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UNIVERSITY EXAMINATIONS 2020/2021

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE IN
CLINICAL MEDICINE AND COMMUNITY HEALTH

CCM 3124: HUMAN ANATOMY I

DATE: JULY 2021

TIME: 3 HOURS

INSTRUCTIONS:

1. The exam consists of Three sections
 2. Section One Short answer Questions
 3. Section Two long answer Questions
 4. Section Three Multiple Choice Questions
 5. **Answer all questions**
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SECTION ONE: SHORT ANSWER QUESTIONS (40 MARKS)

1. Describe the layers of the epidermis and state the cells in each layer (5 marks)
 2. Describe the histological organization of the following (8 marks)
 - i) Skeletal muscles
 - ii) Hyaline cartilage
 3. State five characteristics of epithelia tissues (5 marks)
 4. Describe the origin, termination and branches of the brachial artery. Add a clinical correlate (5 marks)
 5. Describe the histological organization of the thyroid gland (5 marks)
 6. Describe the formation of the greater sciatic foramen and state four structures exiting through the foramen (6 marks)
 7. List the muscles in the anterior compartment of the arm, state their innervations and their functions (6 marks)
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SECTION TWO: LONG ANSWER QUESTIONS (40 MARKS)

1. Concerning the hip joint discuss the following
 - a) Stability factors (9 marks)
 - b) Posterior and anterior relations (5 marks)
 - c) Blood supply and innervations (6 marks)
2. Concerning the upper limb describe the following
 - a) Boundaries, contents and clinical importance of the cubital fossa (10 marks)
 - b) Describe the osteology of the humerus and its associated clinical correlates

SECTION THREE: MULTIPLE CHOICE QUESTIONS

Instructions: each question has one correct answer, select the most correct

1. Stabilizing factors of the shoulder joint include all but:
 - a) A tight capsule
 - b) Tendons that fuse with capsule
 - c) Glenohumeral and coracohumeral ligaments
 - d) Labrum
 - e) Splinting of the humeral head between the tendons of biceps and triceps
2. Regarding the brachial plexus, which is INCORRECT?
 - a) It is derived from the anterior rami of C5-T1 after they have given off segmental supply to the prevertebral and scalene muscles
 - b) The roots give off three branches including the long thoracic nerve to latissimus dorsi
 - c) The trunks give off one branch
 - d) The cords are divided into anterior and posterior divisions that supply the flexor and extensor compartments respectively and give off 13 branches
 - e) The lateral cord supplies part of the median nerve
3. Regarding lymph nodes, the lateral side of the arm and forearm is drained initially to the:
 - a) Supratrochlear nodes
 - b) Posterior axillary nodes
 - c) Infraclavicular nodes

- d) Central axillary nodes
- 4. With regards to the posterior compartment of the arm, which is FALSE?
 - a) The medial head of triceps lies deep to the long and lateral heads
 - b) Triceps inserts onto the upper surface of the olecranon
 - c) Midshaft fracture of the humerus can damage the radial nerve resulting in paralysis of triceps
 - d) The medial intermuscular septum divides it from the anterior compartment and runs from the axilla to the elbow
- 5. Which of the statements regarding ligaments is FALSE?
 - a) Ligaments are relatively avascular
 - b) Final healing following sprains usually restores full strength
 - c) Torn ligaments may predispose to dislocation
 - d) Sharpey's fibres penetrate the bone
 - e) A healed sprain may be predisposed to reinjury
- 6. At the elbow joint:
 - a) The tilt of the trochlear of the humerus is the main cause for the carrying angle of the elbow
 - b) The capsule is not attached to the radius
 - c) The annular ligament is attached to the head and neck of the radius
 - d) The middle band is the strongest of the three bands that make up the ulnar collateral ligament
 - e) The carrying angle is the angle between the extended ulna and the vertical
- 7. Which is NOT an origin of supinator
 - a) Radial tuberosity
 - b) Radial collateral ligament
 - c) Lateral epicondyle of humerus
 - d) Supinator crest of ulnar
 - e) Aponeurosis overlying supinator muscle
- 8. Regarding the shoulder joint, which is INCORRECT?
 - a) Full abduction requires medial rotation
 - b) The long head of biceps is intracapsular
 - c) The subacromial bursa is attached to the coracoacromial ligaments

- d) Flexion involves pec major, deltoid, coracobrachialis and biceps
 - e) Supraspinatus initiates abduction
9. Which artery is the main supply of triceps?
- a) Dorsal scapular artery
 - b) Brachial artery
 - c) Profunda brachii artery
 - d) Radial artery
 - e) Posterior circumflex humeral artery
10. The nerve supply of pectoralis minor is from the:
- a) Pectoral nerves
 - b) Thoracodorsal nerve
 - c) Axillary nerve
 - d) Long thoracic nerve
 - e) Dorsal scapular nerve
11. The nerve supply to deltoid is from the:
- a) Pectoral nerves
 - b) Thoracodorsal nerve
 - c) Axillary nerve
 - d) Long thoracic nerve
 - e) Dorsal scapular nerve
12. Which of the following does not connect the arm to the pelvic girdle?
- a) Deltoid
 - b) Biceps
 - c) Subclavius
 - d) Subscapularis
 - e) Supraspinatus
13. Regarding the humerus:
- a) The head forms half a sphere
 - b) The lateral epicondyle is more prominent
 - c) The axillary nerve winds around the anatomical neck
 - d) The greater tuberosity continues distally as the medial lip of the intertubular groove

- e) The capsule of the shoulder joint extends down the medial side of the humeral shaft
14. Which carpal bone is mostly commonly dislocated?
- a) Lunate
 - b) Scaphoid
 - c) Trapezium
 - d) Capitates
 - e) Pisiform
15. A high ulnar nerve injury might produce:
- a) Weaknesses of elbow flexion
 - b) A 'claw hand'
 - c) Weak abduction of the index finger
 - d) Triceps paralysis
 - e) Sensory loss over the radial three fingers
16. In the cubital fossa:
- a) The floor is formed mainly by the supinator
 - b) The medial wall is formed by pronator teres
 - c) The ulnar nerve lies medially
 - d) The radial nerve lies medial to the biceps tendon
 - e) None of the above
17. Sternoclavicular joint:
- a) The sternoclavicular ligament provides most joint stability
 - b) Joint surfaces are covered by hyaline cartilage
 - c) The entire clavicle joint surface is in contact with manubrium
 - d) Anterior/posterior movement occurs between manubrium and disc
 - e) Dislocation occurs frequently
18. Long head triceps:
- a) Lies between teres minor and teres major
 - b) Is supplied by branch of radial nerve at the humeral groove
 - c) Arises from the humerus above the radial groove
 - d) Converges with the medial head
 - e) Arises from the supraglenoid rim

19. Deltoid:

- a) Anterior fibres arise from lateral two thirds of clavicle
- b) Posterior fibres arise from superior lip of crest of scapular spine
- c) Lateral fibres only are multi-pennate
- d) Fibres strengthen shoulder joint capsule
- e) Acts in isolation to abduct humerus

20. 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
- e) The thoracodorsal nerve