



KISII UNIVERSITY
UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF THE
DIPLOMA IN CLINICAL MEDICINE AND SURGERY
THIRD SEMESTER 2021/2022
[JUNE-SEPTEMBER, 2022]

CIMS 0115: HUMAN ANATOMY III

STREAM: Y1S3

TIME: 2 HOURS

DAY: MONDAY, 12:00 – 2:00 PM

DATE: 05/09/2022

INSTRUCTIONS

1. Do not write anything on this question paper.

SECTION A: SHORT ESSAY QUESTIONS (60 MARKS)

1. a) Using a well labelled diagram, illustrate the layers of the scalp. (5 Marks)
- b) Name the meninges surrounding the CNS from the most superficial to the deepest. (5 marks)
2. Outline the general organization of the nervous system
3. Draw the basic neurone and name all the parts. (10 Marks)
4. Identify 10 cranial nerves stating their site of attachment to the brainstem. (10 marks)
5. List the structural components of the peripheral nervous system. (10 Marks)
6. Describe the location and anatomy of the thyroid gland. (10 Marks)

SECTION B. LONG ESSAY QUESTIONS. Answer any TWO questions from this section. (20 Marks)

1. Describe the body location of each of the endocrine glands. (20 Marks)
2. Compare and contrast the structure and functions of the myelinated and unmyelinated neurons. (20 Marks)

3. Describe the blood supply to the brain.

(20 Marks)

MULTIPLE CHOICE QUESTIONS

1. The following bones form part of the bony surroundings of the brain except
 - a. Maxilla
 - b. Occipital bone
 - c. Frontal bone
 - d. Parietal bone
 - e. Temporal bone
2. The following is true of the anterior, middle and posterior cranial fossae except
 - a. The frontal bone is involved in the posterior cranial fossa
 - b. The ethmoid bone is involved in the anterior cranial fossa
 - c. The middle cranial fossa includes the temporal and sphenoid bones
 - d. The posterior cranial fossa includes the occipital bone
 - e. The temporal lobe of the cerebrum is found in the middle cranial fossa
3. The following is true of the scalp
 - a. Scalp wounds do not bleed profusely
 - b. There is poor healing in scalp wounds because of the high density of hair follicles
 - c. The scalp is devoid of skeletal muscle and related structures
 - d. The scalp is composed of five layers including skin, connective tissue, aponeurosis, loose areolar tissue, pericranium
 - e. The deepest layer of the scalp is dense connective tissue
4. The following is false regarding muscles of facial expression
 - a. They are innervated by the facial nerve
 - b. They are organized around orifices of the face
 - c. They are derived from mesenchyme of the 2nd pharyngeal arch
 - d. They insert into the skin of the face
 - e. They contain long tendons for easier movement
5. The following anatomical spaces are found in the head region except
 - a. Temporal fossa
 - b. Infratemporal fossa
 - c. Lumbar cistern
 - d. Mastoid air cell
 - e. Maxillary sinus
6. Which one of the following is the master gland of the endocrine system?
 - a. Adrenal
 - b. Pancreas

- c. Pineal
 - d. Pituitary
 - e. Thyroid
7. The following is false regarding the thyroid
- a. It produces T3, T4 and parathyroid hormone
 - b. It receives blood supply from superior, middle and inferior thyroid arteries
 - c. Superior and inferior parathyroid glands are found on the posterior surface of each lobe
 - d. It produces hormones that increase energy production by the body
 - e. It is made up of a right lobe, left lobe and isthmus between the two
8. The following is a triangle in the anterior triangle except
- a. Muscular triangle
 - b. Carotid triangle
 - c. Submental triangle
 - d. Submandibular triangle
 - e. Thyroid triangle
9. Regarding the vertebral column
- a. The cervical spine is curved posteriorly
 - b. It does not receive blood supply from branches of the descending aorta
 - c. All cervical vertebrae are formed from a body, transverse process and vertebral arch with spinous process
 - d. The lumbar spine is curved anteriorly
 - e. Excessive curvature of the thoracic spine results in lordosis
10. The following spaces are related to the meninges except
- a. Subarachnoid space
 - b. Subpial space
 - c. Subdural space
 - d. Epidural space
 - e. Subarachnoid cisterns
11. Telencephalon refers to
- a. Brain stem
 - b. Cerebellum
 - c. Cortex
 - d. Cerebral hemispheres
 - e. Thalamus
12. Cerebrospinal fluid is produced in the following sites except
- a. Cerebral aqueduct
 - b. Lateral ventricle
 - c. Inferior horn of lateral ventricle
 - d. Third ventricle
 - e. Fourth ventricle

13. The following passages are relevant to the flow of CSF except
- Foramen ovale
 - Foramen of Monro
 - Aqueduct of Sylvius
 - Foramen of Luschka
 - Foramen of Magendie
14. The following is false regarding the spinal cord
- It is the downward continuation of the medulla oblongata
 - It begins at the level of foramen magnum
 - It terminates as the filum terminale
 - In adults, it terminates at the level of L1/L2 intervertebral disc
 - It contains cervical and lumbosacral enlargements
15. The cauda equina
- Is a source of innervation to the diaphragm
 - Arises from the cervical enlargement of the spinal cord
 - Is responsible for processing of spinal cord reflexes
 - Contains nerves from the lumbar and sacral segments of the spinal cord
 - Does not traverse the lumbar cistern

Indicate whether true or false in the subsequent Mcq's.

16. The following is false regarding the lumbar cistern
- Is important in epidural anaesthesia
 - Contains the cauda equina
 - Is a subarachnoid space
 - Contains cerebrospinal fluid
 - Is the site of lumbar puncture
17. The following is true regarding gray matter in the spinal cord
- The dorsal horn contains motor neurons
 - The anterior horn contains sensory neurons
 - The lateral horn contains neurons of the autonomic nervous system
 - The ventral horn is not important for muscular activity
 - There is no area of gray matter between the right and left halves of the spinal gray
18. The white matter of the spinal cord
- Contains axons ascending or descending in the spinal cord
 - Is low in myelin content
 - Does not contain any cell bodies
 - Contains decussated tracts only
 - Is not continuous with white matter of the medulla oblongata

19. Blood supply to the spinal cord involves the following arteries except
- Anterior spinal artery
 - Posterior spinal artery
 - Posterior intercostal arteries
 - Abdominal aorta
 - Middle cerebral artery
20. The brainstem includes the following structures except
- Diencephalon
 - Medulla oblongata
 - Cerebellum
 - Pons
 - Midbrain
21. The following is true about the medulla oblongata except
- Pyramids are ventral
 - Fourth ventricle is found posteriorly
 - It is not connected to the cerebellum
 - It is the most inferior structure of the brainstem
 - It is related to the anterior and posterior spinal arteries
22. The following cranial nerves are attached to the medulla oblongata except
- Vagus nerve
 - Oculomotor nerve
 - Glossopharyngeal nerve
 - Hypoglossal nerve
 - Spinal accessory nerve
23. The following cranial nerves are attached to the pons except
- Olfactory nerve
 - Sensory root of trigeminal nerve
 - Motor root of trigeminal nerve
 - Facial nerve at the pontomedullary junction
 - Abducens nerve at the pontomedullary junction
24. The following structure attaches the pons to the cerebellum
- Corpus callosum
 - Crus cerebri
 - Middle cerebellar peduncle
 - Pyramidal decussation
 - Inferior cerebellar peduncle
25. The following cranial nerves contain nuclei within the pons except
- Trigeminal nerve
 - Facial nerve
 - Trochlear nerve
 - Abducens nerve
 - Vestibulocochlear nerve

26. The cerebral hemisphere includes the following lobes except
- Frontal lobe
 - Parietal lobe
 - Occipital lobe
 - Temporal lobe
 - Posterior lobe
27. The following are parts of the lobes of the cerebral hemisphere except
- Superior frontal lobule
 - Posterior occipital lobule
 - Inferior frontal lobule
 - Superior parietal lobule
 - Inferior parietal lobule
28. The following sulci and fissures are found on the cerebrum except
- Central fissure
 - Lateral fissure
 - Central sulcus
 - Ventromedian fissure
 - Calcarine sulcus
29. The frontal lobe
- Contains the main processing area for vision
 - Contains the primary motor cortex
 - Contains the main processing are for hearing
 - Contains the main processing area for touch
 - Contains the main processing area for balance
30. The occipital lobe
- Contains the main processing area for vision
 - Contains the main processing are for hearing
 - Contains the main processing area for touch
 - Contains the main processing area for balance
 - Contains the primary motor cortex