DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 2

Topic :- Neural Control & Coordination

1 **(a)**

In a resting nerve fibre, sodium ions predominates in the extracellular fluid, whereas potassium ions predominates in the intracellular fluid. The plasma membrane is electrically positive outside and negative inside. This difference is called potential difference. In neurons, the average resting membrane potential value is -70 mV. During depolarisation, the potential inside the membrane change from -70 mV to +30 mV. Resting potential is generally between -70 mV to -90 mV.

2 **(c)**

Iris.

Choroid infront from ciliary body, which is thick round and referred. It is hidden by iris (coloured membrane)

3 **(b)**

Point 'C' in the figure represents the stage where all Na^+ channels are reactivated but closed and all K^+ channels are closed.

4 **(b)**

Cornea.

Human eye ball is enveloped by three layers, *i.e.,* sclerotic layer, choroid layer and retinal layer outermost sclerotic layer is white portion of eye which mergas with transparent round window called cornea in center. Middle choroid layer lie close to retina and contain light absorbing pigments. In front it form celeary body, which is hidden by iris. Retinal, the innermost thin transparent appear purplish due to presence of eye pigment-rhodopsin

5 **(c)**

Middle meninx is arachnoid membrane.

6 **(c)**

Schwann cells are associated with nervous tissue.

7 **(a)**

Reflexes are classified as the spinal reflexes and the cranial reflexes. The former are so called because their basic neural path leads through spinal nerves and spinal cord. Reflexes at the spinal level have the purpose of removing the animal from harmful stimuli.

8 **(a)**

Skin outside and with mucus membrane inside.

The pinna collects the vibrations in the air, which produce sound. The external auditory meatus leads inwards and extends upto the tympanic membrane (the ear drum). There are very fine hairs and wax secreting sebaceous glands in the skin of pinna and meatus. The tympanic membrane is composed of connective tissues covered with skin outside and with mucus membrane inside

9 **(a)**

Optic nerve leave the eye and retinal blood vessel enter it.

The optic nerves leave the eye and the retinal blood vessels enter it at a point medial to and slightly above the posterior pole of the eyeball. Photoreceptor cells are not present in that region and hence it is called **blind spot.** At the posterior pole of the eye, lateral to the blind spot there is a yellowish pigmented spot called macula lutea with a central pit called the **fovea.** The fovea is a thinned-out portion of the retina where only the cones are densely packed. It is the point where the visual acuity (resolution) is the greatest

10 **(c)**

The wax gland present in the ear canal is called ceruminous gland. The ceruminous gland is present in the skin of pinna and meatus. Ceruminous gland secretes a brownish, semisolid, fatty substance which lubricates and protect the lining of meatus

11 **(d)**

Yellow spot or macula lutea is found in eye of rabbit and other mammels but not in frog.

12 **(b)**

To increases the efficiency of transmission of sound waves to the inner ear.

The middle ear contains three ossicles called malleus, incus and stapes, which are attached to one another in a chain-like fashion. The malleus is attached to the tympanic membrane and the stapes is attached to the oval window of the cochlea. The ear ossicles increase the efficiency of transmission of sound waves to the inner ear. An **Eustachian tube** connects the middle ear cavity with the pharynx. The Eustachian tube helps in equalizing the pressures on either sides of the eardrum

13 **(a)**

A-Dendrites, B-Cell body, C-Axon, D-Nodes of Ranvier, E-Synaptic knob. A neuron is a microscope structure composed of three major parts, *i.e.,* cell body, dendrites and axon. The cell body contains cytoplasm with typical cell organelles and certain granular bodies called **Nissl's gransules**

Short fibres which branch repeatedly and project out of the cell body also contain Nissl's granules and are called dendrites. These fibres transmit impulses towards the cell body. The axon is a long fibres, the distal end of which is branched.

Each branch terminates as a bulb-like structure called synaptic knob which possess synaptic vesicles containing chemicals called neurotransmitters. The axons transmit nerve impulses away from the cell body to a synapse or to a neuro-muscular junction

14 **(d)**

The external layer of eyeball is composed of dense connective tissue. This dense connective tissue layer is called sclera, which is protective in nature

15 **(a)**

Hypothalamus is the part of the sides and floor of the brain derived from the forebrain. It lies at the base of thalamus. The hypothalamus contains a number of centres, which control body temperature, urge for eating and drinking. It also contains several groups of neurosecretory cells, which secrete hormones called, hypothalamic hormones.

16 **(a)**

Involuntary activities of the body are controlled by autonomic nervous system

17 **(b)**

Diencephalon encloses the cavity called diocoel or third ventricle.

18 **(b)**

Hyperopia (hypermetropia) is corrected with a converging lens. It relaxes when the eye focuses on a distant object. The main refractive element of the eye is the cornea, the lens is the focusing element. When the eye is focused on a near object the ciliary muscle contracts.

19 **(b)**

Hypothalamus is the main coordinating and control centre for autonomic nervous system. It is centre of thermoregulation, appetite, thirst, hunger and satisfaction.

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**A**	**C**	**B**	**B**	**C**	**C**	**A**	**A**	**A**	**C**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**D**	**B**	**A**	**D**	**A**	**A**	**B**	**B**	**B**	**B**