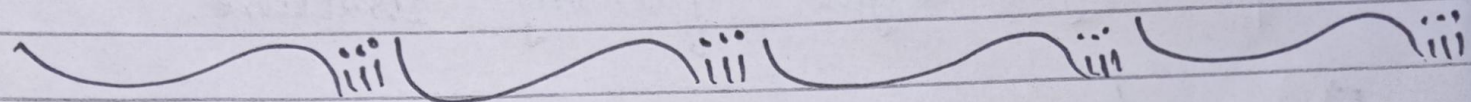


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 paper Anatomy (Final exam)
 Date 26-6-2020.



Q. NO. 1 :-

Ans :-

1) * Anterior Chamber :-

The Region of the eye between the Cornea and the lens that contain aqueous humor.

* Aqueous Humor :-
 The fluid produced in the eye.

2) Ciliary body :-

Part of the eye above the lens, that produce the aqueous humor.

3) Choroid :-

Layer of the eye behind the retina. Contain blood vessels that nourish the retina.

4) Cornea :-

The outer transparent structure at the front of the eye that covers the iris, pupil and anterior chamber. It is the eye's primary light focusing structure.

5) Lens :-

The transparent structure suspended behind the iris that helps to focus light on the retina. It provides the primary focusing structure of the eye which is the Cornea.

6) Cones :-

The photoreceptor nerve cells present in the macula and concentrated in the fovea. (the very center of the macula) enable people to see fine detail and color.

7) Sclera :-

The tough outer coat that protects the entire eyeball.

(5)

8) Retina :- The light sensitive layer back of the eye that carry visual message from the retina to the brain.

9) Optic Nerve :- The bundle of the nerve fibers at the back of the eyes that carry visual message from the optic nerve to the brain.

10) Macula :- The portion of the eye at the centre of the retina that process sharp, clear, straight, a head vision.

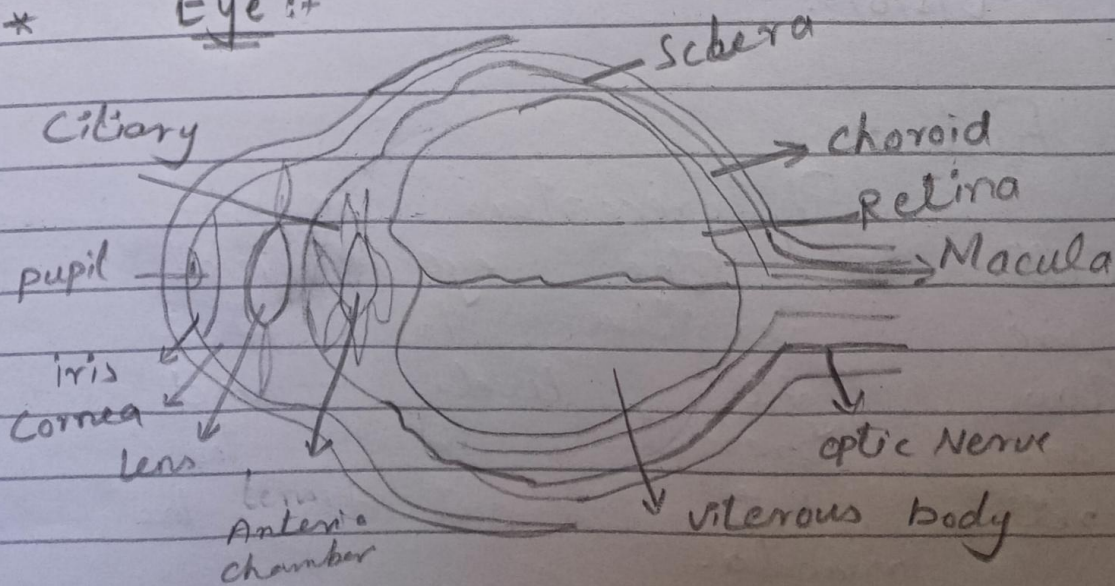
11) Rods :- Photoreceptors nerves cell in the eyes that are sensitive to ~~that~~ low light levels and are present in the retina, but outside the macula.

12) Photoreceptors :- The light sensing and (rods and cones) located in the retina. nerve cell

13) Iris :- The colored ring of tissue behind the Cornea that regulates the amount of light entering the eye by adjusting the size of the pupils.

14) Fovea :- The pit or depression at the center of the macula that provides the greatest visual acuity.

* Eye :-



(5)

2) The Base of the Skull Foramina

- Foramen magnum.
- Hypoglossal Canal
- Jugular Foramen
- Internal acoustic Foramen.
- Carotid Canal
- Foramen Lacrum.
- Foramen Spinosum.
- Foramen ovale
- Foramen rotundum.
- Superior orbital fissure.
- Optic Canal
- Olfactory Foramen
- Foramen Cavernum.

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Q. NO. 2 :-

Ans :- The muscle in the medial compartment of the thigh are collectively known as the hip adductors.

* There are five muscle in this groups.

- i) Adductor Magnus
- ii) Adductor longus.
- iii) Adductor brevis.
- iv) Obturator externus.
- v) Gracilis.

All the medial thigh muscles are innervated by the obturator nerve, which arises from the lumbar plexus. Arterial supply via the obturator artery.

1) Adductor Magnus :-

The adductor magnus is the largest muscle in the medial compartment. It lies posteriorly to the other muscles. That muscle can be divided into two parts.

- i) Adductor parts.
- ii) Hamstring part.

i) Adductor Part :-

Originated from the inferior rami of the pubis and the rami of ischium, attaching to the linea aspera of the femur.

ii) Hamstring Part :-

Originated from the ischial tuberosity and attaches to the adductor tubercle and medial supra-condylar line of the femur.

*) Action :-

The both adduct the thigh. the adductor Component also flexes the thigh with the hamstring portion extending the thigh.

*) Innervation :-

Adductor part is innervated by the obturator nerve (L2-L4) the hamstring part is innervated by the tibial Component of the Sciatic nerve (L4-S3).

2) Adductor Longus :-

The adductor longus is a large, flat muscle. It partially covers the adductor brevis and majorus. The muscle forms the medial border of the femoral triangle.

* Attachment :-

Originated from the pubis and expands into a fan shape, attaching broadly to the linea aspera of the femur.

* Actions :-

Adduction of the thigh

* Innervation :-

obturator Nerve (L4 - L4).

3) Adductor brevis :-

The adductor brevis is a short muscle lying underneath the adductor longus. It lies in between the anterior and posterior division of the obturator nerve. Therefore it can be

used as an anatomical landmark to identify the aforementioned branches.

* Attachement :-

Originated from the body of pubis and inferior pubic rami. It attaches to the Linea aspera on the posterior surface of the femur proximal to the adductor longus.

* Action :-

Adduction of the thigh.

* Innervation :-

Obturator Nerve (L2-L4)

4:- Gracilis :-

The Gracilis is the most superficial and medial of the muscle in this compartment. It crosses at both the hip and ~~bone~~ knee joint. into the head of femur to replace a damaged muscle.

* Attachment :-

It originates from the inferior rami of the pubis and the body of the ~~the~~ pubis. Descending almost vertically down the leg it attaches the medial surface of the medial surface of the tendons of the Sartorius (anteriorly) and the Semitendinosus (posteriorly).

* Action :-

Adduction of the thigh at the hip and flexion of the leg at the knee.

* Innervation :-

Obturator Nerve (L2-L4).

5) Obturator Externus :-

This is one of the smaller muscles of the medial thigh, and it is located most superiorly.

* Attachment :-

It originates from the membrane of the obturator foramen and adjacent bone. It passes under the

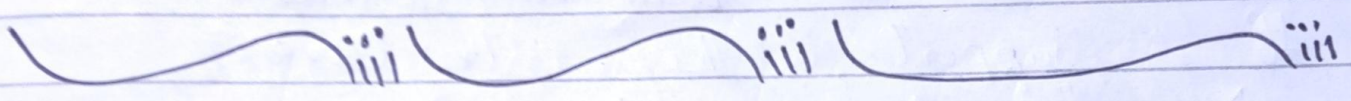
the neck of femur attaching to the posterior aspect of the greater trochanter.

* Action:-

Adduction & lateral rotation of the thigh.

* Innervation:-

Obturator Nerve (L2-L4)



Q.NO. 4 :-

Ans:-

The Cranial Structures are fibrous joints connecting the bones of the skull. The dense fibrous tissue that connects the structures is made mostly out of collagen. These joints are fixed, immovable, and they have no cavity. They are also referred to as the synarthroses.

* Skull :-

The skull is a bony structure that forms the head in vertebrates. It supports the structures of the face and provides a protective cavity

a brain. The skull is composed of two parts

- 1) The Cranium.
- 2) Mandible.

* Structure:-

The human skull is a bony structure that forms the head, in the human skeleton it supports the structure of the face and forms a cavity for the brain. Like a skull of the other vertebrates. It protects the brain from injury.

The skull consists of the three parts, of different embryological origin → The neurocranium. The sutures, and the facial skeleton.

* The Neurocranium:-

The protective Cranial Cavity that surrounds and houses the brain & brainstem. The upper part of the Cranial bones form the Calvaria.

The membranous viscerocranium includes the mandible.

* Sutures :-

The sutures are fairly rigid joints b/w bones of the neurocranium.

* Facial :-

The facial skeleton is formed by the bones supporting the face.

→ The human skull consists of 22 bones.

- 8 Cranial bones.
- 14 facial bones.

* Cranial Bones :-

Eight Cranial bones.

- 1) Occipital bones.
- 2) Two Temporal bones.
- 3) 2 " "
- 4) 2 parietal bones.
- 5) 2 Parietal bones.
- 6) Sphenoid Bones.
- 7) Ethmoid Bones.
- 8) Frontal Bones.

*) Fascial Bones:+

14 Fascial bones.

- Vomer
- Two inferior nasal Conchae.
- Two nasal Bones.
- Two maxilla Bones.
- Mandible Bones.
- Two palatine Bones.
- Two Zygomatic bones.
- Two Lacrimal bones.

* Trigeminal Nerve:+

The Trigeminal nerve is a nerve responsible for sensation in the face and motor function such as biting and chewing. It is the most complex of the Cranial nerve. Its name "Trigeminal" tri means 3 and geminus means twin. derived from the fact that each of two nerves. (one on each side of the pons). It has three major branches.

- Ophthalmic Nerves.
- Maxillary Nerves.
- Mandibular Nerves.

1) Ophthalmic Nerve

The ophthalmic nerve is a terminal branch of the trigeminal nerve (along with maxillary and mandible) it provides sensory innervation to the skin, mucos membrane and sinuses of the upper face and scalp.

Anatomy of the ophthalmic nerve → its anatomical course. Sensory junction and autonomic junction.

2) Maxillary Nerve

The maxillary nerve is the second branch of the trigeminal nerve, which originate embryologically from the first pharyngeal arch. Its primary junction is sensory to the mid third of the face.

3) Mandibular Nerve

The mandibular nerve is a terminal branch of the trigeminal nerve (along with the maxillary and ophthalmic nerve).

It has a Sensory role in the head, and is associated with parasympathetic fibers of other cranial nerves. However unlike the other branches of the trigeminal nerve the mandibular nerve also has a motor junction.

Q. NO. 5 :-

Ans:- The Spinal Cord is a long thin tubular structure made up of nervous tissue, which extends from the medulla oblongata in the brainstem to the lumbar region of the vertebral column. It encloses the Central Canal of the Spinal Cord, which contains Cerebrospinal fluid. The brain and Spinal Cord together make up the Central nervous system. In human the Spinal Cord begins at the occipital bones, passing through the foramen magnum and entering the Spinal Cord at the beginning

of the Cervical vertebrae. The Spinal Cord extends down to between the first and second lumbar vertebrae, where it ends the enclosing bony vertebral column protects the relatively shorter Spinal Cord. It is around

45cm (17 in) long in women.

- The diameter of the Spinal Cord ranges from 13 mm $\frac{1}{2}$ inches in the Cervical and lumbar region to 6.4 mm $\frac{1}{4}$ inches in the thoracic area.

- The Spinal Cord junction primarily in the transmission of nerve signal from the motor cortex to the body and from the afferent fibers of the sensory neurons to the sensory cortex.

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* Structure

The Spinal Cord is the main pathway for information connecting the brain and peripheral nerve system. Much shorter than its protective Spinal Column. The human Spinal Cord originates in the brainstem passes through the foramen magnum and continues to the Conus medullaris near the second lumbar vertebrae. Before terminating in a fibrous extension known as the Filum terminale.

It is about 45cm long in men and about 43cm long in women. The Spinal Cord is

Continuous with Caudal portion of the medulla running from the base of the skull to the first lumbar vertebra. It does not run the full length of the vertebral column in adult.

* Anatomical Position :-

The spinal cord is the most important structure b/w the body and brain. The spinal cord extends from the foramen magnum where it is continuous with the medulla to the level of the first or second lumbar vertebrae. It is a vital link b/w the brain and the body and from the body to the brain.

2) Pharynx :-

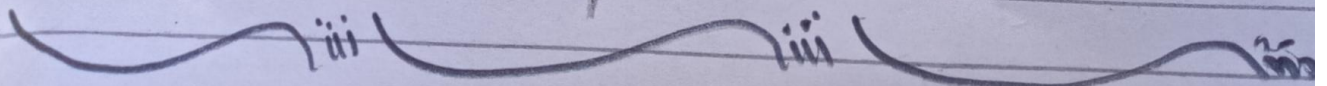
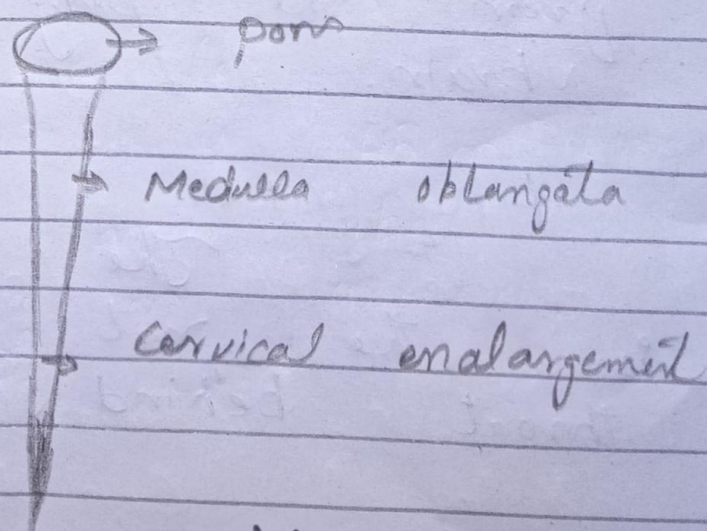
The pharynx is the part of the throat behind the mouth

the mouth & Nasal Cavity
 and above the esophagus
 and above the esophagus
 and larynx. the tubes
 going down to the stomach,
 and the lungs. It is
 found in vertebrates and
 invertebrates. through its
 structure varies across
 species.

* Constrictors

The circular muscle contract sequentially from superior to inferior to constrict the human and proper the bolus of food inferiorly into oesophagus.

- 1) Superior.
- 2) Inferior
- 3) Middle.



Q.NO. 3:-

Ans:- The external laryngeal nerve is the sole motor supply of the cricothyroid muscles which is the tensor of the vocal folds and raise the level of the voice. The level of the vocal folds. It tend to be however the external laryngeal branches that is affected.

* Injury effect of the external laryngeal nerve:-
Injury to the superior laryngeal nerve can occur as a complication of a thyroidectomy. It will results in paralysis of the cricothyroid muscle and anesthesia of the region above the level of the vocal folds.

⇒ It tends to be however the external laryngeal branches that is affected.

~~Cont~~* For the Facial Nerve Tests

The Facial nerve supplies motor branches of the muscle of the facial nerve expression. This is therefore tested by asking the patient to crease up their forehead.
(Raise their eyebrows).

Close their and keep them closed against resistance, put out their cheeks and reveal their teeth.

THE
END