



# SHIKSHA CLASSES

Subject : Biology  
Class : XII

Ch.: 9. Control and Co-ordination

Total Marks : 20

**Q.1 : Select & write the most appropriate answer from the given alternatives for each sub-question. [3]**

**i) The coiled portion of the labyrinth is .....**

**Ans :** d) Cochlea

**ii) Find odd one**

**Wall of the eyeball is made up of 3 layers**

**Ans :** a) Iris

**iii) Olfactory lobe is a part of**

**Ans :** a) Forebrain

**Q.2 : A) Write the answer in ONE sentence: [6]**

**1) What is adenohypophysis.**

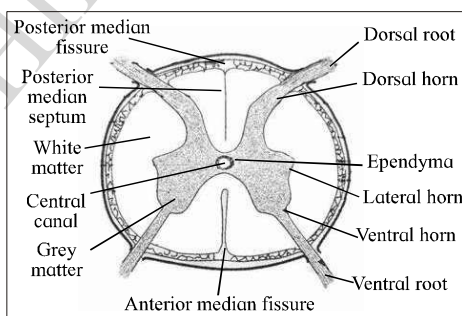
**Ans :** Adenohypophysis is the larger lobe of pituitary gland.

**2) Define synapse.**

**Ans :** Synapse is a junction between two nerve cells with a minute gap (synaptic cleft) in between them which allows transmission of impulse by a neurotransmitter bridge.

**B) Draw a well labeled diagram of T.S. of spinal cord.**

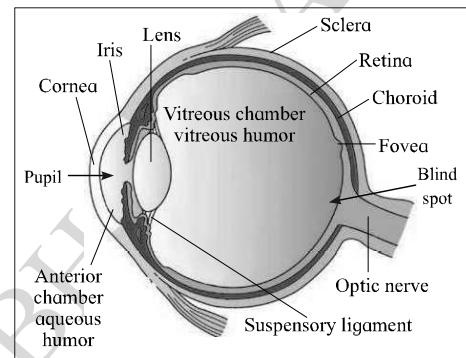
**Ans :**



T. S. of spinal cord

**C) Draw well labelled diagram of eye.**

**Ans :**



Eye

**Q.3 : A) Attempt any ONE of the following : [6]**

**1) Explain endocrine cells of pancreas.**

**Ans :** Endocrine cells of pancreas form groups of cells called Islets of Langerhans. There are four kinds of cells in islets of Langerhans which secrete hormones.

**i) Alpha ( $\alpha$ ) cells (20%) secrete glucagon.** It stimulates liver for glucogenolysis to increase blood glucose level.

**ii) Beta ( $\beta$ ) cells (70%) secrete insulin.** It stimulates liver and muscles for glycogenesis. This lowers blood glucose level.

**iii) Delta ( $\delta$ ) cell (5%) secrete somatostatin** which inhibits the secretion of glucagon and insulin. It also decreases the gastric secretions, motility and absorption in digestive tract.

**iv) PP cells or F cells (5%) secrete pancreatic polypeptide (PP).** It inhibits the release of pancreatic juice.

**2) Write functions of spinal cord.**

**Ans : Functions of spinal cord :**

**i) The spinal cord is the main centre for the most reflex actions.**

- ii) It provides pathway for conduction of sensory and motor impulses to and from the brain.
- iii) It provides nervous connection to many parts of the body.

**B) Write about : a) Dura mater**

**b) Arachnoid mater c) Pia mater.**

**Ans :** **Dura mater :** It is the outermost tough, non vascular, thick and fibrous meninx and is attached to the inner side of the cranium.

**Arachnoid mater :** It is the middle, thin and non vascular layer of connective tissue having web like appearance.

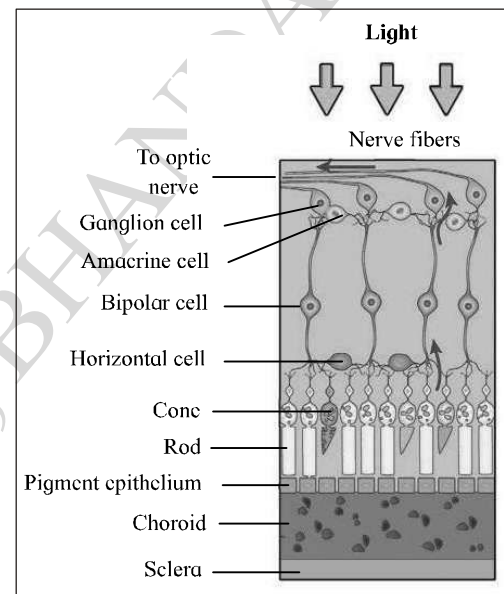
**Pia mater :** It is the innermost delicate, highly vascular membrane lies in close contact with the CNS.

**Q. 4. Explain the structure of retina. [5]**

**Ans :** i) **Retina :** It is the innermost, delicate, non vascular light sensitive layer.

- ii) It has 2 regions
  - a) single layer of pigmented non sensory part lining the iris and ciliary body
  - b) sensory part lining the choroid.
- iii) It has an outer pigmented part and an inner nervous part.
- iv) The inner nervous part is transparent and made of 3 layers
  - a) outer photosensitive layer made of rod and cone cells.
  - b) middle layer of bipolar nerve cells
  - c) inner layer of ganglion cells.
- v) The nerve fibres from the basal end of the ganglion cells collectively form the optic nerve.
- vi) Blind spot is an area diagonally opposite to the lens.
- vii) There are no rod and cone cells in blind spot.
- viii) Lateral to blind spot is macula lutea.
- ix) At its centre is fovea centre.

- x) At fovea centralis sharpest vision is formed.
- xi) The rod and cone cells lie deep in the retina.
- xii) Light has to pass through the ganglion and bipolar cells before reaching rod & cone.
- xiii) The optic nerve consists of the fibre arising from the base of ganglion cells.
- xiv) Optic nerve carries visual impulses from retina to brain.

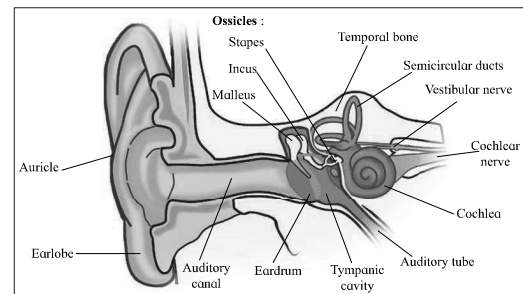


**Structure of retina**

**OR**

**Explain the structure of human ear**

**Ans :** **Structure of human ear :**



**Structure of human ear**

- 1) External ear
- 2) Middle ear
- 3) Inner ear

**A) External ear :** i) It consists of ear pinna, auditory canal and tympanic membrane.

- ii) In humans, pinna is an immovable
- iii) It leads into an auditory canal.
- iv) Pinna collects and sends the sound waves into auditory canal.
- v) Auditory canal ends at the ear drum.
- vi) Tympanic membrane is a delicate, membranous structure. It transmits sound waves to middle ear.

**B) Middle ear :**

- i) Middle ear consists of chain of three ear ossicles called Malleus, Incus and Stapes.
- ii) Ossicles transfer vibrations to cochlea.
- iii) A short eustachian tube connects the middle ear to the pharynx.

**C) Internal ear :**

- i) Consists of the labyrinth and vestibular apparatus.
- ii) Labyrinth consists of bony labyrinth and membranous labyrinth.
- iii) The coiled portion of labyrinth is called cochlea.
- iv) Cochlea contains fluid filled three chambers
  - a) scala vestibul (upper chamber)
  - b) scala tympani (bottom chamber)
  - c) scala media (middle chamber)
- v) A pea sized structure called organ of corti is at the floor of scala media.

\* \* \*

# BECOME AN ACE IN JEE & NEET



**SHIKSHA CLASSES**  
Believe & Achieve

**JEE | NEET | Previsa (8-10)**

📞 8625055707 | 8623085707    🌐 [shikshaclasses.co.in](http://shikshaclasses.co.in)

M-19, MHADA Colony, Khat Road, Bhandara



Learn with Jaiswal sir