Chapter 21

Neural Control and Coordination

MULTIPLE CHOICE QUESTIONS

1. Chemicals which are released at the synaptic junction are called
   a. Hormones
   b. Neurotransmitters
   c. Cerebrospinal fluid
   d. Lymph

2. Potential difference across resting membrane is negatively charged. This is due to differential distribution of the following ions
   a. Na^{+} and K^{+} ions
   b. CO^{3++} and Cl^{-} ions
   c. Ca^{++} and Mg^{++} ions
   d. Ca^{+4} and Cl^{-} ions

3. Resting membrane potential is maintained by
   a. Hormones
   b. Neurotransmitters
   c. Ion pumps
   d. None of the above

4. The function of our visceral organs is controlled by
   a. Sympathetic and somatic neural system
   b. Sympathetic and para sympathetic neural system
   c. Central and somatic nervous system
   d. None of the above

5. Which of the following is not involved in Knee-jerk reflex?
   a. Muscle spindle
   b. Motor neuron
   c. Brain
   d. Inter neurons

6. An area in the brain which is associated with strong emotions is
   a. Cerebral cortex
   b. Cerebellum
   c. Limbic system
   d. Medulla

7. Mark the vitamin present in Rhodopsin
   a. Vit A
   b. Vit B
   c. Vit C
   d. Vit D

8. Human eyeball consists of three layers and it encloses
   a. Lens, iris, optic nerve
   b. Lens, aquous humor and vitreous humor
   c. Cornea, lens, iris
   d. Cornea, lens, optic nerve

9. Wax gland present in the ear canal is called
   a. Sweat gland
   b. Prostate gland
   c. Cowper's gland
   d. Sebaceous gland/ ceruminous gland

10. The part of internal ear responsible for hearing is
    a. Cochlea
    b. Semicircular canal
    c. Utriculus
    d. Sacculus

11. The organ of corti is a structure present in
    a. External ear
    b. Middle ear
    c. Semi circular canal
    d. Cochlea

VERY SHORT ANSWER TYPE QUESTIONS

1. Rearrange the following in the correct order of involvement in electrical impulse movement-

   Synaptic knob, dendrites, cell body, Axon terminal, Axon

2. Comment upon the role of ear in maintaining the balance of the body and posture.

3. Which cells of the retina enable us to see coloured objects around us?

4. Arrange the following in the order of reception and transmission of sound wave from the ear drum:

   Cochlear nerve, external auditory canal, ear drum, stapes, incus, malleus, cochlea.

5. During resting potential, the axonal membrane is polarised, indicate the movement of +ve and –ve ions leading to polarisation diagrammatically.

6. Name the structures involved in the protection of the brain.

7. Our reaction like aggressive behaviour, use of abusive words, restlessness etc. are regulated by brain, name the parts involved.

8. What do grey and white matter in the brain represent?

9. Where is the hunger centre located in human brain?

10. Which sensory organ is involved in vertigo (sensation of oneself or objects spinning around)?

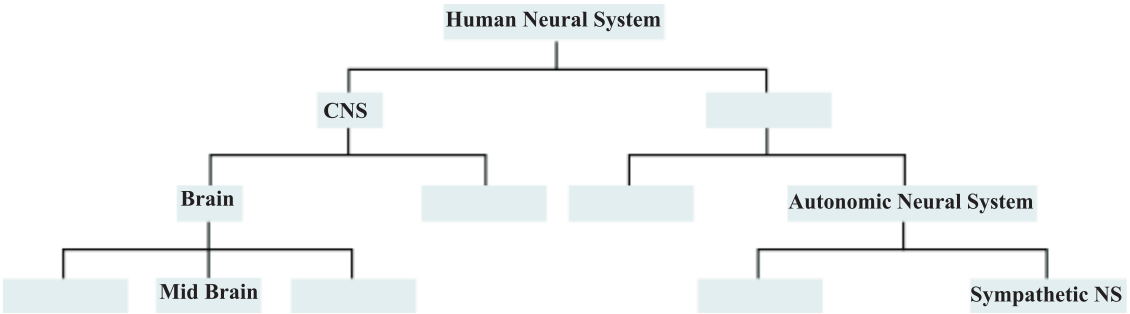
11. While travelling at a higher altitude, a person complains of dizziness and vomiting sensation. Which part of the inner ear is disturbed during the journey?

12. Complete the statement by choosing appropriate match among the following -

a.	Resting potential	i.	chemicals involved in the transmission of impulses at synapses.
b.	Nerve impulse	ii.	gap between the pre synaptic and post synaptic neurons
c.	Synaptic cleft	iii.	electrical potential difference across the resting neural membrane
d.	Neurotransmitters	iv.	an electrical wave like response of a neuron to a stimulation.

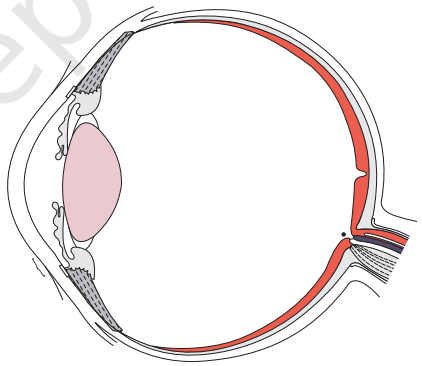
SHORT ANSWER TYPE QUESTIONS

1. The major parts of the human neural system is depicted below. Fill in the empty boxes with appropriate words.



2. What is the difference between electrical transmission and chemical transmission?
3. Neural system and computers share certain common features. Comment in five lines. (Hint: CPU, input-output devices).
4. If someone receives a blow on the back of neck, what would be the effect on the person's CNS?
5. What is the function ascribed to Eustachian tube?
6. Label the following parts in the given diagram using arrow.

a. Aqueous chamber
b. Cornea
c. Lens
d. Retina
e. Vitreous chamber
f. Blind spot



LONG ANSWER TYPE QUESTIONS

1. Explain the process of the transport and release of a neurotransmitter with the help of a labelled diagram showing a complete neuron, axon terminal and synapse.
2. Name the parts of human forebrain indicating their respective functions.
3. Explain the structure of middle and internal ear with the help of diagram.