

**CHUKA**

**UNIVERSITY**



**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN NURSING**

**NURS 115: HUMAN ANATOMY III**

**STREAMS: BSs. NURSING (Y1S2)**

**TIME: 2 HOURS**

**DAY/DATE: MONDAY 14/04/2025**

**8.30 A.M. – 10.30 A.M.**

**INSTRUCTIONS**

- Do not write anything on the question paper.
- Mobile phones and any other reference materials are **NOT** allowed in the examination room.
- The paper has three (3) Sections. **ALL** the questions are compulsory
- Your answers for Section A (MCQs) should be on the first page of the answer Booklet.
- Number **ALL** your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.

**SECTION A: MULTIPLE CHOICE QUESTIONS (20 Marks)**

1. Components of the diencephalon include:
  - a) Epithalamus, thalamus
  - b) Pons, medulla oblongata
  - c) Hypothalamus, pituitary gland
  - d) Cerebellum, cerebrum
2. Primary visual area is located in the following lobe of the cerebral cortex:
  - a) Frontal
  - b) Occipital
  - c) Temporal
  - d) Parietal
3. Cerebrospinal fluid (CSF) flows from the third to the fourth ventricle through the:
  - a) Septum pellucidum
  - b) Median aperture

- c) Cerebral aqueduct
  - d) Interventricular foramen
4. Ventral horn of the spinal cord contains:
- a) Autonomic motor nuclei
  - b) Axons of interneurons
  - c) Somatic motor nuclei
  - d) Somatic sensory nuclei
5. Cranial nerves that contain autonomic motor neurons include:
- a) Vestibulocochlear, optic
  - b) Oculomotor, vagus
  - c) Trochlear, abducens
  - d) Accessory, hypoglossal
6. The following statement is true about the spinal nerves:
- a) Emerge from the intervertebral foramen
  - b) Innervate organs of the thorax and abdomen
  - c) Are 31 nerves in number
  - d) Conduct motor or sensory impulses only
7. Epidermal layer found in thick skin only is the stratum:
- a) Corneum
  - b) Basale
  - c) Lucidum
  - d) Spinosum
8. The most abundant cell in the dermis of the skin is:
- a) Dermal macrophages
  - b) Keratinocytes
  - c) Fibroblasts
  - d) Adipocytes
9. The difference between papillary and reticular layer of the dermis is that the papillary layer:
- a) Is thicker than the reticular layer
  - b) Contains areolar connective tissue
  - c) Houses the arrector pili muscle
  - d) Is nearer to the subcutaneous layer

10. The following part of the hair/pili contains actively dividing keratinocytes:
- a) Hair papilla
  - b) Hair shaft
  - c) Hair root
  - d) Hair follicle
11. The two tissues that makes up the olfactory organ are the:
- a) Supporting cells and basal cells
  - b) Olfactory epithelium and lamina propria
  - c) Olfactory glands and olfactory receptors
  - d) Olfactory epithelium and olfactory receptors
12. All of the following papillae contain taste buds **EXCEPT**:
- a) Foliate
  - b) Fungiform
  - c) Filiform
  - d) Circumvallate
13. The cranial nerve that innervates most of the taste buds is:
- a) Vagus
  - b) Facial
  - c) Glossopharyngeal
  - d) Hypoglossal
14. Eyelid muscle that enables blinking and closure of eyelids during sleep is:
- a) Levator palpebrae
  - b) Superior rectus
  - c) Superior oblique
  - d) Orbicularis oculi
15. Sesamoid bones include:
- a) Patella, pisiform
  - b) Hip, calcaneous
  - c) Phalanx, metacarpals
  - d) Humerus, femur

16. The most abundant cell of the anterior pituitary (adenohypophysis) is the:
- a) Somatotroph
  - b) Thyrotroph
  - c) Corticotroph
  - d) Lactotroph
17. The following statement is true regarding the endocrine glands:
- a) Most start functioning at puberty
  - b) Have extensive capillary network
  - c) Release their secretions through a duct
  - d) Are more numerous than exocrine glands
18. Thyroid gland is supplied by the superior thyroid artery which is a branch of:
- a) External carotid artery
  - b) Internal carotid artery
  - c) Subclavian artery
  - d) Vertebral artery
19. The widest part of the adrenal cortex containing cells arranged in long straight columns is:
- a) Adrenal medulla
  - b) Zona glomerulosa
  - c) Zona reticularis
  - d) Zona fasciculata
20. The following is true regarding the pancreatic islets:
- a) Surrounded by connective tissue capsule
  - b) Cells are arranged in spherical clusters
  - c) Beta cell is the most abundant in the islets
  - d) Has scanty blood and nerve supply

**SECTION B: SHORT ANSWER QUESTIONS (35 Marks)**

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| 1. Explain three (3) types of cerebral tracts  | 6 marks |
| 2. State four (4) differences between somatic and autonomic nervous system                           | 4 marks |
| 3. Outline four (4) epidermal cells of the skin  | 4 marks |
| 4. Outline two (2) similarities and four (4) differences between sebaceous and apocrine sweat glands | 6 marks |

- 5. Explain the three (3) parts of the ear 6 marks
- 6. State four (4) differences between cones and rods 4 marks
- 7. Describe the parathyroids as endocrine glands 5 marks

**SECTION C: LONG ANSWER QUESTIONS (15 Marks)**

- 1. Synovial joints are freely movable joints formed between two or more articulating bones.
  - a) Draw a well labelled sagittal section diagram of a synovial joint 5 marks
  - b) Giving one example of each, describe four (4) types of synovial joints 10 marks

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