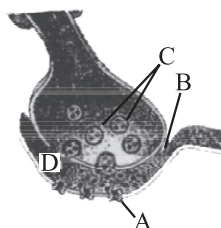


## Neural System, Human Neural System and Neuron

- Select the incorrect statement regarding synapses: (2022)
  - Impulse transmission across a chemical synapse is always faster than that across an electrical synapse.
  - The membranes of presynaptic and postsynaptic neurons are in close proximity in an electrical synapse.
  - Electrical current can flow directly from one neuron into the other across the electrical synapse.
  - Chemical synapses use neurotransmitters
- Nissl bodies are mainly composed of: (2018)
  - Proteins and lipids
  - DNA and RNA
  - Nucleic acids and SER
  - Free ribosomes and RER
- Myelin sheath is produced by: [OS] (2017-Delhi)
  - Schwann Cells and Oligodendrocytes
  - Astrocytes and Schwann Cells
  - Oligodendrocytes and Osteoclasts
  - Osteoclasts and Astrocytes
- Receptor sites for neurotransmitters are present on: (2017-Delhi)
  - Membranes of synaptic vesicles
  - Pre-synaptic membrane
  - Tips of axons
  - Post-synaptic membrane
- A diagram showing axon terminal and synapse is given. Identify correctly at least two of A-D (2013)



- C-Neurotransmitter; D- $\text{Ca}^{++}$
- A-Receptor; C-Synaptic vesicles
- B-Synaptic connection; D- $\text{K}^{+}$
- A-Neurotransmitter; B-Synaptic cleft

## Central Nervous System and Reflex Action

- Which part of the brain is responsible for thermoregulation? (2019)
  - Cerebrum
  - Hypothalamus
  - Corpus callosum
  - Medulla oblongata
- Which of the following structures or regions is incorrectly paired with its function? (2018)
  - Medulla oblongata : controls respiration and cardiovascular reflexes.
  - Limbic system : consists of fibre tracts that interconnect different regions of brain; controls movement.
  - Hypothalamus : production of releasing hormones and regulation of temperature, hunger and thirst.
  - Corpus callosum : band of fibres connecting left and right cerebral hemispheres.
- Which of the following regions of the brain is incorrectly paired with its function? (2015)
  - Corpus callosum-Communication between the left and right cerebral cortices
  - Cerebrum-Calculation and contemplation
  - Medulla oblongata-Homeostatic control
  - Cerebellum-Language comprehension
- Injury localised to the hypothalamus would most likely disrupt: (2014)
  - Regulation of body temperature
  - Short term memory
  - Co-ordination during locomotion
  - Executive function, such as decision making

## Reflex Action and Reflex Arc

- Destruction of the anterior horn cell of the spinal cord would result in loss of: [RC] (2015 Re)
  - Voluntary motor impulses
  - Commissural impulses
  - Integrating impulses
  - Sensory impulses

## Sensory Organs

11. The Pacinian corpuscle responds to rapid changes in:  
[RC] (2017-Gujarat)

a. Light intensity      b. Gravity  
c. Pressure              d. Temperature

## Eye

12. Match the following columns and select the correct option:  
[RC] (2020-Covid)

Column-I	Column-II
1. Rods and Cones	(i) Absence of photoreceptor cells
2. Blind Spot	(ii) Cones are densely packed
3. Fovea	(iii) Photoreceptor cells
4. Iris	(iv) Visible coloured portion of the eye

(1)      (2)      (3)      (4)

a. (ii)      (iii)      (i)      (iv)  
b. (iii)      (iv)      (ii)      (i)  
c. (ii)      (iv)      (iii)      (i)  
d. (iii)      (i)      (ii)      (iv)

13. Which of the following statements is correct? [RC] (2019)

a. Cornea is an external, transparent and protective proteinaceous covering of the eye-ball.  
b. Cornea consists of dense connective tissue of elastin and can repair itself.  
c. Cornea is convex, transparent layer which is highly vascularised.  
d. Cornea consists of dense matrix of collagen and is the most sensitive portion the eye.

14. The transparent lens in the human eye is held in its place by:  
[RC] (2018)

a. Ligaments attached to the ciliary body  
b. Ligaments attached to the iris  
c. Smooth muscles attached to the iris  
d. Smooth muscles attached to the ciliary body

15. Good vision depends on adequate intake of carotene rich food  
[RC] (2017-Delhi)

Select the best option from the following statements

A. Vitamin A derivatives are formed from carotene  
B. The photopigments are embedded in the membrane discs of the inner segment  
C. Retinal is a derivative of vitamin A  
D. Retinal is a light absorbing part of all the visual photopigments

a. (A) & (B)              b. (A), (C) & (D)  
c. (A) & (C)              d. (B), (C) & (D)

16. Choose the correct statement. [RC] (2016 - II)

a. Photoreceptors in the human eye are depolarised during darkness and become hyperpolarised in response to the light stimulus.  
b. Receptors do not produce graded potentials.  
c. Nociceptors respond to changes in pressure.  
d. Meissner's corpuscles are thermoreceptors.

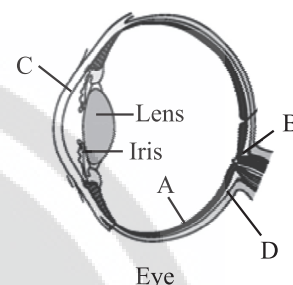
17. Photosensitive compound in human eye is made up of:  
[RC] (2016 - I)

a. Guanosine and Retinol      b. Opsin and Retinal  
c. Opsin and Retinol              d. Transducin and Retinone

18. In mammalian eye, the 'fovea' is the centre of the visual field, where:  
[RC] (2015 Re)

a. The optic nerve leaves the eye.  
b. Only rods are present.  
c. More rods than cones are found.  
d. High density of cones occurs, but has no rods

19. Parts A, B, C and D of the human eye are shown in the diagram. Select the option which gives correct identification along with its functions/ characteristics:  
[RC] (2013)



a. D: Choroid – Its anterior part forms ciliary body  
b. A: Retina – Contains photo receptors – rods and cones  
c. B: Blind spot – Has only a few rods and cones  
d. C: Aqueous chamber – Reflects the light which does not pass through the lens

## Ear

20. Match the following columns and select the correct option  
[RC] (2020)

Column-I	Column-II
1. Organ of corti	(i) Connects middle ear and pharynx
2. Cochlea	(ii) Coiled part of the labyrinth
3. Eustachian tube	(iii) Attached to the oval window
4. Stapes	(iv) Located on the basilar membrane

(1)      (2)      (3)      (4)

a. (iii)      (i)      (iv)      (ii)  
b. (iv)      (ii)      (i)      (iii)  
c. (i)      (ii)      (iv)      (iii)  
d. (ii)      (iii)      (i)      (iv)

21. Which of the following ossicles is adhered to tympanic membrane of middle ear?  
[RC] (2017-Gujarat)

a. Malleus                      b. Incus  
c. Stapes                      d. Utricle

22. A gymnast is able to balance his body upside down even in the total darkness because of:  
[RC] (2015)

a. Tectorial membrane      b. Organ of Corti  
c. Cochlea                      d. Vestibular apparatus

Answer Key

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
a	d	a	d	b	b	b	d	a	a	c	d	d	a	b	a	b
18	19	20	21	22												
d	b	b	a	d												

