

## Saira Hassan – 15315

(INU)

Answer No:01

### Structure of Eye

The eye contains the following structure: -

- 1) 3 Media
- 2) 3 Layers
- 3) Muscles

Layers: -

- i. External Fibrous Coat
- ii. Middle Vascular Coat
- iii. Inner Nervous Coat

Media:-

- i. Aqueous Humor
- ii. Viterous Body
- iii. Lens

### Layers

1) Fibrous Coat:-

- It contains the opaque **Sclera** and the transparent **Cornea**.

Sclera:-

- Dense fibrous tissue.
- White in color.
- Pierced by **Optic Nerve** posteriorly.
- Contains the **Lamina Cribrosa**.
- Continuous with **Cornea** through **Corneoscleral Junction** or **Limbus**.

**Cornea:-**

- Transparent part of the eye.
- Nourished by Diffusion from the outer sides.
- Devoid of Lymphatic drainage.
- Long Ciliary Nerves from Ophthalmic Division of Trigeminal Nerve supply to this part.

2) **Vascular Pigmented Coat:-**

- Contains the **Choroid, Ciliary Body** and **Iris**.

**Choroid:-**

- Contains the outer pigmented layer and Inner highly Vascular Layer.

**Ciliary Body:-**

- It lies behind the peripheral margin of the **Iris**.
- Contains the **Ciliary Ring** and **Ciliary Muscle**.

**Iris and Pupil:-**

- Iris is a thin contractile, pigmented structure.
- Present in between the **Cornea** and **Lens** in the **Aqueous Humor**.
- Divides the space into the **Anterior** and **Posterior Chambers**.
- Muscle Fibers are involuntary.
- Having **Circular** and **Radial Fibers**.

3) **Nervous Coat:-**

- The inner Nervous Coat of the eye is the **Retina**.
- Contains **outer pigmented** and **inner nervous layer**.
- Having **Ora Serrata**.
- Have a yellowish area called **Macula Lutea**.
- The central depression is called **Fovea Centralis**.
- Contains Central artery of the Retina.
- **Optic Disc** is also present in this layer.

## **Media**

- 1) **Aqueous Humor**:-
  - Fills the anterior and posterior chambers of the eye.
  - Having **Canal of Schlemm** for it's drainage.
  
- 2) **Vitrous Body**:-
  - It is a transparent gel that fills the eyeball behind the lens.
  - Having **Hyaloid Canal**.
  
- 3) **Lens**:-
  - Transparent, Biconvex structure enclosed in a capsule.
  - **Cuboidal epithelium** lines the anterior surface of the lens.

## **Muscles**

- There are 6 muscles attached to the eye helping in it's movement.
  - i. Superior Rectus Muscle
  - ii. Inferior Rectus Muscle
  - iii. Medial Rectus Muscle
  - iv. Lateral Rectus Muscle
  - v. Superior Oblique Muscle
  - vi. Inferior Oblique Muscle

### **Foramena in the base of the Skull**

i. **Anterior Cranial Fossa:-**

- Perforations in the **Cribriform Plate.**

ii. **Middle Cranial Fossa:-**

- Optic Canal
- Superior Orbital Fissure
- Foramen Rotundum
- Foramen Ovale
- Foramen Spinosum
- Carotid Canal
- Foramen Lacerum

iii. **Posterior Cranial Fossa:-**

- Foramen Magnum
- Hypoglossal Canal
- Jugular Foramen
- Internal acoustic Meatus

### **Answer No: - 02**

### **Muscles of the Medial Fascial Compartment of the Thigh:-**

<b><i>Muscle Names</i></b>	<b><i>Origin</i></b>	<b><i>Insertion</i></b>
Gracilis	Inferior ramus of pubis	Upper part of shaft of tibia on medial surface
Adductor Longus	Body of Pubis	Linea Aspera
Adductor Brevis	Inferior ramus of pubis	Linea Aspera
Adductor Magnus	Inf. Ramus of pubis, ischium and ischial Tuberosity	Post. Surface of shaft of femur, adductor tubercle of femur
Obturator externus	Outer surface of obturator membrane and pubic and ischial rami	Medial surface of greater trochanter

**Answer No: - 03****External Laryngeal Nerve Injury:-**

- When the nerve is injured or damaged it results in the paralysis of the cricothyroid muscle and anesthesia of the areas above the vocal folds.
- The injury mostly takes place during thyroidectomy.

**Testing the integrity of the Facial Nerve:-**

- The facial nerve supplies motor branches to the muscles of the facial expressions.
- To test the integrity of the nerve the patient should be asked to **Crease Up** their forehead, close their eyes and keep close against resistance, puff out their cheeks and reveal their teeth.

**Answer No: - 04****Sutures of the Skull: -**

- The skull is composed of several separate bones combined at immobile joints called **Sutures**.
- There are the following types of **Sutures** in the Skull:-
  - i) Coronal Suture → between **Frontal** and **Parietal** bones.
  - ii) Sagittal Suture → between **Parietal** bones.
  - iii) Lambdoid Suture → between **Occipital** and **Parietal** bones.

**Trigeminal Nerve:-**

- It is the 5<sup>th</sup> cranial nerve arising from the anterior side of the Pons.
- Having a small motor and large sensory root.

- It goes through the posterior cranial fossa to reach the petrous part of the **Temporal Bone** in the middle cranial fossa.
- Here the large sensory root expands to form **Trigeminal Ganglion**.
- The ganglion gives rise to the following 3 branches:-
  - i) Ophthalmic Division → **V1**
  - ii) Maxillary Division → **V2**
  - iii) Mandibular Division → **V3**

### **Ophthalmic Division:-**

- Pure sensory branch.
- Runs in the lateral wall of the **Cavernous Sinus**.
- Having 3 branches i.e. **Lacrimal, Frontal and Nasociliary Nerve**.

### **Maxillary Division:-**

- Purely sensory.
- Goes forward in the **Cavernous Sinus**.
- Leaves the skull through the **Foramen Rotundum**.

Gives the following branches i.e.

- **Meningeal Branch**
- **Zygomatic Branch**
- **Infraorbital Nerve** → Middle Sup. Alveolar Branch + Ant. Sup. Alveolar Branch
- **Ganglionic Branches**
- **Posterior Superior Alveolar Nerve**

### **Mandibular Division:-**

- Mix nerve i.e. both motor and sensory.
- Leaves the skull through **Foramen Rotundum**.

**Branches:-****i) Main Trunk Branches**

- Meningeal Branch (spinous nerve).
- Nerve to the Medial pterygoid muscle.

**ii) Anterior Division Branches**

- Meseteric Nerve.
- Deep Temporal Nerves.
- Buccal Nerve.

**iii) Posterior Division Branches**

- Auriculotemporal Nerve.
- Lingual Nerve.
- Inferior Alveolar Nerve.
- Communicating Branch.

**Answer No: - 05****Spinal Cord:-**

- It is the elongated and cylindrical part of the CNS.
- It is the extension of the Medulla Oblongata.
- Whole of the spinal cord is enclosed in the vertebral column.
- Begins above the Foramen Magnum and passes out through this foramen and extends downward.

**Position:-**

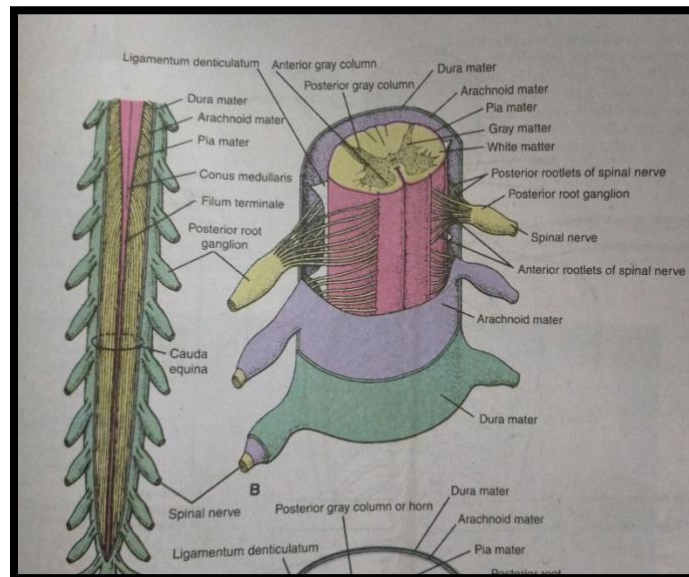
- Present in the back in vertebral column.
- In the very middle of the body.
- Extends from Medulla Oblongata to the 1<sup>st</sup> Lumbar Vertebra.

- Nerves go out on both sides of the spinal cord, known as Spinal nerves.

### **Structure of Spinal Cord:-**

- Having **Meninges** i.e. The **Dura Matter**, **Arachnoid Matter** and **Pia Matter**.
- Having **Gray Matter** and **White Matter**.
- Having two Routes i.e. the **Anterior Horn** and **Posterior Horn**.
- Subarachnoid space is filled with **CSF**.

Diagram is as follow:-



## **Pharynx**

### **Def:-**

=>” It is a funnel shaped organ in the human and major part of the respiratory and digestive system”.

- Situated behind the nasal cavities, the mouth and wider part lies under the base of the skull.
- Lower narrow end is continuous with the esophagus, opposite the 6<sup>th</sup> cervical vertebra.



- It has a musculomembranous wall which is deficient anteriorly, and here replaced by **Chonae**.
- Also continuous with the tympanic cavity via the auditory tube.
- Having 3 parts i.e.
  - i) **Nasopharynx**:-
    - Lies above the soft palate and behind the nasal cavities.
    - Pharyngeal tonsil, sits in the mucosa of the roof.
    - Pharyngeal Isthmus is also present.
  - ii) **Oropharynx**:-
    - Lies behind the oral cavity.
    - Palatine tonsil is present in this part.
  - iii) **Laryngopharynx**:-
    - Lies behind the opening into the larynx.
    - Piriformis fossa is present on each side of the laryngeal inlet.

### **Pharyngeal Constrictors**

- The pharyngeal constrictor muscles are as follow:-
  - i) Superior Constrictor.
  - ii) Middle Constrictor.
  - iii) Inferior Constrictor.
  - iv) Stylopharyngeus.

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