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UNIVERSITY EXAMINATIONS 2021/2022

FIRST YEAR SPECIAL/SUPPLIMENTARY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN CLINICAL MEDICINE

CCM 3124: HUMAN ANATOMY I

DATE: AUGUST 2022 **TIME: 3 HOURS**

INSTRUCTIONS:

1. **Exam consist of three sections**
2. **Section A: short answer questions**
3. **Section B: long answer questions(answer any 2)**
4. **Section C: Multiple Choice Questions**

SECTION A: SHORT ANSWER (40 MARKS)

1. Describe the knee joint under the following headings;
   a. Type of joint
   b. Articular surfaces
   c. Ligaments (intrinsic and extrinsic)
   d. One clinical correlate
2. Below is a plain radiograph of Mr. Wanyonyi who got involved in a road traffic accident, A; before treatment, B; after treatment of the fracture (open reduction and internal fixation using an intramedullary nail). Use it to answer the question that follow.

a. Identify the fractured bone
b. Identify 2 anatomical structures bound to be injured in fractures at this level of bone
c. Describe the attitude of the limb with injury to one of the structure listed above.

3. A 24-year-old female motocross racer was involved in a crash that left her right leg pinned under her bike. After the accident, she could no longer extend her right knee.
   a. Which nerve was most likely affected?
   b. Describe the motor and cutaneous distribution of the nerve identified in 3(a) above
4. Describe the events associated with the 2nd week of intrauterine life.
5. Kibagendi, a 2day old neonate is noted to have the facial anomaly figure A below. On listening to his heart sounds, he is noted to have a loud murmur that is confirmed by echocardiography to be due to a "hole" through the wall separating the right and left ventricle (ventriculoseptal defect). Give an embryological explanation about the concurrent occurrence of these two defects.

6. Describe the characteristics of epithelial tissue and one clinical correlate.
7. Describe the cubital fossa under the following headings;
    a. Boundaries
    b. Contents and their anatomical relations
    c. Applied anatomy
8. In a patient with knee pain. You must examine the hip joint. Give an anatomical explanation to this.

SECTION: B LONG ESSAY (40 MARKS)

1. Describe the femoral triangle under the following headings
    a. Boundaries
    b. Roof
    c. Contents
    d. Floor
    e. Applied anatomy
2. Describe the ankle joint under the following headings;
    a. Artificulating bones
    b. Type of joint
    c. Stability factors
    d. Blood supply
    e. Innervation
    f. Applied anatomy

SECTION: C MULTIPLE CHOICE (20 MARKS)

1. Which movement is not possible at the shoulder joint?
    a. Pronation
    b. Adduction
    c. Extension
    d. Curcumduction
    e. Rotation
2. Successive flexion, abduction, extension and adduction is known as;
    a. Rotation
    b. Circumduction
    c. Angulation
    d. None of the above
    e. All above
3. Concerning fractures of the bones of the upper limb, which statement is fals?
    a. The radial nerve may be damaged by fractures of the humeral shaft.
    b. The supraclavicular nerve may be entrapped in callus formation in fractures of thescapula.
    c. Supracondylar fractures may lead to Volkmann's Ischaemic contracture of the forearm
    d. Rupture of extensor pollicis longus tendon ma accompany fractures of the distal end of the radius.
    e. Fracture of the scaphoid bone may lead to a vascular necrosis of its proximal end.
4. All the following structures are attached to the coracoid process except;
    a. Glenoid labrum
    b. Clavipectoral fascia
    c. Conoid ligament
    d. Pectoralis minor
    e. Coracobrachialis
5. The acromioclavicular joint is a;
    a. Fibrous joint
    b. Hinge joint
    c. Plane synovial joint
    d. Sellar type of joint
    e. Secondary cartilaginous joint
6. The nerve to subclavius arises from roots of;
    a. C5 & C6
    b. C4 & C5
    c. C6 & C7
    d. C4, C5 & C6
    e. C5, C6 & C7

7. The clavicle commonly fractures between the medial 2/3rds and lateral 1/3rd in a fall on an out stretched hand because;
    a. This is the weakest part of the bone
    b. The clavicle forms part of the thoracic inlet
    c. Contains red bone marrow in the adult
    d. It's a point at which the transmitted force changes linear direction from impact
    e. (a) and (d)

8. Which of these statements about the femur is incorrect?

a. The interrochanteric line lies on the anterior aspect of the bone
b. The lateral condyle projects more anteriorly than the medial condyle.
c. Cluteus minimus is attached to the lesser trochanter
d. The intertrochanteric crest is the insertion point for the quadratus femoris
e. Glueus maximus attaches to the gluteal tuberosity

9. Which of these statements about the tibia and fibula is correct?

a. The medial tibial condyle is smaller and more circular than the lateral
b. Sartorius, gracilis and semitendinosus insert into the tibia
c. Popliteus arises below the soleal line
d. The common fibular nerve is subcutaneous at the neck of the fibula
e. The fibularis muscles arise from the anterior surface of the fibula

10. which of these statements about the tibia and fibia and fibula is correct?

a. The medial arch contains the medial cuneiform as one of its bony elements
b. The lateral arch contains the lateral two metatatarsals as bony elements
c. Flexor halluces longus is important in maintaining the stability of the lateral arch
d. Fibularis longus helps to maintain the lateral arch
e. Fibularis longus helps to maintain the transverse arch

11. which of the following best describes the anatomy of the gluteal muscles?

a. Gluteus maximus is supplied by the superior gluteal artery
b. Gluteus maximus inserts into the greater trochanter
c. Gluteus medius is a lateral rotator at the hip joint
d. They all take origin from the ilium
e. Gluteus minimus is innervated by the inferior gluteal nerve

12. which of the following statements incorrectly describes the relations of the hip joint?

a. Rectus femoris is a superior relation
b. Obturator externus is an inferior relation
c. The iliotibial tract is a lateral relation
d. The femoral vein is an anterior relation
e. Pectineus is a lateral relation

13. consider the fascia and compartments of the thigh, which statement is correct?

a. The iliotibial tract lies superficial to the fascia lata
b. The iliotibial tract inserts onto the lateral epicondyle of the femur
c. The femoral vein passes through the fascia lata
d. There are three compartments
e. There are three intermuscular septa in the thigh

14. Consider these statements about the anterior compartment of the thigh, which of them is not correct

a. All the muscles of the anterior compartment are innervated by the femoral nerve
b. Sartorius flexes both the hip and knee joint
c. The qualdriceps tendon inserts directly onto the tibia
d. Qualdriceps femoris flexes the hip joint
e. Vestus medialis is of importance in preventing lateral dislocation of the patella

15. Epithelium

a. It is avascular thus not supplied with blood
b. The ducts of eccrine sweat glands are lined with simple cuboidal epithelium
c. In patients with chronic bronchitis, the ration of goblet cells to cilitated columnar epithelial cells reduces
d. The topmost cell layer in the epithelium of skin is characterized by anucleate cells
e. Epithelial cells lining the respiratory system do not have regenerative properties

16. Connective tissue

a. Monocytes are fixed connective tissue cells
b. Activated B lymphocytes secrete antibodies
c. Osteocytes actively secrete osteod
d. The Achilles tendon has dense irregular connective tissue
e. The lamina propria of the respiratory system lacks plasma cells

17. All the following are TRUE about protein secreting epithelial cells except;

a. A well-developed rough endoplasmic retinaculum
b. A supra nuclear golgi
c. Apical zone containing granules
d. A well-developed smooth endoplasmic reticulum
e. A distinct polarity with basal rough endoplasmic reticulum

18. The bilaminar germ disc;

a. Consists of hypoblast and epiblast
b. Is derived from trophoblast cells
c. Forms the embryo proper
d. Is maintained by oestrogens
e. Contains the exocoelomic membrane enclosing the primitive yolk sac

19. The chorionic cavity;

a. Is equivalent to the intraembryonic coelom

b. Is lined by intraembryonic endoderm
c. Is formed by a coalition of exocoelomic cysts
d. Contains the free-floating foetus
e. Communicates with the uterine endometrium via the chorionic plate

20. The two-layer embryo;

a) Is characterized by the presence of the mesoderm and endoderm
b) Is the pre implantation stage
c) Has an amniotic cavity enclosed by ectodermal cells and amnioblasts?
d) The exocoelomic cavity and primitive yolk sac are one and the same thing
e) Has two cytotrophoblastic layers.