



**MASINDE MULIRO UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**

**DEPARTMENT OF ANATOMY  
SCHOOL OF MEDICINE**

**YEAR 2 TERM 3 END YEAR EXAMINATION FOR MBChB  
HEAD. NECK, HISTOLOGY AND EMBRYOLOGY**

**COURSE NAME: HUMAN ANATOMY 1**

**COURSE CODE: MBS 100**

*Date 19<sup>th</sup> APRIL 2022*

*Time: 0900HRS-1200HRS*

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**INSTRUCTIONS:**

- 1. Write your University Registration Number on every Answer Booklet you use.**
- 2. Do not write your name on any paper you use**
- 3. The time allowed for this paper is THREE (3) hours.**
- 4. The Questions are set out in FOUR (6) Sections, A, B, C, D, E and F.**
- 5. Answer all questions (120 Marks total)**
- 6. Read very carefully the additional instructions preceding each section.**

**SECTION A. MCQS (60MKS).**

- 1. Which of the following statement below is accurate?**
  - A. cranial nerve VII emerges from the skull through the foramen spinosum
  - B. the superior cervical sympathetic ganglion receives white communicating rami from the first four cervical spinal nerves
  - C. the internal carotid artery enters the middle cranial fossa through the floor of the foramen lacerum
  - D. stylopharyngeus is the one muscle innervated by cranial nerve IX
  - E. None of the above
- 2. Choose the MOST honest statement**
  - A. the clivus is a portion of the sphenoid bone
  - B. the frontal sinus lies deep to the floor of the sella turcica
  - C. cranial nerves X, XI, and XII all leave the skull through the jugular foramen
  - D. hiatus semilunaris is another name for the superior orbital fissure
  - E. the inferior petrosal sinus marks the attachment of part of the tentorium cerebelli
- 3. The dura matter of the posterior cranial fossa is innervated by the meningeal branch of this nerve**
  - A. mandibular
  - B. ophthalmic
  - C. maxillary
  - D. DPR of C2-C3
  - E. Facial
- 4. The unpaired bones in the skeleton of the adult human face are two, vomer and .....**
  - A. zygomatic
  - B. maxilla
  - C. Palatine
  - D. lacrimal
  - E. Mandible
- 5. Which one among the muscle below receives its motor supply by 2 cranial nerves**
  - A. buccinator
  - B. trapezius
  - C. digastric
  - D. omohyoid
  - E. Thyrohyoid
- 6. The biggest structure passing through the cavernous sinus is the**
  - A. internal carotid artery
  - B. internal jugular vein
  - C. abducens nerve
  - D. trigeminal (mandibular division)
  - E. greater petrosal nerve
- 7. The heat, cold, touch of the gingiva of the hard palate is taken to the brain through**
  - A. the nerve of the pterygoid canal
  - B. nerves in the greater palatine canals
  - C. the nasociliary branch of V-1

- D. the greater superficial branch of the vagus n
  - E. the lesser superficial petrosal nerve
8. **The blood vessel that mainly supply most of the medial surface of the cerebrum is the**
- A. anterior cerebral artery
  - B. middle cerebral artery
  - C. posterior cerebral artery
  - D. middle meningeal artery
  - E. vertebral artery
9. **The first lymph node group that receives the lymphatic drainage from the most posterior portion of the tongue is the?**
- A. submental
  - B. juguloomohyoid
  - C. parotid
  - D. buccal
  - E. jugulodigastric
10. **Which of the following statement is true about the superior orbital fissure**
- A. lies directly inferior to the greater wing of the sphenoid
  - B. lies directly above the posterior portion of the maxilla
  - C. lies directly between the orbit and the infratemporal fossa
  - D. transmits the III, IV, and VI cranial nerves
  - E. transmits the maxillary nerve
11. **The periosteum of the skull is known as?**
- A. arachnoid
  - B. leptomeninx
  - C. pia matter
  - D. pericranium
  - E. epicranium
12. **The lymph drainage of the upper central incisor teeth goes first to which group of nodes**
- A. submental
  - B. submandibular
  - C. jugulo-digastric
  - D. jugulo-omohyoid
  - E. parotid node
13. **The preganglionic parasympathetic fibers to the otic ganglion pass through which nerve?**
- A. greater petrosal
  - B. deep petrosal
  - C. lesser petrosal
  - D. chorda tympani
  - E. none of the above
14. **Which among the following statement are correct about the characteristics of the facial artery**
- A. it follows a convoluted ("zigzag" or "tortuous") course over the body of the mandible
  - B. it passes just anterior to the masseter muscle
  - C. it is a branch of the internal carotid artery
  - D. only a and b
  - E. a, b, and c
15. **which among the following is a muscle of facial expression innervated by the facial nerve**

- A. lateral pterygoid muscle
  - B. stylohyoid muscle
  - C. stapedius muscle
  - D. orbicularis oris muscle
  - E. all of the above
- 16. The floor of the mouth is made up of?**
- A. sublingual fold
  - B. frenulum of the tongue
  - C. the whole tongue
  - D. all the above
  - E. a and b
- 17. which muscle of the tongue is innervated by the vagus nerve**
- A. palatopharyngeus
  - B. palatoglossus
  - C. styloglossus
  - D. genioglossus
  - E. Hyoglossus
- 18. The auditory tube opens directly into which structure?**
- A. nose
  - B. nasopharynx
  - C. oropharynx
  - D. internal ear
  - E. both b and d
- 19. The artery that supply the inferior part of the larynx is a branch of the**
- A. internal carotid
  - B. ascending pharyngeal
  - C. ascending cervical
  - D. superior thyroid
  - E. inferior thyroid
- 20. The cell bodies of postganglionic parasympathetic axons that supply the lacrimal gland are in the ?**
- A. geniculate ganglion
  - B. pterygopalatine ganglion
  - C. otic ganglion
  - D. trigeminal ganglion
  - E. ciliary ganglion
- 21. Failure of the lateral palatine processes to fuse across the midline result into?**
- A. an oblique facial cleft
  - B. an unclosed or defective nasolacrimal duct
  - C. a simple midline cleft (true hare lip)
  - D. a simple unilateral cleft lip
  - E. a simple cleft of the secondary palate
- 22. A cleft involving the lip and dental arch is a result of fusion failure between?**
- A. mandibular and maxillary processes
  - B. medial nasal and maxillary processes
  - C. lateral nasal and maxillary processes
  - D. right and left maxillary processes

- E. right and left lateral palatine processes
- 23. which of the following statement is true regarding the Somites:**
- A. differentiate into myotomes which give rise to skeletal muscle in trunk and limbs
  - B. differentiate into sclerotomes which give rise to vertebrae
  - C. arise from segmentation of the paraxial mesoderm
  - D. differentiate into myotomes which give rise to skeletal muscle of the limbs
  - E. all of the above are correct
- 24. Which of the following structures does not turn inferior onto the ventral surface of the embryo during folding of the head?**
- A. prochordal plate
  - B. heart
  - C. notochord
  - D. pericardial cavity
  - E. septum transversum
- 25. Somitomeres, paraxial mesoderm cranial to the somites, give rise to most of the skeletal muscle in the head EXCLUDING?**
- A. extrinsic muscles of the eye
  - B. temporalis tongue muscles
  - C. muscles of facial expression
  - D. muscles of mastication
  - E. All of the above
- 26. Myoblasts from the occipital myotomes give rise to the muscles of the?**
- A. eye
  - B. face
  - C. ear
  - D. jaw, for mastication
  - E. tongue
- 27. Which structures are embryologically derived from the intermaxillary segment of the embryonic face?**
- A. philtrum
  - B. anterior portion of the palate
  - C. anterior portion of the upper jaws
  - D. upper incisor teeth
  - E. all of the above are correct
- 28. The nasolacrimal groove separates the following structures**
- A. mandibular and maxillary swellings
  - B. lateral nasal swelling and maxillary swelling
  - C. medial nasal swelling and maxillary swelling
  - D. first and second branchial arches
  - E. otic and optic vesicles
- 29. Which of the following statement is true regarding the foramen cecum of the adult tongue?**
- A. marks the point of embryonic evagination of the thymus gland
  - B. divides the tongue into two parts, an anterior one-third and a posterior two-thirds
  - C. marks the point of embryonic evagination of the thyroid gland
  - D. develops into taste buds
  - E. has no embryologic significance

- 30. Which of the following statement is true regarding the Branchial cysts or lateral cervical cysts?**
- A. are found along the anterior border of the sternocleidomastoid muscle
  - B. are formed from a rupture of the membrane between pharyngeal pouches and branchial clefts
  - C. are remnants of the thyroglossal duct
  - D. are found in front of the ear
- 31. The following are pure mucus glands**
- A. VonEbner glands
  - B. Lingual glands
  - C. Glosso palatine and palatine glands
  - D. Buccal glands
  - E. All of the above
- 32. Which type of glands are the ceruminous glands**
- A. Oil gland
  - B. Endocrine
  - C. Eccrine sweat gland
  - D. Sebaceous glands
  - E. Apocrine sweat gland
- 33. The salivary gland is ?**
- A. Branched tubular gland
  - B. Simple tubular gland
  - C. Compound alveolar gland
  - D. Simple coiled tubular gland
  - E. None of the above
- 34. The pigmented cells of the retina layer are made up of?**
- A. Pigmented epithelium
  - B. Stratified epithelium
  - C. Glandular epithelium
  - D. Squamous epithelium
  - E. All of the above
- 35. The inner lining of the buccal cavity is derived from the?**
- A. Mesoderm
  - B. Ectoderm
  - C. Endoderm
  - D. A and B
  - E. All of the above
- 36. Calcitonin is secreted by which specific cells**
- A. chromophils
  - B. interstitial cells (of Leydig)
  - C. basophils
  - D. principal cells of the thyroid
  - E. parafollicular cells of the thyroid
- 37. Colloid is a substance that associates with which of the following endocrine organs?**
- A. suprarenal (adrenal) glands
  - B. thyroid gland
  - C. testis

- D. ovary
  - E. pineal gland
- 38. Which portion of the hypophysis releases no known hormones?**
- A. pars distalis
  - B. pars intermedia
  - C. pars nervosa
  - D. pars tuberalis
  - E. they all secrete hormones
- 39. Pituicytes are glial-like cells of which structure**
- A. pars distalis
  - B. pars intermedia
  - C. pars nervosa
  - D. pars tuberalis
  - E. pineal gland
- 40. The exocrine cells secrete all of the following components except**
- A. amylase
  - B. gastrin
  - C. prochymotrypsin
  - D. lipase
  - E. protrypsin

**SECTION B. FILLING IN THE BLANKS (10MKS).**

1. Which pair of nerves merges on the posterior aspect of the mental foramen to form the inferior alveolar nerve.....
2. Which opening does the cranial nerve XII passes when leaving the cranium .....
3. Which structure originate at the lower border of the mandible and inserts into the skin of the tissue of the chin .....
4. Which structure when contracted causes a surprised facial expression.....
5. Which structure is considered as an extrinsic muscle of the tongue that retract the tongue.....
6. The .....sinus that is located on the floor of the middle cranial fossa
- 7.....innervates the mucus membrane of the larynx below the vocal folds of the mandile.
8. The spinal nerve emerges between ..... of the adjacent vertebra.
- 9..... is the cranial nerve that supplies the sensory fibers to the dura at the superior part of the tentorium cerebeli.
- 10..... is the bone that forms the anterior part of the nasal septum.

**SECTION C: TRUE/FALSE (10MKS).**

1. The Symphysis menti forms the upper part of the Submental triangle.
2. When acting in bilateral manner, the sternocleidomastoid muscle flex the neck
3. The right side of the of the head and neck are drained by the right lymph trunk.
4. Splenius capitis muscle flexes the head when acting in bilateral manner
5. The rectus capitis posterior muscle is drained by the suboccipital nerve
6. The primary function of the rectus capitis anterior muscle is to flex of the head
7. The cranial nerve IX innervates the carotid sinus and body
8. The cricoid cartilage located in the fourth cervical vertebra
9. The falx cerebri separates the cerebrum and the cerebellum
10. The isthmus of the thyroid gland is located directly anteriorly the thyroid gland

**SECTION D: SHORT STRUCTURE QUESTIONS (5 Marks each, 30MKS total).**

1. Briefly discuss the formation of the eye
2. List the blood vessels that forms the little's are of the nose
3. List the branches of the ophthalmic artery
4. List the structures that form the postero-medial boundary if the parotid gland
5. List the histological characteristics of the nasal mucosa
6. Describe the formation and distribution of ansa cervicalis

**SECTION E: CROSS MATCHING (10MKS).**

NO	DERIVATIVES		PHARYNGEAL APPARATUS
1	Temporal bone	A	Second pharyngeal arch
2	Cricothyroid	B	Pharyngeal cleft
3	Auditory tube	C	Second pharyngeal pouch
4	Stylopharyngeus	D	Pharyngeal membrane
5	Ultimobranchial body	E	Fourth pharyngeal arch
6	Superior parathyroid gland	F	Fifth pharyngeal pouch
7	External auditory meatus	G	First pharyngeal pouch
8	Tympanic membrane	H	First pharyngeal arch
9	Stapedial artery	I	Fourth pharyngeal pouch
10	Palatine tonsils	J	Third pharyngeal arch.

**SECTION F:**



PLATE A: LABEL THE MARKED STRUCTURES 1-10 IN THE GIVEN DIAGRAM (10 MARKS).

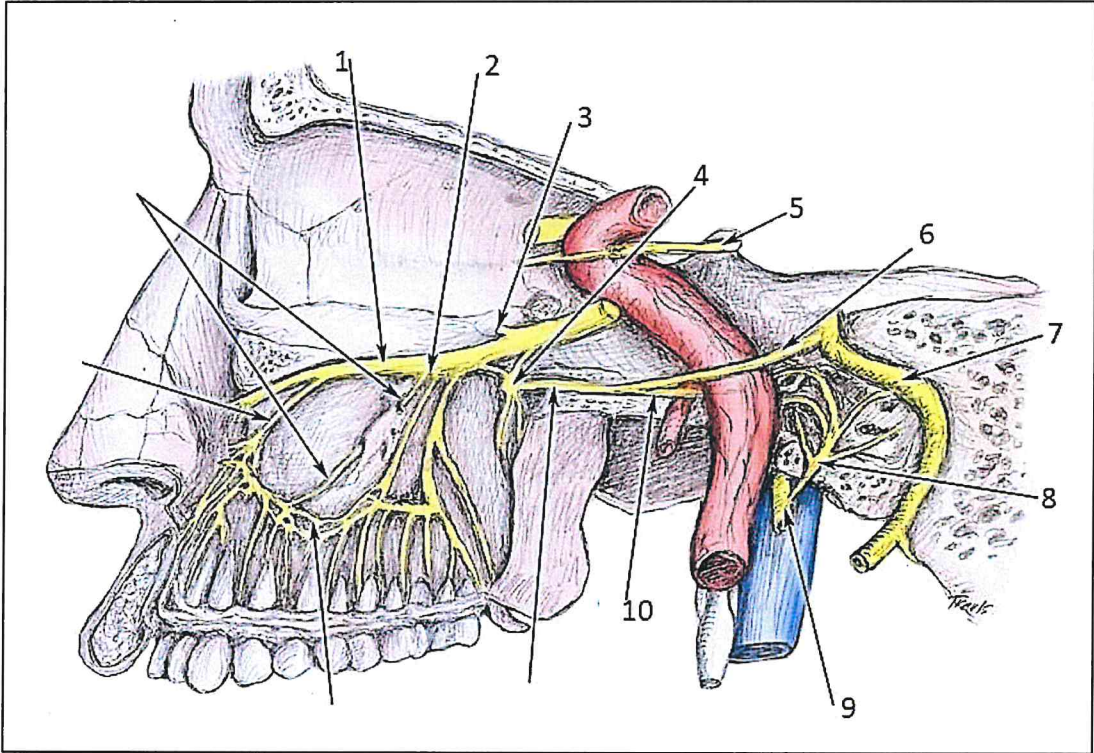


PLATE B: LABEL THE MARKED STRUCTURES 1-10 IN THE GIVEN DIAGRAM (10 MARKS)

