



KENYATTA UNIVERSITY
SUPPLEMENTARY/SPECIAL EXAMINATION 2021/2022
EXAMINATION FOR THE DEGREE OF BACHELOR OF PHARMACY
(BPharm Level I)
HMA 110P: HUMAN ANATOMY I

AUGUST, 2022

TIME: 3 HOURS

INSTRUCTIONS:

This paper contains 2 sections A and B.

Answer all Questions in the Question paper

Write your Number on top of every page.

Attempt all the Questions.

Section A: Multiple Choice Questions (MCQs)

1. Which anatomical term is synonymous with ventral?
 - a) medial
 - b) posterior
 - c) anterior
 - d) inferior

2. Which of the following lists is in the order of increasing levels of complexity?
 - a) organelles - tissues - cells - organ systems - organs
 - b) cells - macromolecules - tissues - body - organs
 - c) organelles - cells - tissues - organs - organ systems
 - d) tissues - cells - organs - organelles - organ systems

3. Which of the following examples illustrates a positive feedback mechanism?
 - a) increasing secretion of oxytocin to accelerate labor contractions
 - b) alteration of respiratory rates in response to changes in hydrogen ion concentration in the blood
 - c) regulation of your blood sugar level by the opposing actions of glucagon and insulin
 - d) opposing effects of calcitonin and parathyroid hormone in maintaining proper calcium levels

INVOLVEMENT IN EXAMINATION IRREGULARITY SHALL LEAD TO DISCONTINUATION

4. Which body plane divides the body into equal left and right halves?
- a) frontal
 - b) midsagittal
 - c) coronal
 - d) median
5. Which organ system returns extracellular fluids to the bloodstream?
- a) lymphatic
 - b) nervous
 - c) integumentary
 - d) endocrine
6. DNA is duplicated in the cell cycle during the
- a) G2 phase.
 - b) S phase.
 - c) M phase.
 - d) G1 phase.
7. Which of the following organelles divides by fission?
- a) Golgi complex
 - b) Rough Endoplasmic Reticulum
 - c) Peroxisome
 - d) Smooth Endoplasmic Reticulum
8. The division of cytoplasm is known as
- a) Mitosis
 - b) Synapsis
 - c) Cytokinesis
 - d) Karyokinesis
9. Centrosome duplication takes place in this phase
- a) S phase
 - b) G1 phase
 - c) G0 phase
 - d) M phase

10. The characteristic of this stage of mitosis is the separation of the sister chromatids
- a) Telophase
 - b) Metaphase
 - c) Prometaphase
 - d) Anaphase
11. How soon after fertilization occurs within the uterine tube does the blastocyst begin implantation?
- a) Within minutes
 - b) By 12 hours
 - c) By day 1
 - d) By day 7
12. Where does the blastocyst normally implant?
- a) Functional layer of the cervix
 - b) Functional layer of the endometrium
 - c) Basal layer of the endometrium
 - d) Myometrium
13. Which of the following structures must degenerate for blastocyst implantation to occur?
- a) Endometrium in progestational phase
 - b) Zona pellucida
 - c) Syncytiotrophoblast
 - d) Cytotrophoblast
14. In oogenesis, which of the following events occurs immediately following the completions of meiosis II?
- a) Degeneration of the zona pellucida
 - b) Sperm penetration of the corona radiata
 - c) Formation of a female pronucleus
 - d) Appearance of the blastocyst
15. The prochordal plate marks the site of the future
- a) umbilical cord
 - b) heart
 - c) mouth
 - d) anus

16. Between which two layers is the extraembryonic mesoderm located?
- a) Epiblast and hypoblast
 - b) Syncytiotrophoblast and cytotrophoblast
 - c) Syncytiotrophoblast and endometrium
 - d) Exocoelomic membrane and syncytiotrophoblast
17. At the end of week 2 of development day 14 what is the composition of the embryonic disk?
- a) Epiblast only
 - b) Epiblast and hypoblast
 - c) Ectoderm and endoderm
 - d) Ectoderm mesoderm and endoderm
18. Cells that often remain in the same stage of development for more than 30 years:
- a) Primordial germ cells
 - b) Polar bodies
 - c) Primary oocytes
 - d) Secondary oocytes
19. Which one of the following is NOT a characteristic feature of a sesamoid bone?
- a) Have periosteum
 - b) Are bone nodules embedded in tendons
 - c) Have no periosteum
 - d) Are always completely ossified
20. Which of the following is an immovable joint?
- a) Synovial joint
 - b) Fibrous joint
 - c) Ellipsoid joint
 - d) Saddle joint
21. Which of the following muscles function as a single unit?
- a) Voluntary muscles
 - b) Myofibroblasts
 - c) Smooth muscles
 - d) Muscles of the heart

22. The following are parts of epiphyseal growth plate EXCEPT?

- a) Resting zone
- b) Diaphysial zone
- c) Proliferation zone
- d) Hypertrophic cartilage

23. Arterial supply of long bone involves the following EXCEPT?

- a) Epiphyseal arteries
- b) Periosteal arteries
- c) Subclavian arteries
- d) Nutrient artery

24. The following is true about flat bones

- a) Shaft
- b) One epiphysis
- c) Two epiphysis
- d) Outer and inner table separated by a diploe

25. The following are types of synovial joints except

- a) Gomphosis
- b) Hinge
- c) Pivot
- d) Arthroidal

26. Functional classification of skeletal muscles involve

- a) Prime movers and fixator
- b) Pinnate and antagonist
- c) Bipennate and fixator
- d) multipennate and synergists

27. The following are long bones except

- a) Tibia
- b) Ulna
- c) Radius
- d) Carpals

28. The following structures pass through the greater sciatic foramen except
- a) The sciatic Nerve
 - b) The pudendal nerve and vessels
 - c) The posterior cutaneous nerve of the thigh
 - d) The inferior gluteal nerve and vessels
29. Intramuscular injections in the lower limbs should be administered in which quadrant to avoid injury to the major nerves
- a) Upper outer quadrant
 - b) Lower upper quadrant
 - c) Lower outer quadrant
 - d) Upper inner quadrant
30. The following structures can be found between the joints?
- a) Ligaments
 - b) Articular disc
 - c) Tendons
 - d) Blood vessels and nerves
31. Which joint provides all range of movement?
- a) Ellipsoid
 - b) Saddle joint
 - c) Ball and socket joint
 - d) Pivot joint
32. The motor unit supplying the muscles consist of the following ?
- a) Muscles and nerve that supply the muscles
 - b) Nerve and blood supply
 - c) Muscles and blood supply
 - d) Nerve and sensory nerve
33. The following structures passes greater sciatic foramen which is not?
- a) Sciatic nerve
 - b) Superior gluteal artery
 - c) Superior gluteal vein
 - d) Tendon of obturator internus

34. A Structure passing lesser sciatic foramen
- a) Sciatic nerve
 - b) Superior gluteal artery
 - c) Superior gluteal vein
 - d) Tendon of obturator internus
35. All of the following muscles are part of the Hamstrings except?
- a) Biceps Femoris
 - b) Adductor Magnus
 - c) Adductor Longus
 - d) Semimembranosus
36. Which of the following muscles is innervated by the Obturator Nerve?
- a) Semitendinosus
 - b) Biceps femoris
 - c) Sartorius
 - d) Gracilis
37. What is the nerve supply to the Pectineus muscle?
- a) Deep Peroneal nerve
 - b) Femoral nerve
 - c) Tibial nerve
 - d) Obturator nerve and Femoral Nerve
38. Which of the following muscles is not attached to the greater trochanter?
- a) Gluteus medius
 - b) Tensor Fascia lata
 - c) Obturator internus
 - d) Obturator externus

Which one of the following is NOT a flat bone

- a) Temporal bone
- b) Parietal bone
- c) Frontal bone
- d) Occipital bone
- e) Lunate bone

The following are short bones EXCEPT?

- a) Pisiform
- b) Clavicle
- c) Scaphoid
- d) Talus
- e) Hamate

Section B: Short Answer Questions.

Q 1. State Four ligaments that stabilize the Hip Joint. (4 marks)

ii. Of those ligaments, which ligament prevents hyper-extension? (1 mark)

Q 2. State the following about the femoral triangle. (5 marks)

Lateral Border

Roof

One Content

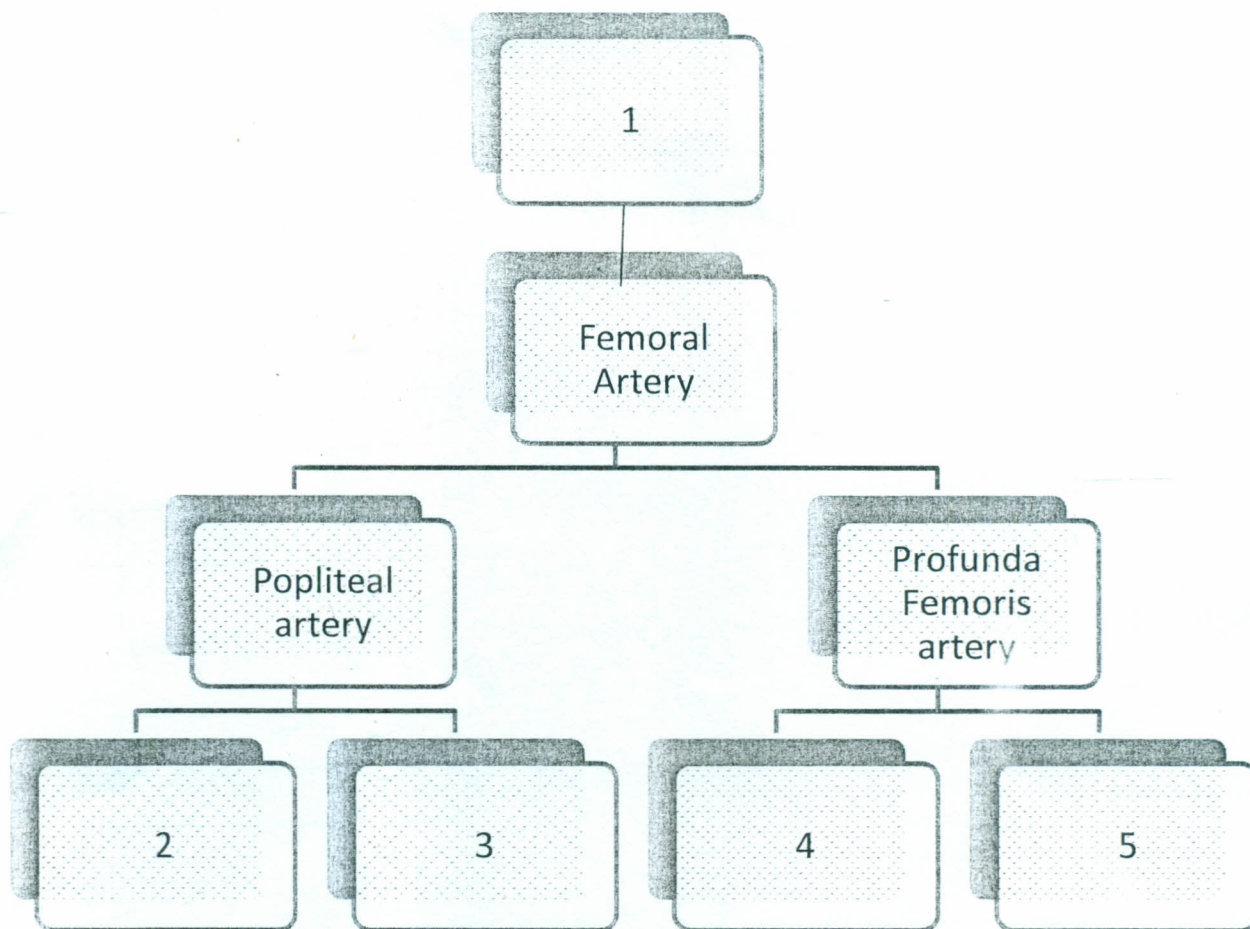
ii. Causes of Swellings

(2 marks)

Q 3. In knee joint injuries, what structures are injured in the Unhappy triad? (3 marks)

ii. Which ligament of the knee joint prevents anterior dislocation of the femur when descending a hill, or staircase?

Q 4. Fill in the following flow diagram to show the branches of the femoral artery. (5 marks)



1. _____
2. _____
3. _____
4. _____
5. _____

Q 5. Match the following nerves with the muscles they innervate

(5 marks)

Muscle

1. Rectus Femoris
2. Tensor Fascia lata
3. Peroneus Brevis
4. Flexor Digitorum Brevis
5. Tibialis anterior

Nerve

- A. Tibial nerve
- B. Deep Peroneal nerve
- C. Superficial Peroneal nerve
- D. Superior Gluteal nerve
- E. Inferior Gluteal nerve
- F. Femoral nerve

Q 6. Name two intracapsular ligaments of the Knee joint

(3 marks)

b. Describe the Mechanism of Locking of the Knee joint

(2 Marks)

Q 7. Answer the following questions true or false:

(5 marks)

- _____ a. The obturator nerve is the nerve of the Anterior Compartment of the thigh
- _____ b. The Great Saphenous vein has no valves.
- _____ c. The Posterior Tibial artery contributes to the Genicular Anastomosis..
- _____ e. A Tuberosity is a roughened area for muscle or ligament attachment on a bone.

Q 8.. a. State the nerve supply to the Hip joint

(4 marks)

b. State the Nerve supply to Quadratus Femoris

(1 mark)
