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1	c	28	a	55	a	82	b	109	d
2	a	29	d	56	b	83	d	110	b
3	c	30	d	57	c	84	c	111	d
4	b	31	c	58	a	85	a	112	c
5	a	32	c	59	d	86	b	113	d
6	b	33	a	60	b	87	b	114	b
7	d	34	d	61	c	88	a	115	c
8	a	35	c	62	c	89	a	116	b
9	a	36	a	63	b	90	b	117	b
10	a	37	c	64	d	91	c	118	b
11	c	38	b	65	c	92	a	119	d
12	c	39	b	66	a	93	b	120	d
13	c	40	c	67	d	94	a	121	b
14	c	41	c	68	b	95	b	122	a
15	d	42	d	69	c	96	d	123	b
16	b	43	d	70	b	97	a	124	b
17	c	44	b	71	b	98	d	125	b
18	a	45	c	72	b	99	b	126	a
19	d	46	a	73	b	100	c	127	c
20	c	47	c	74	c	101	b	128	b
21	b	48	c	75	b	102	a	129	a
22	a	49	b	76	a	103	a	130	a
23	c	50	d	77	b	104	d	131	a
24	c	51	b	78	d	105	a	132	~
25	b	52	b	79	a	106	b	133	~
26	b	53	c	80	a	107	c	134	~
27	b	54	b	81	c	108	c	135	~

FACT/DEFINITION TYPE QUESTIONS

1. The nerves carrying impulses to CNS are known as
 - (a) motor
 - (b) efferent
 - (c) afferent
 - (d) mixed
2. The controlling centre of autonomic nervous system is
 - (a) hypothalamus
 - (b) spinal cord
 - (c) cerebellum
 - (d) pons
3. A bipolar neuron has
 - (a) 2 dendrites and 1 axon
 - (b) 2 axons and 1 dendrite
 - (c) 1 dendrite and 1 axon
 - (d) 2 axons and 2 dendrites
4. Sodium – Potassium pump across membrane, actively transports
 - (a) 2 Na ions outwards and 3 K ions into the cell.
 - (b) 3 Na ions outwards and 2 K ions into the cell.
 - (c) 2 K ions outwards and 3 Na ions into the cell.
 - (d) 3 K ions outwards and 2 Na ions into the cell.
5. During conduction of nerve impulse
 - (a) Na^+ moves into axoplasm
 - (b) Na^+ moves out of axoplasm
 - (c) K^+ moves into axoplasm
 - (d) Ca^{++} moves into axoplasm
6. In the axons, the nerve impulse travels.
 - (a) towards the cell body.
 - (b) away from the cell body.
 - (c) away from synapse.
 - (d) in both direction.
7. Action potential of nerve cell is
 - (a) -60mV
 - (b) -80mV
 - (c) $+20\text{mV}$
 - (d) $+30\text{mV}$
8. During recovery, a nerve fibre becomes
 - (a) positively charged outside and negatively charged inside.
 - (b) positively charged on both-outside and inside.
 - (c) negatively charged outside and positively charged inside.
 - (d) negatively charged on both-outside and inside.

9. Which of the following ions are required for nerve conduction ?
(a) Ca^{++} , Na^+ and K^+ (b) Ca^{++} and Mg^{++}
(c) Mg^{++} and K^+ (d) Na^+ and K^+
10. During rest, sodium pump of a nerve results in
(a) more Na^+ pumped out than K^+ ions taken in.
(b) Na^+ pumped in without exchange with any other ion.
(c) exchanging equal amounts of Na^+ and K^+ .
(d) more Na^+ being pumped in than K^+ ions pumped out.
11. A typical value of resting membrane potential is
(a) -40mV (b) -60mV
(c) -70mV (d) -80mV
12. The transmission of impulse through neurons is a
(a) physical phenomenon
(b) chemical phenomenon
(c) electro-chemical phenomenon
(d) gravitational phenomenon
13. The resting potential occurs because
(a) of reduced energy production by mitochondria.
(b) the action potential depletes transmitter substance.
(c) of the different concentrations of ions across the cell.
(d) the action potential causes axoplasmic transport back towards the cell body.
14. The cerebral cortex is
(a) the outer layer of cerebrum, called white matter.
(b) inner layer of cerebrum, called white matter.
(c) the outer layer of cerebrum, called grey matter.
(d) inner layer of cerebrum, called grey matter.
15. The secretion of gastric juice is controlled by
(a) cerebellum (b) ANS
(c) cerebrum (d) medulla
16. Centre for sense of smell is
(a) cerebellum (b) olfactory lobes
(c) pons (d) midbrain
17. Purkinje cells are found in
(a) cerebellar cortex (b) mammalian heart
(c) voluntary cells (d) semicircular canal
18. Clusters of neuron cell bodies embedded in the white matter of the brain are referred to as
(a) nuclei (b) gyri
(c) sulci (d) ganglia



19. Part of mammalian brain controlling muscular coordination is
(a) cerebrum (b) corpus callosum
(c) medulla oblongata (d) cerebellum
20. Pons connects
(a) brain with spinal cord
(b) cerebrum with cerebellum
(c) two-lobes of cerebellum
(d) two cerebral hemispheres
21. Part of brain responsible for hearing is
(a) cerebellum (b) cerebrum
(c) medulla (d) hypothalamus
22. Corpus callosum connects
(a) two cerebral hemispheres
(b) two ventricles of brain
(c) two cerebellar hemispheres
(d) two optic thalamus
23. Which of the following cell in the central nervous system functionally equivalent to a Schwann cell?
(a) astrocyte (b) neuron
(c) oligodendrocyte (d) microglial cell
24. Pons varolii in human brain lies
(a) anterior to optic chiasma
(b) posterior to medulla oblongata
(c) ventral to cerebellum
(d) dorsal to diencephalon
25. Which of the following is a thin middle layer of cranial meninges?
(a) Duramater (b) Arachnoid
(c) Piamater (d) Optic nerve
26. Which of the following group of functions was regulated by part of hindbrain?
(a) Sexual behaviour, body temperature, drinking.
(b) Gastric secretion, cardiovascular reflexes, respiration.
(c) Memory and communication, cardiovascular reflexes, respiration.
(d) Gastric secretion, body temperature, Memory and communication.
27. Which is not a reflex action?
(a) Swallowing of food
(b) Shivering in cold
(c) Salivation at choicest food
(d) Closure of eyelid by flashing light
28. Twilight vision is also called
(a) scotopic vision and is the function of rods.
(b) scotopic vision and is the function of cones.
(c) photopic vision and is the function of rods.
(d) photopic vision and is the function of cones.
29. The thinned-out portion of retina where only cones are densely packed is called
(a) blind spot (b) corpus luteum
(c) macula lutea (d) fovea

30. The region of vertebrate's eye where the optic nerve passes out of the retina is called
(a) yellow spot (b) optic chiasma
(c) fovea (d) blind spot
31. The amount of light that falls on retina is regulated by
(a) lens (b) cornea
(c) iris (d) ciliary muscles
32. For seeing the nearby objects, the lens becomes more convex by
(a) relaxation of iris muscles.
(b) contraction of iris muscles.
(c) contraction of ciliary muscles.
(d) relaxation of ciliary muscles.
33. Space between cornea and lens is called
(a) aqueous chamber (b) vitreous chamber
(c) canal of schlemm (d) fovea centralis
34. In human eye, the blind spot contains
(a) rods
(b) cones
(c) both rods and cones
(d) neither rods nor cones
35. Which of the following is devoid of blood supply?
(a) Retina (b) Choroid
(c) Cornea (d) Scleroid
36. Eye ball is moved in the orbit by
(a) four rectus and two oblique muscles
(b) ciliary muscles
(c) suspensory ligaments
(d) two rectus and four oblique muscles
37. The blind spot is the region where
(a) image is formed.
(b) cones are numerous.
(c) the optic nerve leaves out.
(d) image is formed during the dark.
38. Which part of the human eye adjust the focal length of lens ?
(a) Aqueous humour (b) Ciliary body
(c) Conjunctiva (d) Cornea
39. Colour perception in man is due to the presence of
(a) rhodopsin pigment in rod cells.
(b) iodopsin pigment in cone cells.
(c) iodopsin pigment in rod cells.
(d) rhodopsin pigment in cone cells.
40. The cochlea of ear contains
(a) perilymph
(b) aqueous humour
(c) perilymph and endolymph
(d) only endolymph
41. At the base of cochlea, the canal that ends at the oval window is
(a) scala tympani (b) scala media
(c) scala vestibuli (d) auditory

42. The stereocilia of hair cells of organ of Corti are covered with a thick elastic membrane called
(a) Reissner's membrane
(b) basilar membrane
(c) tympanic membrane
(d) tectorial membrane
43. Macula of labyrinth is bathed in
(a) aqueous humour (b) vitreous humour
(c) perilymph (d) endolymph
44. Bony labyrinth of ear contains a fluid known as
(a) endolymph (b) perilymph
(c) aqueous humour (d) synovial fluid
45. The sense of equilibrium is determined by
(a) basilar membrane of cochlea.
(b) tectorial membrane of cochlea.
(c) sensory crista of ampulla.
(d) sensory cells of organ of corti.
46. Receptor cells for balance in human ear are located in
(a) utricle, saccule and semicircular canal
(b) malleus, incus and stapes
(c) organ of corti
(d) Eustachian tube
47. In mammals, the organs of Corti is found in
(a) scala vestibule (b) scala tympani
(c) scala media (d) middle ear
48. In which part of the mammalian ear, the nerve impulse for hearing starts?
(a) Eardrum (b) Ear ossicles
(c) Cochlea (d) Auditory nerve
49. Anvil-shaped bone is
(a) malleus (b) incus
(c) stapes (d) columella auris
50. In mammalian cochlea, the thin-walled sloping roof of the scala media is referred to as
(a) organ of Corti (b) scala tympani
(c) basilar membrane (d) reissner's membrane
51. In static condition, the body balance is sensed by
(a) crista (b) macula
(c) both (a) and (b) (d) cochlear canal

STATEMENT TYPE QUESTIONS

52. Which of the following statement is correct?
(a) Electrical synapses are more common in our neural system than chemical synapses.
(b) The new potential in post-synaptic neuron may be either excitatory or inhibitory.
(c) Hypothalamus is the major coordination centre for sensory and motor signaling.
(d) The tracts of nerve fibres that connect two cerebral hemispheres are called corpora bigemina.
53. Which of the following statement is correct regarding the organ of sight-eye?

- (a) The space between cornea and lens is filled with transparent gel.
 - (b) When all cones are stimulated equally, a sensation of no light (dark) is produced.
 - (c) Rhodopsin is purplish red protein, hence called visual purple.
 - (d) The anterior transparent portion of choroid is called cornea.
54. Which of the following statement is incorrect?
- (a) The ear ossicle attached to tympanic membrane is malleus.
 - (b) Opsin (of rhodopsin) develops from vitamin A.
 - (c) The pressure on ear drum is equalized by Eustachian tube.
 - (d) Otolith organ consists of saccule and utricle.
55. Which of the following statement is correct regarding cerebellum of brain?
- (a) It is concerned with the maintenance of posture/ equilibrium.
 - (b) It is responsible for olfactory functions.
 - (c) It controls optic functions.
 - (d) both (a) and (c)
56. Which of the following statement is an example of conditioned reflex?
- (a) Hand took up when piercing with a needle.
 - (b) Driving a vehicle.
 - (c) Eyes closed when any thing enter into it.
 - (d) In digestion food goes forward in alimentary canal.
57. Identify the main functions of the cerebrum of human brain from the given statement.
- (i) Control the contraction of voluntary muscles through the frontal lobe.
 - (ii) Control the sensitivity, movement, memory, vocabulary etc. through the frontal lobe.
 - (iii) Control the temperature, taste, touch, pain etc. through the parietal lobe.
 - (iv) Control the hearing and sense of smell through the occipital and frontal lobes.
- (a) (i), (ii), (iv) (b) (i) (iii), (iv)
 - (c) (i), (ii), (iii) (d) (ii), (iii), (iv)
58. During the propagation of a nerve impulse, the action potential results from the movement of
- (a) Na^+ ions from extracellular fluid to intracellular fluid.
 - (b) K^+ ions from extracellular fluid to intracellular fluid.
 - (c) Na^+ ions from intracellular fluid to extracellular fluid.
 - (d) K^+ ions from intracellular fluid to extracellular fluid.
59. All are None law (principle) states that
- (a) all stimuli produce action potentials.
 - (b) any cell membrane can generate and propagate an action potential if stimulated to threshold value.
 - (c) potential difference can either be 0 or 100.
 - (d) the property of action potential is independent of the strength of depolarizing stimulus.

60. Which statement regarding 'stapes' is correct?
- It lies in the auditory meatus.
 - It fits onto the oval window.
 - It conducts sound vibrations to fenestra rotundus.
 - It is analogous to columella auris.
61. Which of the following statements are correct?
- Somatic nervous system- Conducts impulses from CNS to skeletal muscles.
 - Autonomic nervous system- Conduct impulses from CNS to internal organ muscles.
 - Central nervous system- Consists of brain and spinal cord
 - Peripheral nervous system- Consists of nerves carrying impulses to brain and spinal cord only
- Only (ii) and (iii)
 - Only (iii) and (iv)
 - Only (i), (ii) and (iii)
 - All of these
62. Which of the following statements is correct regarding a myelinated nerve fibre?
- It is always associated with an axon.
 - It allows rapid conduction of nerve impulses.
 - It allows slow conduction of nerve impulses.
 - It has nodes of Ranvier.
- Only (i) and (ii)
 - Only (i), (ii), and (iii)
 - Only (i), (ii), and (iv)
 - Only (i), (iii), and (iv)
63. Which of the following events is involved in the transfer of information across a chemical synapse?
- Neurotransmitters bind to the postsynaptic receptors.
 - Calcium channels open in the presynaptic region.
 - Ion channels open in the postsynaptic membrane.
 - Direct flow of ions from one neuron to the next.
- (i) and (ii) only
 - (i), (ii) and (iii) only
 - (ii), (iii) and (iv) only
 - All of the above
64. Which of the following statements is correct about rods compared to cones?
- Rods are most numerous in the fovea.
 - Rods contain rhodopsin.
 - Rods produce general outlines of objects rather than sharp images.
 - Rods produce black and white but not colour images.
- (i), and (ii) only
 - (ii), and (iii) only
 - (i), (ii) and (iii) only
 - (ii), (iii) and (iv) only
65. Which of the following statements is correct?
- The internal ear receives sound waves and directs them to the ear drum.
 - The membranous canals are suspended in the endolymph of the bony canals.
 - The ear ossicles increase the efficiency of transmission of sound waves to the inner ear.
 - The malleus is attached to the oval window and the stapes is attached to the temporal membrane of the cochlea.

66. Which of the following statement is correct?
- (a) The space within cochlea called scala media is filled with endolymph.
 - (b) The vestibular apparatus is composed of two semi-circular canals and the otolith organ consisting of the saccule and utricle.
 - (c) The external auditory meatus helps in equalizing the pressures on either sides of the ear drum.
 - (d) The membranes constituting cochlea, the reissner's and basilar, divide the surrounding perilymph filled bony labyrinth into an upper scala tympani and a lower scala vestibuli.

ASSERTION/REASON TYPE QUESTIONS

In the following questions, a statement of Assertion is followed by a statement of Reason.

- (a) If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.
 - (b) If both Assertion and Reason are true but the Reason is not the correct explanation of the Assertion.
 - (c) If Assertion is true but Reason is false.
 - (d) If both Assertion and Reason are false.
67. **Assertion :** The axonal membrane of the neuron is more permeable to sodium ions (Na^+) and nearly impermeable to potassium ions (K^+).
Reason : In a resting state neuron does not conduct any impulse.
68. **Assertion :** The chemical stored in the synaptic vesicles are termed as neurotransmitter.
Reason : Synaptic vesicles release these chemicals in synaptic cleft.
69. **Assertion :** The imbalance in concentration of Na^+ , K^+ and proteins generates resting potential.
Reason : To maintain the unequal distribution of Na^+ and K^+ , the neurons use electrical energy.
70. **Assertion :** Astigmatism is due to uneven curvature of lens.
Reason : It is treated with cylindrical lenses.
71. **Assertion :** A cerebellum is related with skillful voluntary movement and involuntary activity like body balance, equilibrium *etc.*
Reason : It is part of hind brain and it is situated behind the pons.
72. **Assertion :** The brain stem contains centres for controlling activities.
Reason : Brain stem is very sensitive.
73. **Assertion :** The chemical stored in the synaptic vesicles are termed as neurotransmitters.
Reason : Synaptic vesicles release these chemicals in the synaptic cleft.

74. Select the answer with correct matching of the structure, its location and function.

	Structure	Location	Function
(a)	Eustachian tube	Anterior part of internal ear	Equalizes air pressure on either sides of tympanic membrane
(b)	Cerebellum	Mid brain	Controls respiration and gastric secretions
(c)	Hypothalamus	Fore brain	Controls body temperature, urge for eating and drinking
(d)	Blind spot	Near the place where optic nerve leaves the eye	Rods and cones are present but inactive here

75. Which one of the following is mismatched ?

- (a) Cerebrum - Memory
- (b) Medulla oblongata - Temperature regulation
- (c) Cerebellum - Equilibrium
- (d) Olfactory lobes - Smell

76. Column I lists the parts of the human brain and column II lists the functions. Match the two columns and identify the correct option.

Column-I	Column-II
A. Cerebrum	I. Controls the pituitary
B. Cerebellum	II. Controls vision and hearing
C. Hypothalamus	III. Controls the rate of heart beat
D. Medulla oblongata	IV. Maintains body posture
(a) A - II, B - IV, C - I, D - III	
(b) A - IV, B - V, C - III, D - I	
(c) A - V, B - IV, C - III, D - II	
(d) A - V, B - V, C - I, D - II	

77. Find out the right matching from the following pairs.

- (a) Accommodation Pupil
- (b) Colour perception Cones
- (c) Night blindness Rods
- (d) Binocular vision Iris

78. Which one of the following is the correct difference between rod cells and cone cells of retina.

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

79. Match the column I (various phase of an action potential) with column II (ionic activity associated) and choose the correct option.

Column I	Column II
A. Resting stage of a neuron	I. Opening and then closing of the sodium channels
B. Depolarization phase in the generation of an action potential.	II. All voltage gated sodium and potassium channels are closed.
C. Repolarization phase in the generation of action potential	III. The sodium channels remain opened.
D. Absolute refractory phase.	IV. Opening of potassium gates and the rushing of potassium

- (a) A – II, B – I, C – IV, D – III
 (b) A – I, B – II, C – III, D – IV
 (c) A – III, B – IV, C – I, D – II
 (d) A – IV, B – II, C – III, D – I

80. Match the given terms in column I with its definition given in column II and choose the correct options.

Column I (Terms)	Column II (Definition)
A. Semi-circular canal	I. Spiral organ of Corti
B. Vestibule	II. Fluid found in the scala vestibule and scala tympani
C. Cochlea	III. Evaluates rotational motion
D. Perilymph	IV. Fluid found within the organ of Corti
E. Endolymph	V. Responds to gravity and movements of the head

- (a) A – III, B – V, C – I, D – II, E – IV
 (b) A – I, B – II, C – III, D – IV, E – V
 (c) A – II, B – III, C – IV, D – V, E – I
 (d) A – IV, B – I, C – V, D – II, E – III

81. Which of the following pair is not correctly matched?

- (a) Rods - Twilight vision
 (b) Ciliary body - Iris
 (c) Retina - Optic chiasma
 (d) Vitreous humour - Posterior compartment

82. Select the correct match of the types of neuron present in column I with its location given in column II.

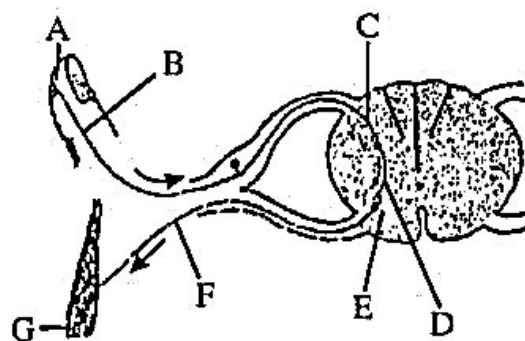
Column I	Column II
A. Sclera	I. The visible coloured portion of the eye.
B. Choroid	II. Its diameter is regulated by the muscle fibres of iris.
C. Pupil	III. Composed of a dense connective tissue
D. Fovea	IV. Portion of the retina where only the cones are densely packed
E. Iris	V. Contains many blood vessels and looks bluish in colour



- (a) A - I; B - II; C - III; D - IV; E - V
 (b) A - III; B - V; C - II; D - IV; E - I
 (c) A - IV; B - I; C - V; D - II; E - IV
 (d) A - V; B - IV; C - III; D - I; E - II
83. Which of the following terms is not correctly matched with its feature?
- (a) Efferent neurons - Carries signals from CNS to the effector.
 (b) Axon terminal - Possess neurotransmitter containing vesicle.
 (c) Limbic system - Along with the hypothalamus, it is involved in the regulation of sexual behaviour, expression of emotional reactions and motivation.
 (d) Association areas - Present in cerebellum and responsible for functions like intersensory associations, memory and communication.
84. Identify the correct match of types of neurons with its location.
- (i) Unipolar neuron - Embryonic stage
 (ii) Bipolar neuron - Cornea of eyes
 (iii) Multipolar neuron - Cerebral cortex
- (a) (i) & (ii) only (b) (ii) & (iii) only
 (c) (i) & (iii) only (d) All the three.

DIAGRAM TYPE QUESTIONS

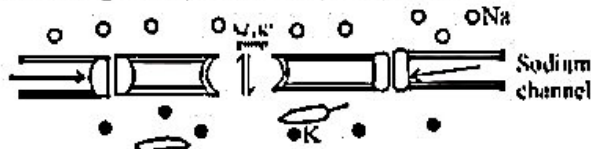
85. The following diagram represent the reflex arc. Identify the parts labelled as A, B, C, D, E, F and G and choose the correct option



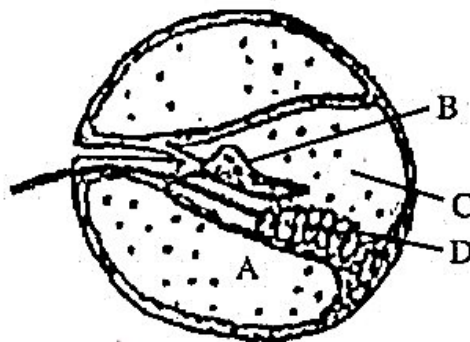
- (a) A - sense organ; B - sensory nerve; C - dorsal horn; D - interneuron; E - ventral horn; F - motor nerve; G - effector
 (b) A - sense organ; B - sensory nerve; C - ventral horn; D - interneuron; E - dorsal horn; F - motor nerve; G - effector
 (c) A - effector; B - motor nerve; C - dorsal horn; D - interneuron; E - ventral horn; F - sensory nerve; G - effector
 (d) A - effector; B - motor nerve; C - ventral horn; D - interneuron; E - dorsal horn; F - sensory nerve; G - sense organ.
86. Given below is a table comparing the effects of sympathetic and parasympathetic nervous system for four features (a - d). Which of the following feature is correctly described?

	Feature	Sympathetic nervous system	Parasympathetic nervous system
(a)	Salivary glands	Stimulates secretion	Inhibits secretion
(b)	Pupil of eye	Dilates	Constricts
(c)	Heart rate	Decreases	Increases
(d)	Intestinal peristalsis	Stimulates secretion	Inhibits secretion

87. In the given diagram which stage of conduction of nerve impulse through nerve fibre is observed?

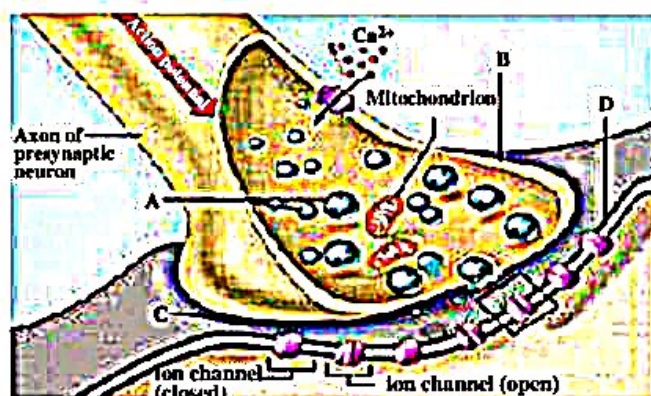


- (a) Polarization (b) Resting potential
(c) Repolarization (d) Depolarization
88. Given below is a diagrammatic cross section of a single loop of human cochlea with few part labelled as A, B, C & D.



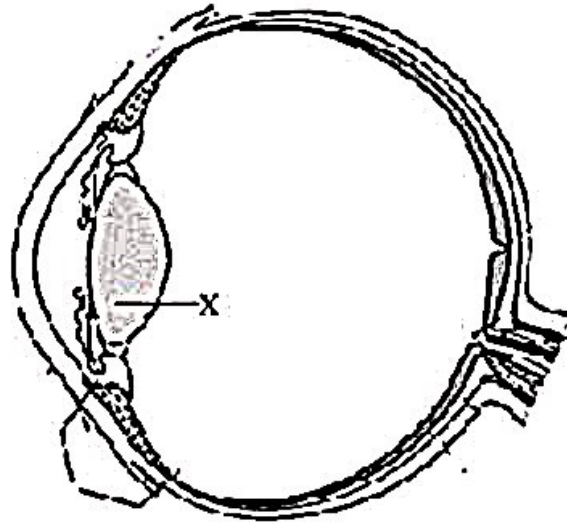
Which one of the following options correctly represents the name of three different parts?

- (a) A: Perilymph, B: Tectorial membrane C: Endolymph
(b) B: Tectorial membrane, C: Perilymph, D: Secretory cells
(c) C: Endolymph, D: Sensory hair cells, A: Serum
(d) D: Sensory hair cells, A: Endolymph B: Tectorial membrane
89. The given diagram shows the axon terminal and synapse with few part labelled as A, B, C & D. Choose the correct combination of labelling from the given options.



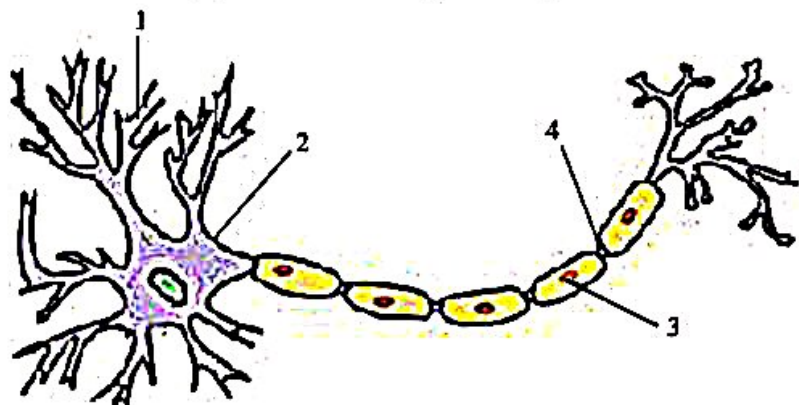
HINT

- (a) A- Synaptic vesicle, B- Axon terminal, C- Synaptic cleft, D- Postsynaptic membrane
 - (b) A- Axon terminal, B- Synaptic vesicle, C- Postsynaptic membrane, D- Synaptic cleft.
 - (c) A- Synaptic vesicle, B- Synaptic cleft, C- Axon terminal, D- Post synaptic membrane
 - (d) A- Post synaptic membrane, B- Axon terminal, C- Synaptic vesicle, D- Synaptic cleft
90. The given diagram shows different parts of a human eye with one part labeled as X.



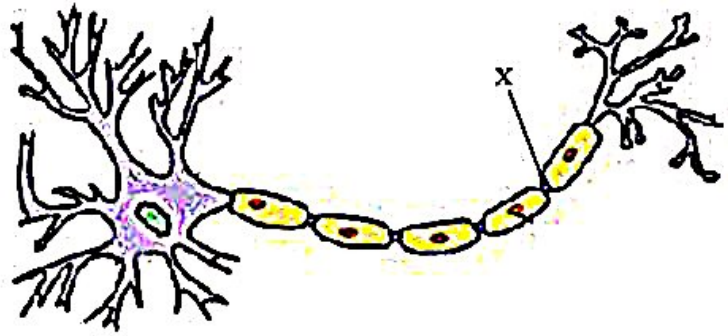
Which of the following statement is correct regarding label X?

- (a) It is the opening in lens that permits light into the inner chambers of the eye.
 - (b) It is the coloured portion of vascular tunic.
 - (c) It is a biconcave structure that changes shape to bring objects into focus.
 - (d) It is thick, jelly-like substance in the posterior compartment of the eye.
91. Which of the following options correctly represents the name of 1, 2, 3 and 4 in the given diagram of neuron?

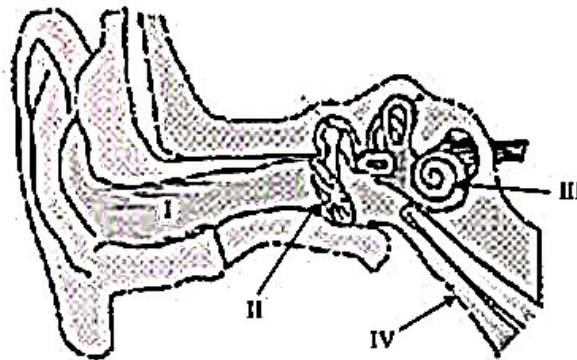


- (a) 1- Axon, 2- Dendrites, 3- Node of Ranvier, 4- Myelin sheath
- (b) 1- Dendrites, 2- Axon, 3- Node of Ranvier, 4- Myelin sheath
- (c) 1- Dendrites, 2- Cell body, 3- Myelin sheath, 4- Node of Ranvier
- (d) 1- Axon, 2- Cell body, 3- Dendrites, 4- Node of Ranvier

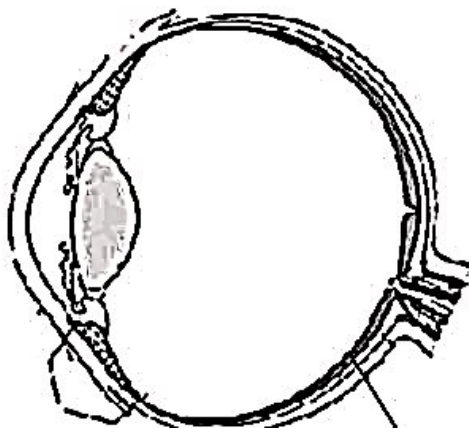
92. What is the function of label X in the given diagram?



- (a) It speeds up the impulse transmission.
 (b) It provides electrical insulation.
 (c) It conducts impulse towards the nerve cell body.
 (d) It is the functional unit of nerve.
93. Refer the given figure of ear with few structure marked as I, II, III & IV. Which labelled structure converts sound waves into mechanical vibrations?

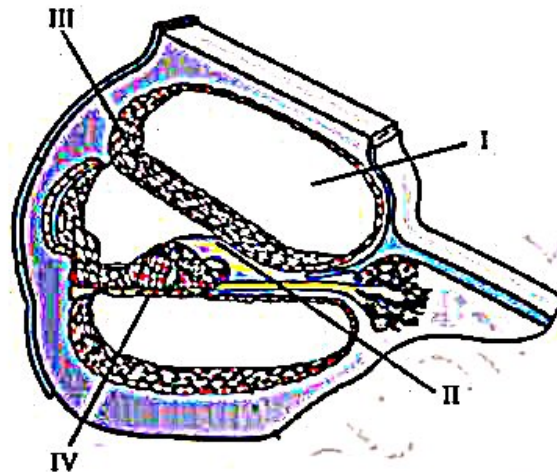


- (a) I
 (b) II
 (c) III
 (d) IV
94. Identify the correct options for the given blanks.
- | Part of the ear | Functions |
|-----------------|---------------------------------------|
| _____A_____ | Contains receptors for balance |
| _____B_____ | Increases the magnitude of vibrations |
| _____C_____ | Collects sound waves |
- (a) A- Semi-circular canals, B- Ear ossicles, C- Pinna
 (b) A- Cochlea, B- Semi-circular canals, C- Tympanum
 (c) A- Semi-circular canals, B- Cochlea, C- Tympanum
 (d) A- Cochlea, B- Pinna, C- Ear ossicles
95. Which of the following statements is/are functions of structure labelled as 'X' in the given diagram of eye?



- I. It provides attachment points for muscles that move the eye.
 - II. It maintains the shape of the eye ball.
 - III. It helps during accommodation.
 - IV. It is responsible for eye colour.
- (a) I and II (b) I, II and IV
(c) II, III and IV (d) All of these

96. The given diagram represents the sectional view of cochlea with few part labelled as I, II, III & IV.



The movement of which marked label causes hair cell microvilli to bend back and forth.

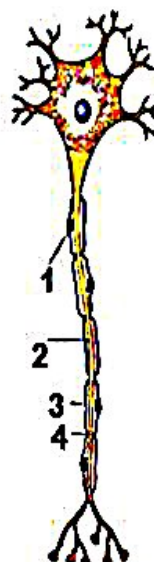
- (a) I (b) II
(c) III (d) IV

97. The primary function of the structure labelled as X in the given figure is

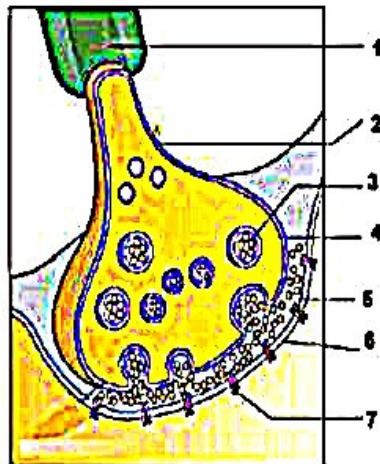


- (a) movement of head (b) position of head
(c) hearing (d) vision

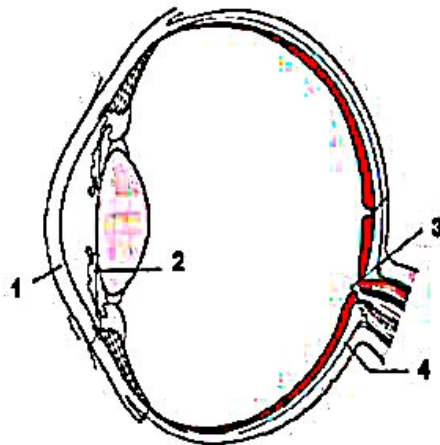
Direction (Qs. 98 and 99): Refer the given figure of neuron structure with few parts labelled as 1, 2, 3, and 4 and answer the questions.



98. Identify the name and the labelled part which is a naked portion of myelinated axon and facilitate the rapid conduction of nerve impulses.
- (a) Dendrites, 1 (b) Schwan cell, 2
(c) Synaptic knob, 3 (d) Nodes of Ranvier, 4
99. Identify the part along which the sequence of impulse generation is repeated.
- (a) 1 (b) 2
(c) 3 (d) 4
100. Refer the given figure which shows the axon terminal and synapse with their parts marked as 1 to 7. Identify the correct parts whose constitution forms the structure of synapse.

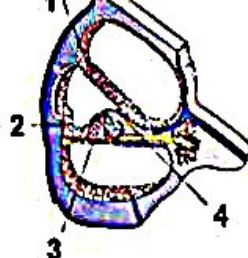


- (a) 1, 2, 3 (b) 3, 4, 5
(c) 4, 5, 6 (d) 5, 6, 7
101. Refer the given figure of eye in which few parts are labelled as 1, 2, 3 and 4. Select the option which shows the correct identification of the part with its characteristics.



- (a) 1 : Choroid, it contains ganglion cells, bipolar cells and photoreceptor cells.
(b) 2 : Iris, it is responsible for controlling the diameter and size of the pupil and thus the amount of light reaching the retina.
(c) 3 : Blind spot, it is a yellowish pigmented spot called macula lutea with a central pit called the fovea.
(d) 4 : Cornea, it is a transparent front part of the eye that covers the iris, pupil, and anterior chamber.
102. "X" is spiral shaped structure consisting of hair cells that serve as receptors for auditory stimuli. Identify "X" and its label & location (marked as 1, 2, 3 and 4) from the given diagrammatic representation of the sectional view of cochlea.





- (a) X- Organ of corti, 2, 3.
- (b) X- Eustachian tube, 1, 2.
- (c) X- Semicircular canal, 3, 4.
- (d) X- Crista ampullaris, 1, 4.

CRITICAL THINKING TYPE QUESTIONS

103. For sound (good) reflex actions we require intact
 - (a) spinal cord
 - (b) cerebellum
 - (c) hypothalamus
 - (d) medulla oblongata
104. In which animal nerve cell is present but brain is absent?
 - (a) Sponge
 - (b) Earthworm
 - (c) Cockroach
 - (d) *Hydra*
105. Which one of the following is an example of a simple reflex ?
 - (a) Closing of eyes if an object suddenly approaches them.
 - (b) Climbing stairs in dark.
 - (c) Watering of mouth at the sight of delicious food.
 - (d) Tying laces while talking to and looking at another person.
106. The main cause of paralysis is
 - (a) some defect in muscles
 - (b) complete destruction of motor nerves
 - (c) complete destruction of sensory nerves
 - (d) none of the above
107. An example of autonomous nervous system is
 - (a) swallowing food
 - (b) pupillary reflex
 - (c) peristalsis of intestine
 - (d) knee-jerk response
108. In a nerve if sodium pump is blocked, which of the following is most likely to happen ?
 - (a) Na^+ and K^+ will increase outside the cell.
 - (b) Na^+ outside the nerve will increase.
 - (c) Na^+ inside the nerve will increase.
 - (d) K^+ inside the nerve will increase.
109. A person feels no sensation when he puts his hand over flame. The part of the brain which has damaged is
 - (a) cerebellum
 - (b) medulla oblongata
 - (c) diencephalon
 - (d) hypothalamus
110. An axon has four terminal ends connected with dendrites of four different neurons. Its nerve impulse will.
 - (a) become weak due to distribution into four.
 - (b) travel in all the four neurons with equal strength.
 - (c) pass on to one neuron only.
 - (d) travel to none because the movement of impulse is from dendrite to axon.

111. Sequence of meninges from inner to outside is
(a) Duramater – Arachnoid – Piamater
(b) Duramater – Piamater – Arachnoid
(c) Arachnoid – Duramater – Piamater
(d) Piamater – Arachnoid – Duramater
112. Which of these is an example of conditioned reflex?
(a) Watering of mouth at the taste of food.
(b) Withdrawal of hand on touching a hot plate.
(c) Cycling.
(d) Flowing of tears while peeling and cutting onions.
113. You are watching a horror movie and you notice your heart is beating fast and mouth is dry. It is because of
(a) fight and flight response
(b) sympathetic nervous system
(c) parasympathetic nervous system
(d) both (a) and (b)
114. 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 positive, then negative and again back to positive.
(b) First negative, then positive and again back to negative.
(c) First positive, then negative and continue to be negative.
(d) First negative, then positive and continue to be positive.
115. A person entering an empty room suddenly finds a snake right in front on opening the door. Which one of the following is likely to happen in his neuro-hormonal control system?
(a) Hypothalamus activates the parasympathetic division of brain.
(b) Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal cortex.
(c) Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal medulla.
(d) Neurotransmitters diffuse rapidly across the cleft and transmit a nerve impulse.
116. Identify the correct order in which vibrations travel through the auditory ossicles?
(a) Stapes-Malleus-Incus
(b) Malleus-Incus-Stapes
(c) Stapes-Incus-Malleus
(d) Incus-Stapes-Malleus
117. The part of an eye which acts like diaphragm of a photographic camera, is
(a) pupil (b) iris
(c) lens (d) cornea



118. Cornea transplantation is successful as cornea is
- (a) easily available (b) without blood supply
 - (c) easily preserved (d) easily stitched
119. A person is wearing spectacles with concave lenses for correcting vision. While not using the glasses, the image of a distant object in his case will be formed
- (a) on the blind spot. (b) behind the retina.
 - (c) on the yellow spot. (d) in front of the retina.
120. In a similarity with photographic camera the retina acts as
- (a) shutter (b) lens
 - (c) diaphragm (d) film
121. When we move from light to dark, we fail to see for some time but soon the visibility becomes normal. It is called
- (a) accomodation (b) adaptation
 - (c) photoperiodism (d) mutation
122. Layers in wall of eye balls from inside outwards are
- (a) retina, choroid, sclerotic
 - (b) sclerotic, choroid, retina
 - (c) choroid, retina, sclerotic
 - (d) choroid, sclerotic, retina
123. Arrange the cardiac muscle fibres, skeletal muscle fibres and the nerve fibres on the basis of velocity of impulse conduction in descending order, i.e. from maximum to the minimum.
- (a) Nerve fibres - cardiac muscle fibres - skeletal muscle fibres
 - (b) Nerve fibres- skeletal muscle fibres - cardiac muscle fibres
 - (c) Skeletal muscle fibres- cardiac muscle fibres - nerve fibres
 - (d) Cardiac muscle fibres- skeletal muscle fibres - nerve fibres
124. Which part of internal ear recognizes the different frequencies of sound ?
- (a) Tectorial membrane
 - (b) Basilar membrane
 - (c) Tympanic membrane
 - (d) Reissner's membrane
125. The correct logical sequence regarding flow of sound in human ear is
- (a) Ear ossicles- Oval window - Tympanum - Auditory canal - Cochlea
 - (b) Auditory canal - Tympanum- Ear ossicles - Oval window - Cochlea
 - (c) Cochlea- Tympanum- Ear ossicles - Oval window - Auditory canal
 - (d) Tympanum - Cochlea - Oval window - Ear ossicles - Auditory canal

126. Trace the correct sequence for pathway of light through the eye to the retina?
- Conjunctiva - Cornea - Aqueous humour - Pupil - Lens - Vitreous humour - Yellow spot.
 - Cornea- Conjunctiva- Vitreous humour- Lens- Pupil - Aqueous humour - Yellow spot
 - Conjunctiva- Cornea - Vitreous humour - Lens - Pupil - Aqueous humour - Yellow spot
 - Cornea - Conjunctiva - Aqueous humour - Pupil- Lens - Vitreous humour - Yellow spot
127. Refer the following features and identify the correct part of the ear to which these are associated.
- It is also called auditory tube.
 - It connects the middle ear cavity with the pharynx.
 - It helps in equalizing the pressures on either sides of the ear drum.
- Ear ossicles
 - Eustachian tube
 - Semicircular canal
 - Vestibular apparatus
128. 'X' is an important part of 'Y' which lies at the base of the structure which is a major coordinating centre for sensory and motor signalling. It contains a number of centre which control body temperature, urge for eating and drinking. Identify X and Y from the options given below
- X-Cerebellum ; Y-Hindbrain
 - X-Hypothalamus ; Y-Forebrain
 - X-Corpora quadrigemina ; Y-Midbrain
 - X-Pituitary gland ; Y-Forebrain
129. Impulse transmission across an electrical synapse is always _____ than that across a chemical synapse.
- faster
 - slower
 - intermittent
 - continuous
130. Unmyelinated nerve fibre is enclosed by an 'X' that does not form a myelin sheath around the 'Y', and is commonly found in 'Z' and the somatic neural systems. Identify 'X', 'Y' and 'Z'.

	X	Y	C
(a)	Schwann cells	Axon	Autonomous
(b)	Nodes of Ranvier	Cell body	Synaptic knob
(c)	Synapse	Dendrites	Sympathetic
(d)	Meninges	Nerve impulse	Peripheral

131. The ____ neuron receives signal from a sensory organ and transmits the impulse via a dorsal nerve root into the _____. The _____ neuron then carries signals from CNS to the _____.
- afferent, CNS, efferent, effector
 - efferent, PNS, afferent, effector
 - afferent, CNS, efferent, receptor
 - efferent, PNS, afferent, receptor