antagonist
 - C. Agonist
 - D. fixator
 - E. Direct muscle
7. Which of the following axial muscles acting on the arm is nicknamed the “swimmer’s muscle”?
- A. Pectoralis Major
 - B. Latissimus Dorsi
 - C. Deltoid.
 - D. Teres major
 - E. Coracobrachialis
8. The major blood supply to the head of the femur is through:-
- A. retinacular vessels
 - B. nutrient artery
 - C. ligamentum teres
 - D. All the above
 - E. None of the above.
9. Rotator cuff injuries are common in sports and recreation especially in baseball pitching and bowling. Which of the following muscle tendon is easily damaged by strenuous circumduction?
- A. Supraspinatus
 - B. Infraspinatus
 - C. Teres minor
 - D. Subscapularis
 - E. Teres major.
10. The following are extracapsular ligaments in the knee joint EXCEPT:-
- A. oblique popliteal ligament
 - B. arcuate popliteal ligament
 - C. fibular collateral ligament
 - D. tibial collateral ligament
 - E. cruciate ligaments
11. The prime mover of elbow flexion is:-
- A. biceps brachii
 - B. deltoid

- C. triceps brachii
- D. brachialis
- E. Brachioradialis

12. Which of the following muscles generates its maximum force when the thigh is flexed at a 45° angle to the trunk?

- A. Gluteus Maximus
- B. Gluteus Medius
- C. Gluteus Minimus
- D. Tensor Fasciae Latae
- E. Hamstrings muscles

13. The following are intrinsic muscles of the hand the thenar group EXCEPT:-

- A. Abductor Pollicis Brevis
- B. Opponens Pollicis
- C. Flexor Pollicis Brevis
- D. Adductor Pollicis
- E. Flexor Digiti Minimi Brevis

14. The roots/segment of the sciatic nerve are:-

- A. L2, L3, L4, L5, S1
- B. S2, S3, S4
- C. L4, L5
- D. L4, L5, S1, S2, S3
- E. S2, S2, S3, S4

15. The major blood vessel which supply's blood to the upper limb and passes between the clavicle and the first rib is:-

- A. jugular vein
- B. subclavian artery
- C. Axillary artery
- D. Brachiocephalic artery
- E. Deep brachial artery

16. Injury to superior gluteal nerve may disturb the normal gait by causing paralysis of:-

- A. Adductor magnus
- B. Gluteus maximus
- C. Gluteus medius
- D. Hamstrings
- E. Gemelli

17. The muscle responsible for "unlocking" the knee joint is:-

- A. Quadriceps femoris
- B. Gastrocnemius
- C. Popliteus
- D. Biceps
- E. Semitendinosus

18. A child falls on a spike injuring the upper lateral margin of the popliteal fossa, which nerve is liable to be injured?

- A. Femoral
- B. Tibial
- C. Obturator
- D. Sciatic
- E. Common peroneal

19. During its course, the following is TRUE about the femoral artery except:-

- A. Begins behind the midpoint of the inguinal ligament.
- B. Occupies a compartment of the femoral sheath.
- C. May be compressed against the capsule of the hip joint
- D. Passes in front of adductor longus
- E. Ends at the adductor magnus opening

20. Inferior epigastric artery is a branch of:-

- A. Femoral artery
- B. External iliac artery
- C. Internal iliac artery
- D. Inferior gluteal artery
- E. Abdominal aorta

SECTION B. (40MKS) ANSWER ALL QUESTIONS

1.

- A. Explain two anatomical differences between arteries and veins. (2mks)
- B. A central venous catheter or central line is a long, thin, flexible tube and can be left in place for longer periods, from weeks to as much as a year.
Name four major veins of the upper limb in which this catheters can be put. (4mks)
- C. While stitching a deep cut wound on the arm, you notice that the deep brachial artery is cut and you arrest the bleeding by tying the artery. Your classmate who was assisting you is worried about the blood supply to the hand.
Explain to him/her other two alternative roots that blood from the subclavian artery will reach the deep and superficial palmar arches of the hand. (4mks)

2.

A. Differentiate between intrinsic and extrinsic muscles. (2mks)

B.

i. Name two extrinsic muscles of the Posterior Compartment in the superficial layer of the arm that act on the wrist and hand. (2mks)

ii. State one major ACTION and one major INNERVATION of the muscles in B (i) above. (2mks)

C.

i. Differentiate between a tendon and ligament. (1mk)

ii. List three ligaments that support the shoulder joint. (3mks)

3.

A) Define a dermatome. (1mk)

B) State two nerves that form the sciatic nerve. (2mks)

C) List the boundaries of the femoral triangle and name two structures that pass in the triangle. (5mks)

D) Name four deep veins of the lower limb. (2mks)

4.

A) Explain three Classification of muscles according to fascicle orientation and in each give an example. (3mks)

B) Define the following terms in relation to muscles:

I. Origin. (1mk)

II. Insertion. (1mk)

C) Explain why the above terminologies in B above are imperfect or misleading and give an example showing why they are imperfect. (3mks)

D)

i) define a ganglion. (1mk)

ii) Name one neuroglia/glial cell found in the peripheral nervous system. (1mk)

SECTION C: (40MKS) ANSWER ALL THE QUESTIONS

1. With the aid of a diagram or flow chart, discuss the brachial plexus. (20mks)

2. Discuss the quadriceps femoris and hamstrings muscles of the lower limb in terms of action, skeletal attachments and innervation. (20mks)

END

4. A 30 year old female comes to the clinic with one month history of pyrexia of unknown origin, recurrent oral candidiasis, progressive weight loss and generalized lymphadenopathy. Her husband died 1 year ago due to illness that is unknown to her. A blood slide for malaria parasite is done and is negative?
- A. What is the most likely diagnosis? (1MK)
 - B. Which other blood investigation will you do to confirm your diagnosis in A above? (1MK)
 - C. State four differential diagnosis of the diagnosis? (2MKS)
 - D. Explain six factors that may lead to the spread of the disease in A above? (6MKS)

SECTION C: (40MKS) ANSWER ALL THE QUESTIONS

1. Discuss some of the clinical Presenting and investigations of Gastro Intestinal Diseases stating the common conditions in which the problem presents? (20MKS)
2. Discuss complications of diabetic mellitus? (20MKS)

END

