



KENYA MEDICAL TRAINING COLLEGE

SIAYA CAMPUS

DEPARTMENT OF CLINICAL MEDICINE

SEMESTER 1 CATs 2010

ANATOMY I

Duration: 3 HRS

INSTRUCTIONS: 1. Answer ALL Questions in Section A and TWO in Section B

2. Write your University ID on ALL scripts
3. Use only blue, black ball point or ink

SECTION A

Question 1

Which of the following cells plays a role in immunological reactions in the skin?

- a) Melanocyte

- b) Capillary epithelial cell
- c) Langerhans cell
- d) Hair follicle cell
- e) Arrector pili smooth muscle cell

Question 2

The dense connective tissue covering the outer surface of bone diaphysis is known as the:

- a) Perichondrium
- b) Periosteum
- c) Endosteum
- d) Epiosteum
- e) Exofibrium

Question 3

Which of the following is NOT a characteristic of muscle tissue?

- a) Extensibility
- b) Contractility
- c) Excitability
- d) Elasticity
- e) High regeneration capacity

Question 4

Which of the following cells is responsible for myelin formation in the peripheral nervous system?

- a) Astrocyte
- b) Oligodendrocyte
- c) Schwann cell
- d) Microglial cell
- e) Satellite cell

Question 5

A structure composed of 2 or more tissues with a defined anatomical boundary is a(n):

- a) Organ system
- b) Organ
- c) Tissue Complex
- d) Membrane
- e) None of the above

Question 6

The _____ cells of the pancreas secrete insulin.

- a) Chief
- b) Principal
- c) Alpha
- d) Beta
- e) Delta

Question 7

Gray matter contains primarily:

- a) Myelinated fibers
- b) Neuron cell bodies
- c) Schwann cells
- d) Non-myelinated fibers
- e) Cerebral spinal fluid

Question 8

Which of the following is a SIMILARITY between the endocrine and nervous systems?

- a) Both act only through positive feedback
- b) Both act only through negative feedback
- c) Both are always rapid and fast acting
- d) Both are involved in maintaining the body's state of equilibrium

e) Both typically involve blood-borne chemical signals that originate in the ventral lateral nucleus of the thalamus

Question 9

The cell membrane of a muscle fiber is known as the:

- a) Myofibril
- b) Sarcomere
- c) Endomysium
- d) Sarcolemma
- e) Perimysium

Question 10

A fracture in the shaft of a long bone would be a break in the:

- a) epiphysis
- b) metaphysis
- c) diaphysis
- d) epiphyseal plate
- e) mesenchyme

Question 11

Histological classification of epithelial cells is based on the number of layers of cells and their

- a) Staining properties
- b) Location
- c) Shape
- d) Size
- e) None of the above

Question 12

The knee is _____ to the ankle

- a) Distal
- b) Lateral

- c) Ventral
- d) Proximal
- e) Medial

Question 13

Which of the following terms describes the portion of an epithelial cell that is closest to a free surface?

- a) Basal
- b) Basolateral
- c) Lateral
- d) Apical
- e) Proximal

Question 14

Which of the following is NOT a function of muscle tissue?

- a) Maintenance of posture
- b) Joint stabilization
- c) Pumping blood
- d) Thermogenesis
- e) Absorption

Question 15

Which of the following associations is INCORRECT?

- a) Tract Bundle of axons in the CNS
- b) Ependymal cell Glial cell in the CNS
- c) Nerve Bundle of axons in the PNS
- d) Ganglia Cluster of cell bodies in the CNS
- e) Axolemma Plasma membrane of the axon

Question 16

The two anatomical divisions of the nervous system are:

- a) somatic and peripheral

- b) peripheral and autonomic
- c) central and peripheral
- d) central and autonomic
- e) Motor and sensory

Question 17

Which of the following cells is primarily responsible for the production of collagen and the amorphous ground substance in loose connective tissue?

- a) Adipocyte
- b) Fibroblast
- c) Mast cell
- d) Plasma cell
- e) Fibroepitheliocyte

Question 18

Which hormone acts on the intestines and causes increased calcium absorption:

- a) oxytocin
- b) calcitriol
- c) thyroxine
- d) pancreatic polypeptide
- e) corticotropin releasing factor (CRF)

Question 19

Cells found in the choroid plexus that secrete cerebrospinal fluid are:

- a) Astrocytes
- b) Microglia
- c) Ependymal cells
- d) Oligodendrocytes
- e) Schwann cells

Question 20

Individual muscle cells are known as:

- a) Myofibrils
- b) Muscles
- c) muscle fibers
- d) filaments
- e) fascicles

Question 21

Which of the following is NOT part of the axial skeleton?

- a) Ribs
- b) Sternum
- c) Clavicle
- d) Sphenoid bone
- e) Vertebrae

Question 22

The basic tissue types found in the skin include:

- a) Muscle
- b) Nerve
- c) Connective
- d) Epithelium
- e) All of the above

Question 23

Which is NOT a characteristic of the epidermis?

- a) Highly vascular
- b) Contains melanin and keratin
- c) It's stratified
- d) Gives rise to sebaceous and sweat glands
- e) Superficial to the dermis

Question 24

A vertical plane through the body dividing it into right and left is termed:

- a) Sagittal
- b) Lateral
- c) Transverse
- d) Frontal
- e) Coronal

Question 25

Subcutaneous tissue:

- a) Is also known as the deep fascia
- b) Has an equal distribution between the sexes
- c) Anchors the skin to underlying muscles
- d) Is also known as the hyperdermis
- e) Contains very little adipose tissue

Question 26

Which of the following cell types is responsible for synthesizing the organic component of cartilage matrix?

- a) Chondrocytes
- b) Osteoblasts
- c) Osteocytes
- d) Chondroclasts
- e) Fibrocytes

Question 27

Which suture extends from the anterior to the posterior fontanel?

- a) Lambdoid
- b) Coronal
- c) Squamous
- d) Sagittal
- e) None of the above

Question 28

Which of the following is part of the peripheral nervous system?

- a) Nerves
- b) Brain
- c) Spinal cord
- d) Hypothalamus
- e) Brain stem

Question 29

Yellow marrow mostly consists of:

- a) osteoprogenitor cells
- b) blood cell progenitor cells
- c) hyaline cartilage
- d) adipose tissue
- e) spongy bone

Question 30

Which of the following are found in BOTH skeletal and smooth muscle fibers?

- a) Dense bodies
- b) Z discs
- c) Sarcomeres
- d) Mitochondria
- e) A bands

SECTION B

Question 31

- a) State four function of the skin (4marks)
- b) State four neuroglia cells stating the function of each (8marks)
- c) State TWO differences between the somatic and autonomic division of the nervous system (2marks)

d) State the three parts which constitute the brain stem (3marks)

e) State the function of each of these organelles (5marks)

i) Mitochondria

ii) Ribosomes

iii) Golgi apparatus

iv) Lysosomes

v) Rough Endoplasmic Reticulum

Question 32

a) List three hormones secreted by the pancreas (3marks)

b) State TWO effects of thyroid hormone (2marks) Question 33

a) List the basic components of connective tissue (3marks)

b) List THREE (3) types of cartilage giving an example for each (6marks)

c) List FIVE (5) bones which form the cranium (5marks)

Question 34

a) State FIVE (5) structural characteristics of a synovial joint (5marks)

b) State the muscles which constitute the quadriceps femoris group (4marks)

SECTION C

Question 35

a) Describe the 3 types of muscles (12marks)

b) Describe the classification of bone by shape (8marks)

