



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

**UNIVERSITY EXAMINATION FOR:**

**BACHELOR IN LABORATORY SCIENCES**

**AMD 4103 : HUMAN ANATOMY I**

**END OF SEMESTER EXAMINATION**

**SERIES: APRIL 2016**

**TIME: 2 HOURS**

**DATE: Pick Date May 2016**

## **Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of Choose Nochoose Sect/Quest. Attempt Choose instruction.

**Circle the correct answer in section A.**

## SECTION A (30 MARKS)

1. Which of the following is true about lungs?
  - a. They are part of the mediastinum.
  - b. surrounded by the pericardial cavity.
  - c. found within the thoracic cavity.
  - d. separated from each other by the diaphragm.
  - e. surrounded by mucous membranes.
  
2. The connective tissue wrapping that covers the entire skeletal muscle is the:
  - A. epimysium
  - B. perimysium
  - C. endomysium
  - D. telomysium
  - E. telomere

3. Given these characteristics:

- i. reduce friction between organs
- ii. line fluid-filled cavities
- iii. line trunk cavities that open to the exterior of the body

Which of the characteristics describe serous membranes?

a. 1,2

b. 1,3

c. 2,3

d. 1,2,3

e. 3

4. If you want to separate the abdominal from the thoracic cavity, which plane would you use?

- A. transverse
- B. sagittal
- C. coronal
- D. frontal
- E. diagonal

5. The subdivisions of the dorsal cavity include the

- A. thoracic and abdominopelvic cavities
- B. abdominal and pelvic cavities
- C. cranial and spinal cavities
- D. pleural and pericardial cavities
- E. pelvic and cranial cavities

6. The growth in length of a bone is at the

- A. articular cartilage
- B. center of the shaft
- C. diaphyseal line
- D. epiphyseal plate
- E. cortical bone

7. The component bones of the pectoral girdle include

- A. ilium and pubis
- B. clavicle and scapula
- C. scapula and humerus
- D. radius and ulna
- E. humerus and ilium

8. A tissue in which cells are located in lacunae surrounded by a hard matrix of hydroxyapatite is

a. hyaline cartilage.

- b. bone.
- c. nervous tissue.
- d. dense regular collagenous connective tissue.
- e. fibrocartilage.

9. Which of these characteristics apply to smooth muscle?

- A. striated, involuntary
- B. unstriated, involuntary
- C. striated, voluntary
- D. unstriated, voluntary
- E. voluntary multinucleated

10. The glands that lose their connection with epithelium during embryonic development and secrete their cellular products into the bloodstream are called .....glands.

- A. apocrine
- B. exocrine
- C. merocrine
- D. endocrine
- E. holocrine

11. The fibres in dense connective tissue are produced by

- A. fibroblasts.
- B. osteoblasts.
- C. macrophages.
- D. adipocytes.
- E. osteoclasts .

12. A tissue with a large number of collagen fibers organized parallel to each other would most likely be found in

- A. muscle.
- B. adipose tissue.
- C. cartilage.
- D. tendon.
- E. a bone.

13. In which of these locations are dense irregular elastic connective tissue found?

- A. ligaments
- B. large arteries
- C. nuchal ligament
- D. adipose tissue
- E. dermis of the skin

14. In third-degree (full-thickness) burns, both the epidermis and dermis of the skin are destroyed. Which of the following conditions does not occur as a result of a third-degree burn?

- A. dehydration (increased water loss)
- B. increased likelihood of infection
- C. increased sweating
- D. loss of sensation in the burned area
- E. poor temperature regulation in the burned area

15. Which of these substances makes up the major portion of bone?

- A. collagen
- B. osteocytes
- C. hydroxyapatite
- D. osteoblasts
- E. proteoglycan aggregates

16. Which of the following is true of the Yellow marrow?

- A. found mostly in children's bones.
- B. found in the epiphyseal plate.
- C. important for blood cell production.
- D. mostly adipose tissue.
- E. it is not actually yellowish in colour

17. During growth in length of a long bone, cartilage is formed and then ossified. The location of the ossification is the zone of.....

- A. calcification.
- B. proliferation.
- C. hypertrophy.
- D. resting cartilage.
- E. modelling

18. The perpendicular plate of the ethmoid and the-----form the nasal septum.

- A. palatine process of the maxilla
- B. nasal bone
- C. horizontal plate of the palatine
- D. lacrimal bone
- E. vomer

19. Which of these joints is not matched with the correct joint type?

- A. parietal bone to occipital bone—suture
- B. between the coxal bones—symphysis
- C. humerus and scapula—synovial
- D. shafts of the radius and ulna—synchondrosis
- E. teeth in alveolar process—gomphosis

20. Which of the following is not a characteristic of the epidermis?

- A. highly vascular
- B. contains melanin and keratin
- C. distinctly stratified
- D. gives rise to subcutaneous and sweat glands
- E. is exposed to the environmental conditions

21. A tissue that covers a surface, is one cell layer thick, and is composed of flat cells is

- A. simple squamous epithelium.
- B. simple cuboidal epithelium.
- C. simple columnar epithelium.
- D. stratified squamous epithelium.
- E. transitional epithelium.

22. A tissue that contains cells with these characteristics:

1. Covers a surface,
2. Has one layer of cells and
3. The cells are flat;

Performs which of the following functions?

- a. phagocytosis
- b. active transport
- c. secretion of many complex lipids and proteins
- d. allow certain substances to diffuse across it
- e. protection from abrasion

23. Chondrocytes are mature cartilage cells found within -----the and they are derived from -----.

- A. perichondrium, fibroblasts
- B. perichondrium, chondroblasts
- C. lacunae, fibroblasts
- D. lacunae, chondroblasts
- E. bone marrow, chondrocytes

24. The function of melanin in the skin is to

- A. lubricate the skin.
- B. prevent skin infections.
- C. protect the skin from ultraviolet light.
- D. reduce water loss.
- E. help regulate body temperature.

25. Which of the following is not true of the vertebrae bones?
- A. 4 coccygeal bones
  - B. 5 sacral bones
  - C. 12 thoracic bones
  - D. 8 Cervical bones
  - E. 5 lumbar bones
26. Which of the following refers to structures that are further from body midline or at the side of the body?
- A. Medial
  - B. Posterior
  - C. Lateral
  - D. Inferior
  - E. Distal
27. Which skin layer is the outermost , dead, flat, Keratinized and very thick layer.
- A. Stratum corneum
  - B. Stratum luciderm
  - C. Syratum spinosum
  - D. Stratum basale
  - E. Stratum granulosum
28. which of the following combinations help to give colour to skin?
- A. Keratin and melanin
  - B. Melanin and carotene
  - C. Glycogen and melanin
  - D. Melanin and collagen
  - E. Melanin and
29. Which membrane is thick, durable membrane, closest to the skull?
- A. dura mater
  - B. arachnoid mater
  - C. pia mater
  - D. periosteum
  - E. None of the above
30. A..... is a knot-like swelling in a nerve where the cell bodies of neurons are concentrated.
- A. Nerve
  - B. ganglion
  - C. Nuclei

- D. Tract
- E. All of the above

**SECTION B (40 MARKS)**

31. With the aid of a well labelled diagram(s), describe the subdivisions of the axial region of the body. (10marks)
32. With clear illustration, describe the plasma membrane composition (10 marks)
33. With clear illustration and examples, describe the fibrous immovable joints (10 marks)
34. Describe the composition of central nervous system tissue (10marks)