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paper Anatomy

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BS Radiology 4th Semester

* Attempt all questions. Each questions carry equal marks.

Q1: Write about the structure of Eye. Also names of the foramina found in the base of skull?

* Eye structure :-

The eye is the organ of sight. Eye is the number of components which include but are not limited to the cornea, iris, pupil, lens, retina, optic nerve, choroid and vitreous.

⇒ Eye constantly adjusts the amount of light it lets in, focuses on objects near and far, and produces continuous images that are instantly transmitted to the brain

⇒ The orbit is the bony cavity that contains the eyeball, muscles, nerves, and blood vessels as well as the structure that produce and drain tears

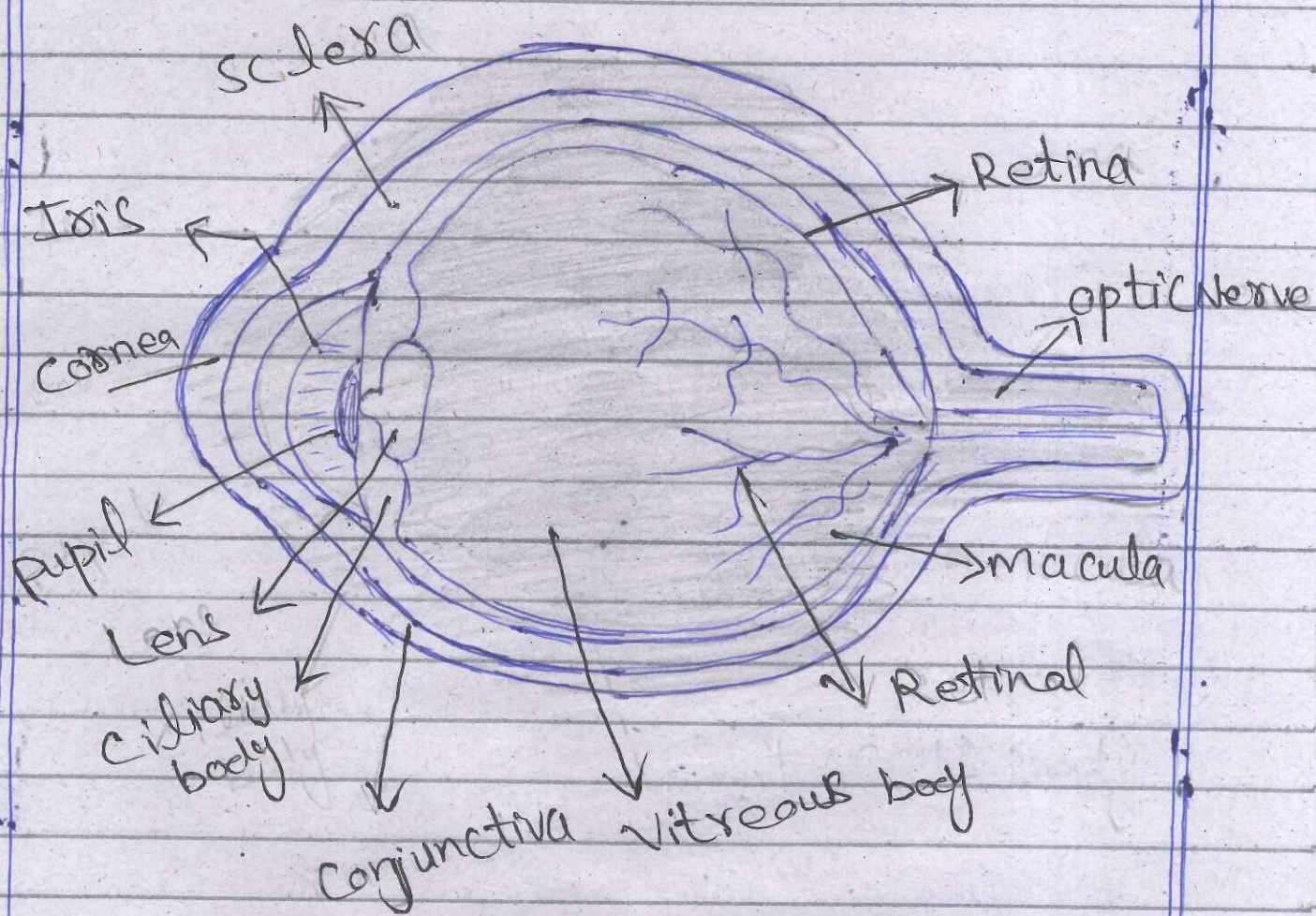
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- ⇒ The outer covering of the eyeball consists of a relative tough, white layer is the **Sclera**.
- ⇒ The Sclera is covered by a thin transparent membrane **Conjunctiva**, which runs to the edge of the **Cornea**.
- ⇒ Cornea is the protective covering for the front of eye and also help focus light on the retina at the back of the eye.
- ⇒ After passing through the Cornea, light travels through the **pupil** (the black dot in the middle of eye).
- ⇒ The **iris** - the circular, colored area of the eye that surrounds the pupil control the amount of light that enters the eye.
- ⇒ Behind the iris sits the **lens**. By changing its shape and the lens focuses light onto the retina.
- ⇒ The **Retina** contains the cells that sense light (photoreceptor) and the blood vessels that nourish them.
- ⇒ The most sup. sensitive part of the retina is a small area called the **macula**, that has millions of tightly packed photoreceptors.
- ⇒ The Nerve Fibers from the photoreceptor are bundle together to form the **optic nerves**.
- ⇒ The photoreceptors in the retina convert the image into electrical signals, are carried to the brain.

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by the optic nerve.

- ⇒ Cones. are responsible for sharp, and central vision and color vision mainly in the macula.
- ⇒ Rods. are responsible for night and peripheral (side) vision.

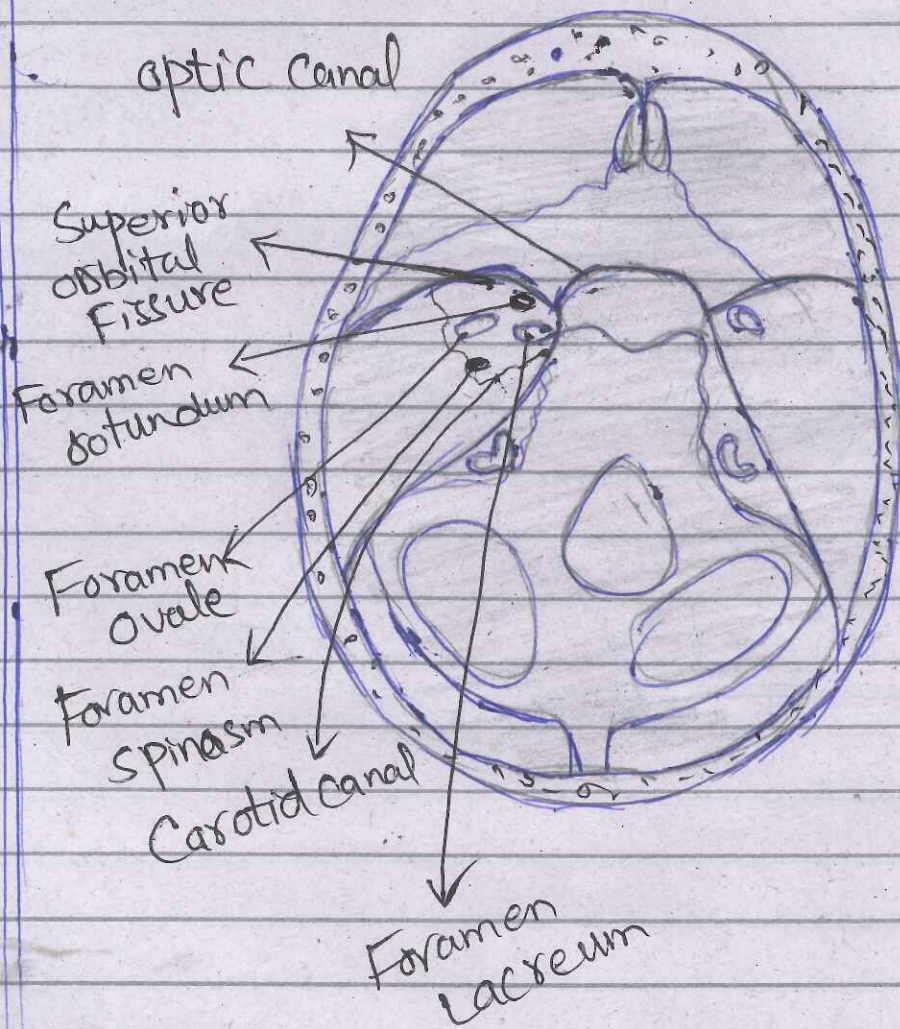


Human Eye Structure

and part

Names of Foramina of Skull:

- ⇒ optic canal
- ⇒ Foramen caecum
- ⇒ Carotid canal
- ⇒ Superior orbital fissure
- ⇒ Foramen rotundum
- ⇒ Foramen ovale
- ⇒ Jugular foramen
- ⇒ Foramen spinosum
- ⇒ Foramen lacerum
- ⇒ Hypoglossal canal
- ⇒ Lateral acoustic meatus
- ⇒ Internal acoustic foramen
- ⇒ Superior orbital fissure.



Q. Write the Names of muscles of the medial fascial compartment of the thigh with their origin and insertion.

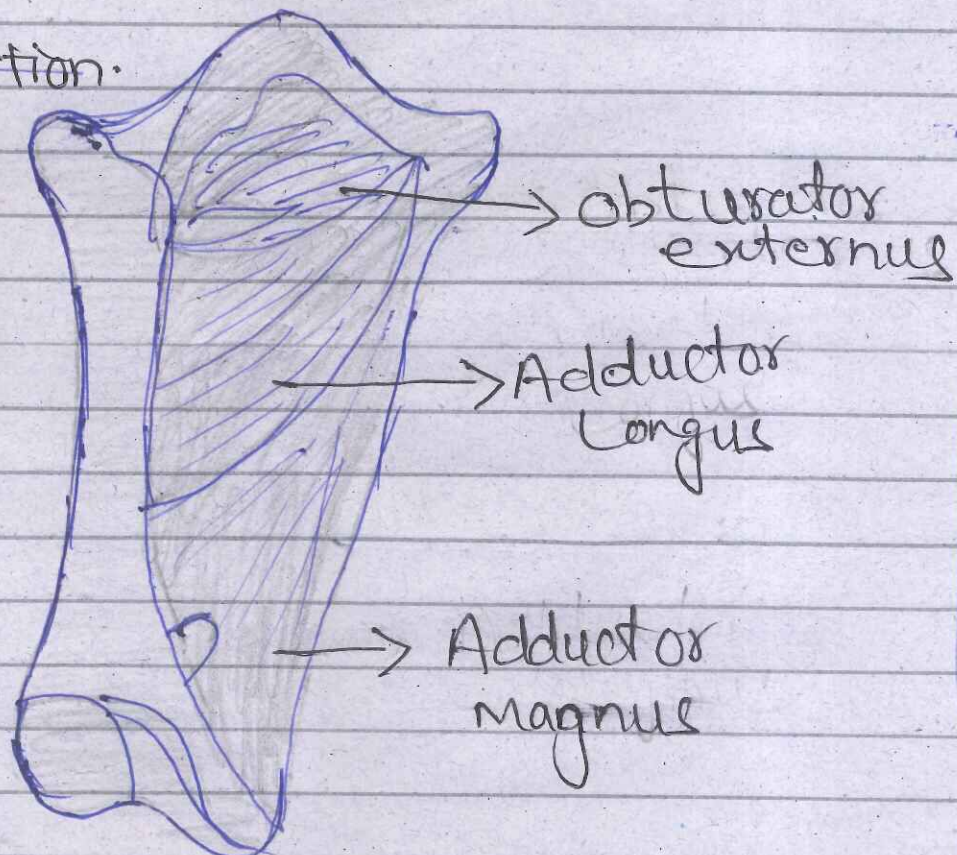
* Names of Muscles Medial Fascial:-

- ⇒ Gracilis
- ⇒ Adductor brevis
- ⇒ Adductor magnus
- ⇒ Adductor longus
- ⇒ Obturator externus

Origines:-

- ⇒ Adductor part originates from the inferior rami of the pubis and the rami of ischium, attaching to the linea aspera of the femur.
- ⇒ Hamstring part originates from the ischial tuberosity and attaches to the adductor tubercle and medial supracondylar line of the femur.

Insertion.



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Insertion:-

The medial compartment of thigh is one of the fascial compartments of the thigh and contains hip adductor muscles and the gracilis muscle.

- Obturator Nerve — is the primary nerve supplying this compartment.
- Obturator artery — is the blood supply to the medial thigh.

Q3) Write about the sutures of the skull also write a note on trigeminal nerve and its branches.

* Sutures of the skull:-

Sutures of the type of fibrous joints that are unique to the skull.

- ⇒ Immovable
- ⇒ Fuse completely around age of 30.
- ⇒ Sutures can be points of potential weakness in both childhood and adulthood.

* Main sutures in adulthood are

* Coronal sutures:-

- ⇒ Fuse the frontal bones.
- ⇒ Two parietal bones.
- ⇒ The coronal suture is a dense fibrous connective tissue joint.

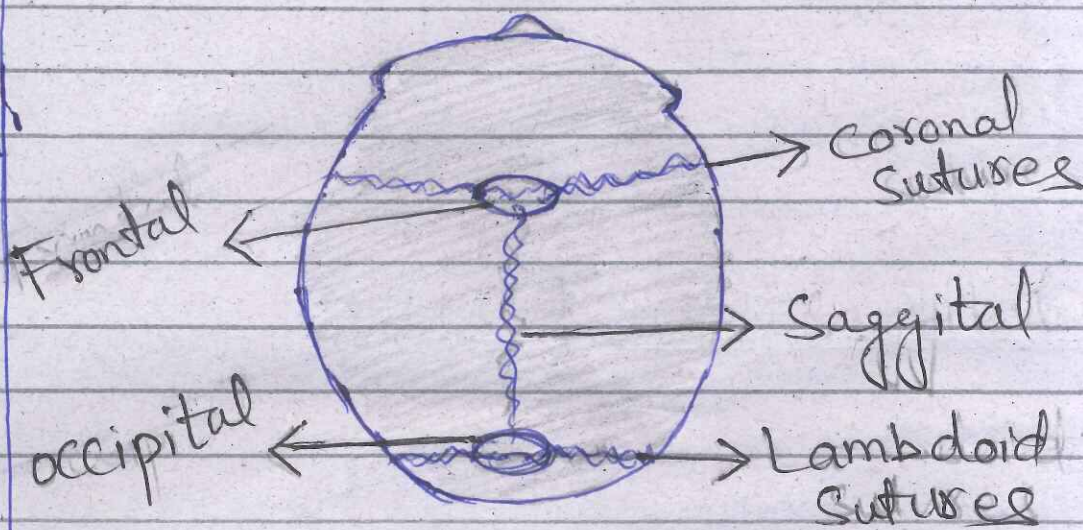
* Sagittal sutures:-

- ⇒ Fuse both parietal bones to each other.
- ⇒ They are middle of the to top of the head.
- ⇒ Immovable joint.

* Lambdoid Suture :-

- Fuses the occipital bone
- ⇒ Two parietal bones.
- ⇒ Full obliteration may never occur.

Sutures joints gives rise to membranous gaps between the bones, known as fontanelles.



* Trigeminal Nerve :-

The trigeminal Nerve (the fifth cranial nerve, or simple CNV) is a nerve responsible for sensation in the face and motor function such as biting and chewing. It is most complex of cranial nerves.

* Branches :-

There are three branches.

- Ophthalmic (V1, Sensory)
- ⇒ Maxillary (V2, Sensory)
- Mandibular (V3, motor)

* The large sensory root and smaller motor root leave the brainstem

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at the mid lateral surface of face.

* Ophthalmic Nerve (V1)*

- ⇒ Ophthalmic Nerve is a terminal branch of the trigeminal nerve.
- ⇒ Along with maxillary and mandibular Nerves.
- ⇒ Provide Sensory innervation to the skin.
- ⇒ Mucous membrane.
- ⇒ Sinuses of the upper face and Scalp.

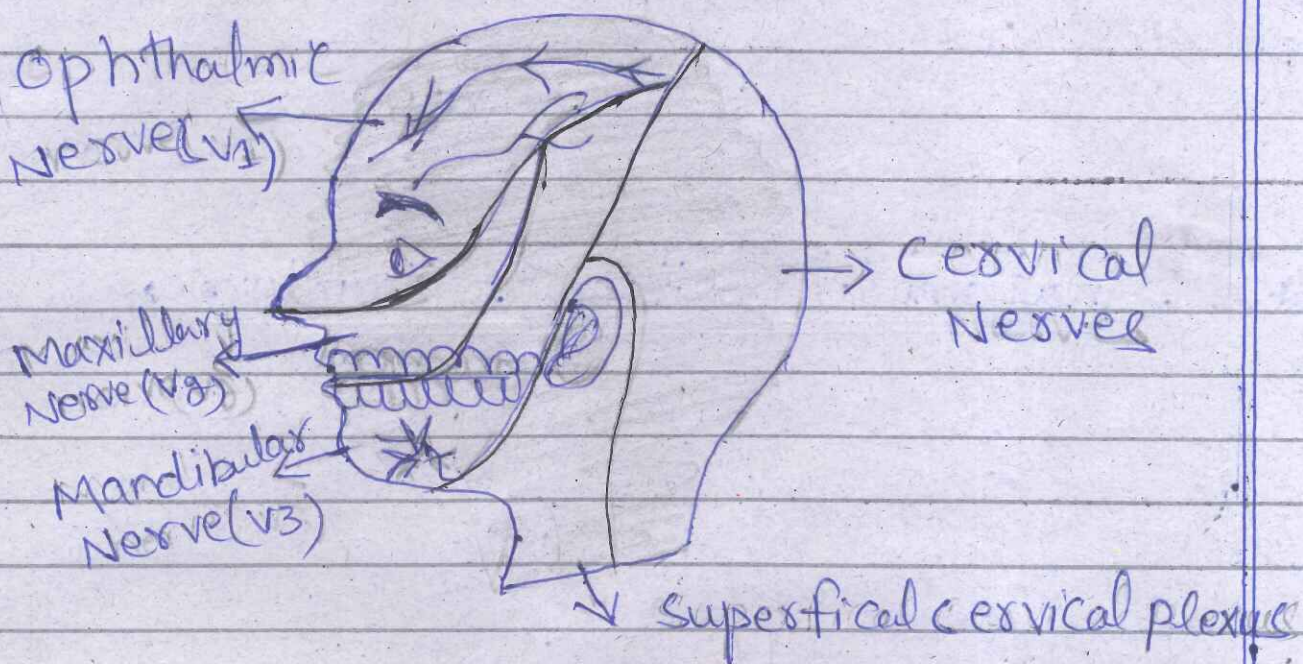
* Maxillary Nerve (V2):-

- ⇒ They are the second branch of the trigeminal nerve.
- ⇒ Originate embryologically from the first pharyngeal arch.
- ⇒ It is primary function.
- ⇒ The sensory supply to the mid-third of the face.

* Mandibular Nerve (V3):-

- ⇒ The mandibular nerve is a terminal branch of trigeminal nerve.
- ⇒ Along with the maxillary and ophthalmic nerves.
- ⇒ They are the sensory role on the head.
- ⇒ They are associated with parasympathetic fibres of other cranial nerves.

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Q4) write a note on spinal cord with reference to its anatomical position and structure also write a short note on pharynx with enumeration to its constrictors?

* Spinal Cord:- (1st part)

The spinal cord is a long, thin, tubular structure made up of nervous tissue, extend from the medulla oblongata in the brainstem to the lumbar region of the vertebral column.

⇒ Enclose the central canal of the spinal cord, which contains cerebrospinal fluid.

⇒ The spinal cord is a complex organization of nerve cells.

⇒ Responsible for movement and sensation.

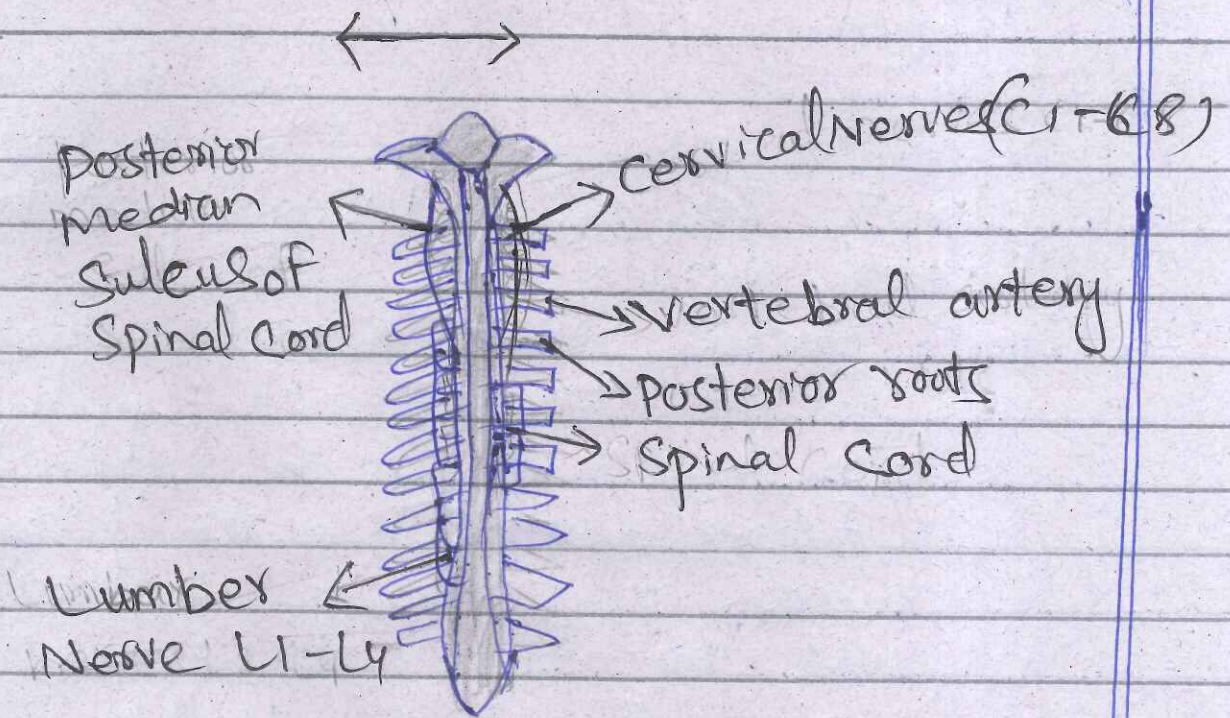
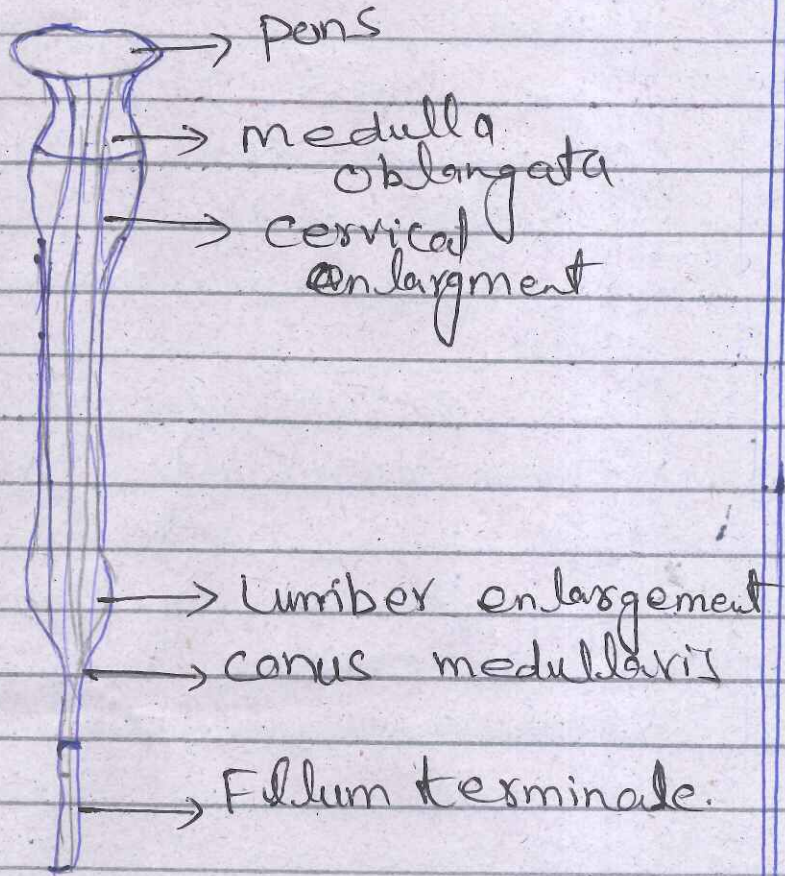
⇒ They are signals between the brain and the rest of the body.

- The spinal cord is located by the vertebral foramen.
- ⇒ Made up 31 segments; 8 cervical, 12 thoracic, 5, Lumbar, 5 sacral and 1 coccygeal.

* Anatomical position, Structure

- The spinal cord is a cylindrical structure; greyish-white in colour.
- ⇒ They are relatively simple anatomical course.
- ⇒ They arise cranially as a continuation of the medulla oblongata.
- ⇒ Then they travel inferiorly within the vertebral canal, surrounded by the spinal meninges containing cerebrospinal fluid.
- ⇒ At vertebral level of the spinal cord tapers off, the conus medullaris.
- ⇒ It occupies around two thirds of the vertebral canal.
- ⇒ Spinal nerves that arise from the end of the spinal cord are bundled together, a structure known as the cauda equina.
- ⇒ The cervical enlargement is located proximally, the origin of the lumbar and sacral plexi.
- ⇒ They are marked by two depressions on its surface.
- ⇒ Anterior median fissure is a deep groove extending the length of the anterior surface of the spinal cord.

⇒ Posterior aspect is a slightly shallower depression - The posterior median sulcus



Q What is effect of injury of external laryngeal nerve and also write about how to test the integrity of facial nerve

→ The effect of injury of external laryngeal nerves is the loss of voice.

→ The loss of movement of ~~vocal~~ ^{focal} voice.

⇒ The external branch of the laryngeal nerve innervates the cricothyroid muscle to promote lengthening and thinning of the vocal folds, thus increasing voice pitch.

⇒ The close relation with the superior thyroid vessels puts the in risk every time the superior pole of the thyroid is dissected.

⇒ The chances of surgical trauma voice changes of the thyroid.

(B) part Testing of integrity of the facial nerve.

→ The facial nerve supplies the muscles of facial expression; supply the anterior two thirds of the tongue Test fibres, secret motor to the Lacrimal, mandibular of the glands

→ To test the facial nerve.

→ The patient asked to show the teeth by separating the lips with the teeth clenched, and close the eyes.

→ The patient to puff out his cheeks and tap your fingers on his

- inflated cheek.
 - ⇒ Ask the patient to whistle.
 - ⇒ Check the (platysma) by asking the patient to clench teeth.
 - ⇒ Facial Nerve nucleus that controls the muscle of the upper part of face receives corticobulbar fibres from both cerebral cortices.
- 2nd Part Question (4)

* Pharynx :-

- ⇒ The pharynx is the muscular tubular passage of the vertebrate digestive and respiratory tracts extending from the back of the nasal cavity and mouth to the esophagus.
- ⇒ They are the body cavity.
- ⇒ They connect the nasal and oral cavities with the larynx and esophagus.
- ⇒ Commonly referred to as the throat.

* Shape :- The pharynx is funnel shaped.

- ⇒ They are the five-inch long tube.
- ⇒ They are near the nose and ends at our wind pipe.

* Parts :-

- ⇒ Nasopharynx → ^{Nasal pharynx} upper part of the pharynx.
- ⇒ Oropharynx → ^{oral pharynx} middle part of the pharynx.
- ⇒ Laryngopharynx → is where both food and air pass.
- ⇒ They are the voice box.