BIOLOGY

BOOKS - NEET PREVIOUS YEAR (YEARWISE + CHAPTERWISE)

NEURAL CONTROL AND COORDINATION

Exercise

1. Receptor sites for neuotransmitters are presents on

A. membrances of synaptic vesicies

B. per-synaptic membrane

C. tips of axons

D. post-synaptic membrane

Answer: D

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2. Myelin sheath is produced by

or

Mylin of the nerve fibres of the central nervous system is produced and maintained by

A. Schwann cells and oligodendrocytes

B. Astrocytes and schwann cells

C. Oligodendrocytes and Osteoclasts

D. Osteoclasts and Astrocytes

Answer: A

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3. Photosensitive compound in human eye is made up of

A. Opsin and retinal

B. Opsin and retinol

C. transducin and retinene

D. guanosine and retinol

Answer: A

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4. Choose the correct statement

A. Nociceptors respond to changes in pressure

B. Meissner's corpuscles are thermoreceptors

C. Photoreceptors in the human eye are depolarised during darkness and become hyperpolarised in response to the light stimulus

D. Receptors do not produce graded potentials

Answer: C

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5. Destruction of the anterior horn cell of the spinal cord would result in loss of

A. Sensory impulses

B. Voluntary motor impulses

C. Commissural impulses

D. integrating impulses

Answer: B

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6. In mammalian eye, the 'fovea' is the centre of the visual field, where

A. high density of cones occur, but has no rods

B. the optic nerve leaves the eye

C. only rods are present

D. more rods than cones are found

Answer: A

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7. How do parasympathertic neural signals affect the working the heart

A. Reduce both heart rate and cardiac output

B. Heart rate is increased without affecting the cardiac output

C. Both heart rate and cardiac output increase

D. Heart rate decreases but cardiac output increases

Answer: A

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8. Stimulation of muscle fibre by a motor neuron occurs at

A. the neuromuscular junction

B. the transverse tubules

C. the myofibril

D. the sarcoplasmic reticulum

Answer: A

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9. Which one of the following statements is not correct ?

A. Retinal is the light absorbing portion of visual photopigments

B. In retinal the rods have the photopigment rhodopsin, while cones have three different photopigments

C. Retinal is a derivative of vitamin-C

D. Rhodopsin is the purplish red protein present in rods only

Answer: C

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10. Injury localized to the hypothalamus would mostly likely disrupt

A. Short term memory

B. Co-ordination during locomotion

C. executive function, such as decision making

D. regulation of body temperature

Answer: D

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11. A diagram showing axon terminal and synapse is given. Identify correctly at least two of A-D

A. A-Receptor, C-Synaptic vesicles

B. B-Synaptic connection, D-K^+

C. A-Neurotransmitter, B-Synaptic cleft

D. C-Neurotransmitter, $D - Ca^{2+}$

Answer: A

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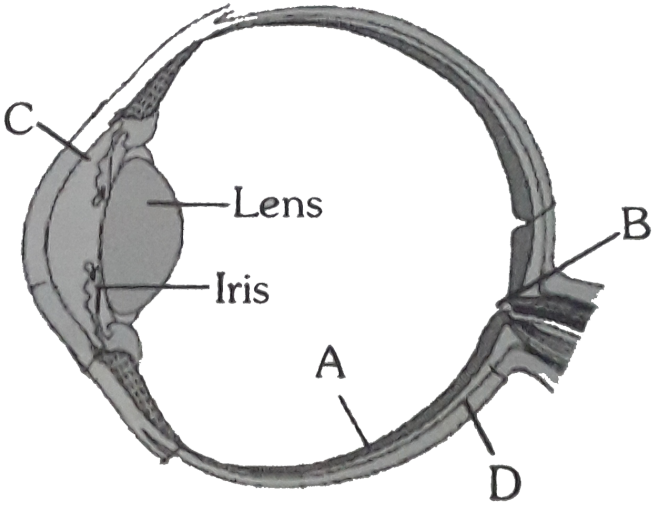
12. Parts A,B,C and D of the human eye are shown in the diagram. Select the option which gives correct identification along with its

fuctions/characteristics



A. A-Retina-contains photoreceptors-rods and cones

B. B-Blind spot-has only a few rods and cones

C. C-Aqueous chamber-reflects the light, which does not pass through the lens

D. D-Choroidits anterior part forms ciliary body

Answer: A

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13. The human hindbrain comprises three parts, one of which is

A. Spinal cord

B. corpus callosum

C. cerebellum

D. hypothalamus

Answer: C

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14. Which part of the human ear plays no role in hearing as such but is otherwise very much required

or

Which of the following is balancing organ

A. Eustachian tube

B. Organ of corti

C. Vestibular apparatus

D. Ear ossicles

Answer: C

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15. The purplish red pigment rhodopsin contained in the rods type of photoreceptor cells of the human eye, is a derivative of

A. Vitamin-C

B. Vitamin-D

C. Vitamin-A

D. Vitamin-B1

Answer: C

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16. When a neuron is in resting state i.e. not conducting any impluses, the axonal membrane is

A. equally permeable to both Na^+ and K^+ ions

B. impermeable to both Na^+ and K^+ ions

C. comparatively more permeable to K^+ ions and nearly impermeable to NA^+ ions

D. comparatively more permeable to NA^+ ions and nearly impermeable to K^+ ions

Answer: C

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17. The nerve centers which control the body temperature and the urge for eating are contained in

A. hypothalamus

B. pons

C. cerebellum

D. thalamus

Answer: A

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18. Which part of human brain is concerned with the regulation of body temperature?

A. Medulla oblongata

B. Cerebellum

C. Cerebrum

D. hypothalamus

Answer: D

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19. Cornea transplant in humans is almost never rejected.This is because

A. its cells are least penetrable by bacteria

B. its has no blood supply

C. it is composed of enucleated cells

D. it is a non-living layer

Answer: B

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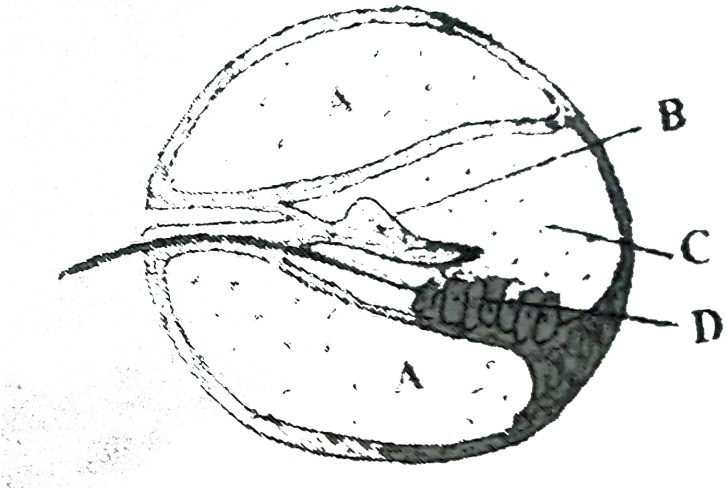
20. Given below is a diagrammatic cross section of a single loop of human cochlea



Which one of the following options correctly represents the names of three different parts

A. B-Tectorial membrane, C- Perilymph, D-Secretory cells

B. C-Endolymph, D-Sensory hair cells, A-Serum

C. D-Sensory hair cells, A-Endolymph, B-Tectorial membrane

D. A-Perilymph, B-Tectorial membrane, C-Endolymph

Answer: D

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21. Which one of the following is the correct difference between Rod Cells and cone cells of our retina

		Rod Cells	Cone Cells
(a)	Overall function	Vision in poor light	Colour vision and detailed vision in bright light
(b)	Distibution	More concentrated in centre of retina	Evenly distributed all Over retina
(c)	Visual acuity	High	Low
(d)	Visual pigment contained	Iodopsin	Rhodopsin

A.

	Rod cells	Cone cells
Visual acuity	High	Low

B.

	Rod cells	Cone cells
Visual pigment contained	Iodopsin	Rhodopsin

C.

	Rod cells	Cone cells
Overal function	Vision in poor light	Color vision and detailed visi

D.

	Rod cells	Cone cells
Distribution	More concentrated in centre of retina	Evenly distribu

Answer: A

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22. During the propagation of a nerve impulse, the action potential results from the movement of

A. K^+ ions from extracellular fluid to intracellular fluid

B. NA^+ ions from intracellular fluid to extracellular fluid

C. K^+ ions from intracellular fluid to extracellular fluid

D. NA^+ ions from extracellular fluid to intracellular fluid

Answer: A

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23. During the transmission of nerve impulse through a nerve fibre, the potential on the inner side of the plasma membrane has which type of electric charge ?

A. First negative, then positive and again back to negative

B. First positive, then negative and continue to be negative

C. First negative, then positive and continue to be positive

D. First positive, then negative and again back to positive

Answer: A

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24. Bowman's glands are located in the

A. proximal end of uriniferous tubules

B. anterior pituitary

C. female reproductive system of cockroach

D. olfactory epithelium of our nose

Answer: D

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25. Which one of the follwing pairs of structures distinguishes a nerve cell from other types of cell

A. Perikaryon and dendrites

B. Vacuoles and fibres

C. Flagellum and medullary sheath

D. Nucleus and mitochondria

Answer: A

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26. Which one of the following statements is correct?

A. Neurons regulate endocrine activity, but not vice versa

B. Endocrine glands regulate activity and nervous sstem regulates endocrine glands

C. Neither hormones control activity nor the neurons control endocrine activity

D. Endocrine glands regulate neural activity, but not vice versa

Answer: A

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27. Which one of the following does not act as a neutrotransmitter

A. Acetylcholine

B. Epinephrine

C. Norepinephrine

D. Cortisone

Answer: D

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28. In a man, abducens nerve is injured. Which one of the following functions will be affected ?

A. Movement of the eye ball

B. Swallowing

C. Movement of the tongue

D. Movement of the neck

Answer: A

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29. One of the example of the action of the autonomous nervous system is

A. Knee-jerk response

B. Pupillary reflex

C. Swallowing of food

D. Peristalsis of the intestine

Answer: D

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30. Parkinson's disease (Characterized by tremors and progressive rigidity of limbs) is cause by degeneration of brain neurons that are involved in movement control and make use of neurotransmitter

A. acetylcholine

B. norepinephrine

C. dopamine

D. GABA

Answer: C

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31. Four healthy people in their twenties got involved in injuries resulting in damage and death of few cells of the following. Which of the cells are least likely to be replaced by new cells

A. Osteocytes

B. Malpighian layer of the skin

C. Liver cells

D. Neurons

Answer: D

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32. Injury to vagus nerve in humans is not likely to affect

A. tongue movements

B. gastrointestinal movements

C. pancreatic secretion

D. cardiac movements

Answer: A

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33. In the resting state of the neutral membrane, diffusion due to concentration gradients, if allowed would drive.

A. K^+ into the cell

B. K^+ and NA^+ out of the cell

C. NA^+ into the cell

D. NA^+ out of the cell

Answer: C

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34. What used to be described as Nissl granules in a nerve cell are now identified as

A. ribosomes

B. mitochondria

C. cell metabolites

D. fat granules

Answer: A

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35. Which of the following statements is correct about node of Ranvier?

A. Axolemma is discontinuous

B. Myelin sheath is discontinuous

C. Both neurilemma and myelin sheath are discontinuous

D. Covered by myelin sheath

Answer: B

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36. In which animal nerve cell is present but brain is absent?

A. Sponge

B. Earthworm

C. Cockroach

D. Hydra

Answer: D

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37. What is the intensity of sound during normal conversation?

A. 10-20 dB

B. 30-60 dB

C. 70-90 dB

D. 120-150 dB

Answer: B

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38. A characteristic of human cornea is

A. it is secreted by conjunctiva and glandular tissue

B. it is lacrimal gland which secretes tears

C. blood circulation is absent in cornea

D. in old age it become hard and white layer deposits on it which causes the cataract

Answer: C

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39. When we move from dark to light, we fail to see for some time but soon the visibility become normal. It is

A. accommodation

B. adaptation

C. mutation

D. photoperiodism

Answer: B

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40. An action potential in the nerve fibre is produced when positive and negative charges on the outside and the inside of the axon membrane are reversed, because

A. more potassium ions enter the axon as compared to sodium ions leaving it

B. more sodium ions enter the axon as compared to potassium ions leaving it

C. all potassium ions leave the axon

D. all sodium ions enter the axon

Answer: B

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41. A person suffering from deficiency of visual pigment rhodopsin is advised to take

A. radish and potato

B. apple and grapes

C. carrot and ripe papaya

D. guava and ripe banana

Answer: C

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42. Which of the following cranial nerves has the highest number of branches ?

A. Facial nerve

B. Trigeminal

C. Vagus nerve

D. None of these

Answer: C

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43. Which of the following is regarded as a unit of nervous tissue?

A. Myelin sheath

B. Axons

C. Dendrites

D. Neurons

Answer: D

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44. The junction between the axon of one neuron and the dendrite of the next is called

A. junction point

B. a synapse

C. a joint

D. constant bridge

Answer: B

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45. The Nissl's granules of nerve cell are made up of

A. ribosomes

B. protein

C. DNA

D. RNA

Answer: C

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46. In the chemistry of vision in mammals, the photosensitive substance is called

A. sclerotin

B. retinal

C. rhodopsin

D. melanin

Answer: C

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47. In frog, 'fenestra ovalis' is

A. the opening in the auditory capsule which separates the middle ear from internal ear

B. the air-filled cavity of the middle ear

C. the communication between the pharynx and the tympanic cavity

D. the external opening of the tympanic cavity which is covered by tympanic membrane

Answer: A

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48. The roof of the cranium of frog is formed by

A. parasphenoid

B. alisphenoid

C. frontoparietal

D. orbitosphenoid

Answer: C

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49. Sympathetic neural system induces

A. heartbeat

B. secretion of digestive juices

C. secretion of saliva

D. All of the above

Answer: A

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50. Cornea transplantation is outstandingly successful because

A. cornea is easy to preserve

B. cornea is not linked up with blood vascular and immune systens

C. the technique involved is very simple

D. cornea is easily available

Answer: B

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51. In humans, visceral organs are innervated by

A. sympathetic nerves and are under conscious control

B. parasympathetic nerves and are under conscious control

C. Both (a) and (b)

D. both sympathetic and parasympathetic nerves but are not unter conscious control

Answer: D

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52. Sympathetic nerves in mammals develop from

A. sacral nerves

B. cervical nerves

C. thoraco-lumbar nerves

D. lll, Vll, lX and X cranial nerves

Answer: C

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53. Respiratory centre is situated in

A. cerebellum

B. medulla oblongata

C. hypothalamus

D. cerebrum

Answer: B

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54. Retina is most sensitive at

A. optic disc

B. periphery

C. macula lutea

D. fovea centralis

Answer: D

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55. Function of iris is to

A. move lens forward and backward

B. refract light rays

C. bring about movements of eyelids

D. alter the size of pupil

Answer: D

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56. CNS is mostly made of

A. motor neurons ans sensory neurons

B. sensory neurons and association neurons

C. association neurons

D. motor neurons and association neurons

Answer: C

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57. Light rays entering the eye is controlled by

A. pupil

B. iris

C. cornea

D. lens

Answer: A

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58. Ivan Pavlov performed experiments on

A. simple reflexes

B. conditioned reflexes

C. cardiac reflexes

D. origin of life

Answer: B

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59. Iris is part of

A. sclerotic

B. choroid/uvula

C. choroid and retina

D. sclerotic and choroid

Answer: C

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60. Vagus nerve is

A. X

B. lX

C. Vll

D. V

Answer: A

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61. Afferent nerve fibres carry impulses from

A. effector organs to CNS

B. receptors to CNS

C. CNS to receptors

D. CNS to muscles

Answer: B

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62. Third ventricle of brain is also known as

A. metacoel

B. rhinocoel

C. paracoel

D. diacoel

Answer: D

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63. One function of parasympathetic nervous system is

A. contraction of hair muscles

B. stimulation of sweat glands

C. acceleration of heartbeat

D. constriction of pupil

Answer: D

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64. Which of the following cranial nerves can regulate heartbeat?

A. X

B. lX

C. Vlll

D. Vll

Answer: A

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65. Sensitive pigmented layer of eye is

A. cornea

B. retina

C. sclerotic

D. iris

Answer: B

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66. Acute vision is present in

A. vulture

B. shark

C. bat

D. frog

Answer: A

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