



BIOLOGY

BOOKS - AAKASH SERIES

NEURAL CONTROL AND COORDINATION

Exercise I Neural System

1. Which of the following is an integrative system?

- A. Excretory system
- B. Nervous system
- C. Respiratory system
- D. Digestive system

Answer: B



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2. What is metamerism?

- A. Both sponge

B. Jelly fish

C. Planarian

D. Polychete

Answer: B



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3. Radial nerves are seen connecting to a central nerve ring in

A. Sea anemone

B. Sea fan

C. Sea star

D. Sea mouse

Answer: C



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4. Which of the following have relatively more complex nervous system

A. first triploblastic animals

B. first segmented worms

C. the largest group of animals

D. pseudo coelomate animals

Answer: C



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5. The organisation of nervous system generally correlates with in animal group

A. life style

B. behaviour

C. body form

D. food habits

Answer: A



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6. Neural system is better organised in the following

A. Freshwater polyp

B. Bath sponge

C. Silver fish

D. Sea anemone

Answer: C



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**Exercise I Neurons As Structural And Functional
Unit Of Neural System**

1. The following transmit regulatory impulses from CNS to concerned tissue

A. Efferent process

B. Reticular fibres

C. Afferent process

D. Afferent fibres

Answer: A



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2. Nissl's granules are present in

A. Cyton

B. Dendron

C. Both 1 & 2

D. Axon

Answer: C



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3. Neurons of embryo, neurons of retina and cerebral cortex of the adult differ with one another in

- A. Number of axons
- B. Nature of axons
- C. Number of dendrites
- D. Nature of dendrites

Answer: C



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4. One of the following is related only to myelinated neurons. Identify it

A. Dendrites

B. Axon

C. Telodendrites

D. Nodes of ranvier

Answer: D



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5. "Neuroglia" of the nervous system represent

- A. Receptor cells
- B. Gland cells
- C. Supporting cells
- D. Nerve cells

Answer: C



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Exercise I Generation And Conduction Of Narve Impulse

1. A resting axonal membrane is comparatively more permeable to..... and nearly impermeable to.

A. Na^+ ions and K^+ ions

B. K^+ ions and Na^+ ions

C. Ca^+ ions and Na^+ ions

D. K^+ ions and Ca^+ ions

Answer: B



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2. Action potentials are generated due to

A. out flux of K^+

B. influx of K^+

C. influx of Na^+

D. outflux of Na^+

Answer: C



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3. Conduction speed of impulse is

- A. more across an electrical synapse
- B. more across a chemical synapse
- C. equal in both chemical and electrical synapses
- D. equal to that of action potentials

Answer: A



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4. Chemicals which are released at the synaptic junction are called :

A. cerebrospinal fluids

B. hormones

C. lymph

D. neurotransmitters

Answer: D



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5. In a nerve cell potassium concentration is

- A. less on outer side
- B. greater on outer side
- C. equal on both sides
- D. none of these

Answer: A



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6. Potential difference across resting membrane is negatively charged. This is due to differential distribution of the following ions

A. Na^+ and Cl^- ions

B. Ca^{++} and Cl^- ions

C. Na^+ and K^+ ions

D. Ca^{++} and Mg^+ ions

Answer: C



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7. Resting membrane potential is maintained by

- A. hormones
- B. neurotransmitters
- C. ion pumps
- D. enzymes

Answer: C



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8. Relative refractory period occurs during

- A. depolarisation phase
- B. hyperpolarisation phase
- C. repolarisation phase
- D. resting phase

Answer: B



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9. In saltatory conduction of impulse

A. time is conserved

B. energy is conserved

C. both (1) and (2)

D. either time nor energy is conserved

Answer: C



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10. Which one of the following do not mediate nerve activity?

A. Dopamine

B. Aflatoxin

C. Norepinephrine

D. Acetyl choline

Answer: B



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11. During resting condition, the axonal membrane is

A. More permeable to K^+ than Na^+

B. More permeable to Na^+ than K^+

C. Impermeable to Na^+ than K^+

D. Impermeable to K^+ than Cl^-

Answer: A



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12. The action potential in a neuron is a brief change in

A. CO_2 concentration

B. O_2 concentration

C. Electrical change

D. Direction of impulse

Answer: C



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13. Chemicals which are released at the synaptic junction are called

A. hormones

B. neurotransmitters

C. cerebrospinal fluid

D. lymph

Answer: B



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14. For most excitable cells, the threshold stimulus is

A. -55 to $-60mV$

B. $+40mV$

C. $-70mV$

D. $+60mV$

Answer: A



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15. Resting membrane potential is maintained by

- A. hormones
- B. neurotransmitters
- C. ion pumps
- D. none of the above

Answer: C



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Exercise I Central Neural System

1. Innermost meninx covering brain is

- A. arachnoid
- B. meninx primitiva
- C. piamater
- D. duramater

Answer: C



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2. Cerebral hemispheres connected by

A. corpus spongiosum

B. corpus albicans

C. corpora striata

D. corpus callosum

Answer: D



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3. Association areas of cerebral cortex are

A. purely sensory

B. purely motor

C. neither clearly sensory nor motor

D. absent

Answer: C



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4. Hypothalamus is not related with this function

A. controlling body temperature

B. urge for drinking

C. urge for eating

D. thinking, reasoning

Answer: D



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5. Not a part of limbic lobe or limbic system of brain is

A. amygdala

B. hippocampus

C. cerebellum

D. inner parts of cerebrum

Answer: C



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6. Corpora quadrigemina is a part of

A. cerebrum

B. medulla oblongata

C. thalamencephalon

D. mid brain

Answer: D



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7. Centre for controlling respiration lies in

A. cerebrum

B. medulla oblongata

C. thalamencephalon

D. mid brain

Answer: B



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8. Thermoregulatory centre in brain of man is

A. pituitary

B. diencephalon

C. hypothalamus

D. none of these

Answer: C



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9. The primary visual area is located in

A. diencephalon

B. optic lobe

C. cerebellum

D. cerebrum

Answer: D



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10. Lateral ventricles of human brain are connected to third ventricle by ____ and third ventricle is connected with fourth ventricle by ____ respectively. Select the option which fill the blanks correctly.

A. foramen magnum

B. foramen of Monro

C. occipital foramen

D. aqueduct of Sylvius

Answer: B



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11. An area in the brain which is associated with strong emotions is

A. cerebral cortex

B. cerebellum

C. limbic system

D. medulla oblongata

Answer: C



12. All sensory information to be registered consciously by the forebrain must pass via the

- A. thalamus
- B. reticular formation
- C. cerebellum
- D. pons

Answer: A



13. Primary auditory area is located in the
lobes of cerebrum

A. frontal

B. temporal

C. occipital

D. parietal

Answer: B



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14. Brain of man is distinguished by the presence of

- A. Corpus albicans
- B. Corpus callosum
- C. Corpus spongiosum
- D. Corpus luteum

Answer: B



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15. Unique to the brain of mammals

- A. 3 meninges
- B. 4 optic lobes
- C. Gyri and Sulci
- D. All the above

Answer: D



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16. Pick out the odd one

A. Coccyx

B. Conus medullaris

C. Cauda equina

D. Filum terminale

Answer: A



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17. Which is related to the spinal cord of man?

A. Coliculi

B. Funiculi

C. Floculi

D. Fasciculi

Answer: B



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18. The connection between 1st and 2nd ventricles with 3rd ventricle

A. Foramen ovale

B. Foramen magnum

C. Foramen of monro

D. Foramen of panizza

Answer: C



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19. Anterior choroid plexus is a network of

A. Nerve fibres

B. Blood capillaries

C. Axons

D. Lymph capillaries

Answer: B



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20. Choroid plexuses of the brain are involved in the production of

A. Lymph

B. Endolymph

C. Perilymph

D. Cerebrospinal fluid

Answer: D



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21. Irrespective of seasonal temperature changes the body temperature of humans remains at 37°C . This is possible due to

A. Epithalamus

B. Hypothalamus

C. Cerebrum

D. Diencephalon

Answer: B



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Exercise I Reflex Actions And Reflex Arc

1. Reflex action involves

A. medulla oblongata

B. cerebellum

C. optic lobe

D. spinal cord

Answer: D



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2. Sensory ganglion concerned with spinal reflex is found in

- A. ventral root of spinal nerve
- B. dorsal ganglion of apinal nerve
- C. dorsal root of spinal nerve
- D. cutaneous sense organ

Answer: C



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3. Which of the following is an example for conditioned reflex?

A. cycling

B. withdrawal of hand on touching a hot
plate

C. watering of mouth at the smell of food

D. flowing of tears while cutting onions

Answer: A



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4. Which of the following is not involved in kneejerk reflex ?

A. Muscle spindle

B. Motor neuron

C. Brain

D. interneurons

Answer: C



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5. The interneurons are located in the

A. Sympathetic nervous system

B. Central nervous system

C. Somatic nervous system

D. Parasympathetic nervous system

Answer: B



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6. Identify the reflex arc.

- A. Brain -- spinal cord - muscle
- B. Muscle - receptor - spinal cord
- C. Receptor - spinal cord - muscle
- D. Muscle -- spinal cord – receptor

Answer: C



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7. Identify the one which is not a reflex action.

- A. Salivation on the sight of food

B. Weight lifting

C. Closing the eyelids when an object comes across suddenly.

D. Typing by a professional

Answer: B



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8. Which of the following is not a reflex action

?

A. Salivation

B. Sweating

C. Withdrawal of hand when pinched by
needle

D. None of these

Answer: B



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Exercise I Peripheral Nervous System

1. Somatic neural system which is a part of PNS
relays impulses from the CNS to

A. involuntary organs

B. smooth muscles

C. skeletal muscles

D. viscera

Answer: C



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2. Lateral funiculi have type of nerve fibres

A. sensory

B. motor

C. both (1) and (2)

D. none of these

Answer: C



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3. In humans, visceral organs are innervated by

A. both sympathetic and parasympathetic
nerves

B. sympathetic nerves but are under
conscious control

C. both sympathetic and parasympathetic
nerves under conscious control

D. parasympathetic nerves under conscious
control

Answer: A



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4. Sympathetic nerve fibres in mammals arise from

A. sacral nerves

B. thoraco-lumbar nerves

C. cervical nerves

D. 3rd, 7th, 9th and 10th cranial nerves

Answer: B



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5. The function of vagus nerve innervating the heart is to

- A. initiate heart beat
- B. reduce heart beat
- C. accelerate heart beat
- D. maintain constant heart beat

Answer: B



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6. Relay of impulses to the voluntary and striated muscles is done by

- A. Somatic neural system
- B. Sympathetic neural system
- C. Parasympathetic neural system
- D. None

Answer: A



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7. Choose the incorrect from the following.

A. All ichthyopsidans have 10 pairs of cranial
nerves

B. All homiotherms have 12 pairs of cranial
nerves

C. All amniotes have 12 pairs of cranial nerves

D. All anamniotes have 10 pairs of cranial nerves

Answer: C



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8. Identify the one which is not related to ANS

A. Blood circulation

B. Excretion

C. Respiration

D. Learning and memory

Answer: D



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9. A) Acetyl choline

B) Nor epinephrine

C) Serotonin the common feature of the above

A. All are drugs

B. All are neurotransmitters

C. All are antigens

D. All are hormones

Answer: B



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10. The somatic nervous system controls

A. Smooth muscles

B. Skeletal muscles

C. Cardiac muscles

D. Glands

Answer: B



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11. The nature of all the 31 pairs of spinal nerves is

A. Sensory

B. Afferent

C. Mixed

D. Motor

Answer: C



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12. Which cranial nerve innervates organs outside the cephalic region?

A. Trigeminal

B. Auditory

C. Glossopharyngeal

D. Vagus

Answer: D



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Exercise I Sensory Reception And Processing

1. The layer of eye ball containing many blood vessels and looks bluish in colour is

A. cornea

B. sclera

C. choroid

D. pupil

Answer: C



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2. The visible coloured portion of the eye is

A. retina

B. iris

C. cornea

D. lens

Answer: B



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3. The aperture surrounded by the iris is called

A. pupil

B. retina

C. cornea

D. sclera

Answer: A



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4. From inside to outside retina consists of

A. bipolar cells, photoreceptor cells,
ganglion cells

B. photoreceptor cells, bipolar cells,
ganglion cells

C. ganglion cells, bipolar cells,
photoreceptor cells

D. photoreceptor cells, ganglion cells,
bipolar cells

Answer: C



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5. Scotopic vision is related with :-

A. rods

B. cones

C. pupil

D. iris

Answer: A



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6. Visual purple is present in

A. rods

B. cones

C. choroid

D. iris

Answer: A



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7. Blind spot in vertebrate eye is the place where

- A. visual acuity is great
- B. cones are densely packed
- C. neither cones nor rods are present
- D. rods are densely packed

Answer: C



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8. Space between cornea and lens is

A. aqueous chamber

B. fovea

C. vitreous chamber

D. blind spot

Answer: A



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9. Aqueous chamber and vitreous chamber are separated by

A. iris

B. pupil

C. lens

D. cornea

Answer: C



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10. An aldehyde of vitamin A is

A. retinal

B. opsin

C. iris

D. comea

Answer: A



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11. Stapes is attached to the

A. tympanic membrane

B. oval window

C. fenestra rotunda

D. fossa ovalis

Answer: B



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12. The space within the coiled portion of the membranous labyrinth is called

Which is filled with

A. scal tympani

B. scala vestibuli

C. scala media

D. organ of corti

Answer: C



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13. Otolith organ helps in

A. hearing

B. vision

C. equilibrium

D. tactile stimulation

Answer: C



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14. Scala vestibuli is connected with

A. foramen ovale

B. scala media

C. scala tympani

D. fenestra rotunda

Answer: A



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15. Chief function of crista and macula is

A. to perceive pressure

B. to receive vibrations

C. to maintain equilibrium

D. to hear

Answer: C



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16. Cochlea is a part of

A. eye

B. internal ear

C. middle ear

D. pectoral girdle

Waarom

Answer: B



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17. Name the part of inner ear that has auditory receptors.

A. basilar membrane

B. tympanum

C. stapes

D. otolith organ

Answer: A



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18. Visual purple' pigment of the eye is responsible for

- A. Color of eye
- B. Color blindness
- C. Photopic vision
- D. Scotopic vision

Answer: D



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19. Macula of internal ear refers to

A. Yellow spot

B. Ridge present in otolith organ

C. Ridge present in basilar membrane

D. Crista ampullaris of semicircular canal

Answer: B



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20. Accommodation of eye is due to

A. Ciliary muscles

B. iris muscles

C. Aqueous fluid

D. Vitreous fluid

Answer: A



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21. Which of the following regulates the amount of light entering the eye?

A. Lens

B. Ciliary body

C. Iris

D. Aqueous humor

Answer: B



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22. The maintenance of proper balance by a gymnast during performance is possible due to

A. Vestibular apparatus

B. Cochlea

C. Auditory canal

D. Ear ossicles

Answer: A



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23. The hair cells present on the crista ampullaris receive the stimuli of

A. Smell

B. Vision

C. Change in body position

D. Hearing

Answer: C



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24. Which part among the following is not involved in hearing?

A. Otolith organ

B. Tympanum

C. Organ of corti

D. Ear ossicles

Answer: A



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25. Endolymph is seen in

A. Scala vestibuli

B. Scala tympani

C. Both 1 and 2

D. Scala media

Answer: D



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26. Stereocilia' are associated with

A. 1)Crista ampullaris

B. 2)Organ of corti

C. 3)Vestibule

D. 4)All the above

Answer: D



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27. Organ of Corti rests on

A. Tympanic membrane

B. Tectorial membrane

C. Reisner's membrane

D. Basilar membrane

Answer: D



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28. Mark the vitamin present in Rhodopsin

A. Vit A

B. Vit B

C. Vit C

D. Vit D

Answer: A



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29. Human eyeball consists of three layers and it encloses

A. lens, iris, optic nerve

B. lens, aqueous humor and vitreous humor

C. cornea, lens, iris

D. cornea, lens, optic nerve

Answer: B



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30. Wax gland present in the ear canal is called

- A. Sweat gland
- B. Prostate gland
- C. Cowper's gland
- D. Ceruminous gland

Answer: D



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31. The part of internal ear responsible for hearing is

- A. Cochlea
- B. Semicircular canal
- C. Utriculus
- D. Sacculus

Answer: A



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32. The organ of corti is a structure present in

A. external ear

B. middle ear

C. semicircular canal.

D. cochlea

Answer: D



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33. While travelling to higher altitudes, people can feel pain in the ear and dizziness. Which part, among the following is involved ?

A. Cochlea, ear ossicles

B. Tympanic membrane

C. Eustachian tube, utricle, saccule and
semicircular canals

D. None of the above

Answer: C





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Exercise II

1. 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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2. Hydra receives impulses and stimuli through

- A. nerve net
- B. nematocytes
- C. sensory cells
- D. neuron cells.

Answer: C



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3. In Earthworm, neurons are

(a) Sensory

(b) Motor

(c) Both a and b

(d) Mixed

A. sensory only

B. motor only

C. associated only

D. all of these

Answer: D



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4. The Broca's area and Wernicke's centre are the association areas situated in cerebrum. These are associated with

A. vision

B. posture

C. memory

D. language.

Answer: D



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5. Telencephalon in the brain develop's into

A. Thalamus:

B. Cerebrum

C. Cerebellum

D. Pons

Answer: B



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6. CSF, which is formed from choroid plexes, enters the subarachnoid space through

A. foramen of Magendie

B. foramen Magnum

C. foramen of Monro

D. foramen of Ovale

Answer: A



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7. Identify the wrong one

A. Frontal lobe - creative ideas

B. Temporal lobe - interpretation of sounds

C. Parietal lobe - feeling touch pain

D. Occipital lobe - recognition of smell

Answer: D



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8. Injury to Broca's speech area results in

A. Non fluent aphasia

B. Fluent aphasia

C. Amnesia

D. Laryngitis

Answer: A



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9. Wernicke's (posterior language) area is located in

A. right temporal and parietal lobes

B. left temporal and parietal lobes

C. occipital lobes

D. Frontal lobes

Answer: B



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10. Corpora striata of the cerebrum are

- A. Tracts of grey matter
- B. Ganglia of white matter
- C. Basal nuclei of white matter
- D. Nerve of white matter

Answer: A



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11. Which one of the following is not a basal nucleus

A. Globus pallidus

B. Putamen

C. caudate nucleus

D. Hippocampus

Answer: D



12. In a neuron (axon) at rest the concentration of Na^+ is

- A. 10 times more in ECF than its axoplasm
- B. 10 times more in axoplasm than its ECF
- C. 30 times more in axoplasm than its ECF
- D. 30 times more in ECF than its axoplasm

Answer: A



13. Which one is responsible for the generation of only IPSPs

A. Dopamine

B. Adrenaline

C. Glycine

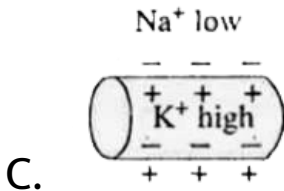
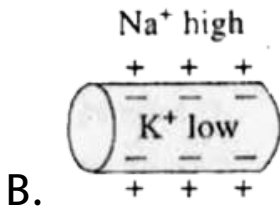
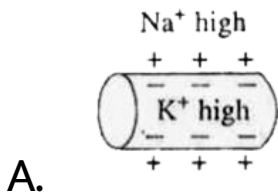
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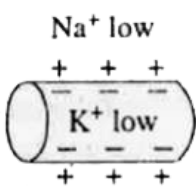
Answer: C



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14. Which of the following options illustrates the distribution of Na^+ and K^+ ions in a section of non-myelinated axon which is at resting potential ?





D.

Answer: A



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15. Which one of the following does not act as a neurotransmitter?

A. Cortisone

B. Acetylcholine

C. Epinephrine

D. Norepinephrine

Answer: A



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16. Sodium-potassium pump transports

A. Na^+ and K^+ out of the neuron

B. Na^+ and K^+ into the neuron

C. Na^+ into the neuron and K^+ out of
the neuron

D. K^+ into the neuron and Na^+ out of
the neuron

Answer: D



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17. Nerve fibres transmit the nerve message by
_____ means.

A. chemical

B. physical

C. electrochemical

D. electrical

Answer: C



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18. Which of the following statements are correct regarding $Na^+ - K^+$ pump ?

(i) Needs energy (ATP) to work

(ii) Expels 3 Na^+ for every 2 K^+ ions imported

(iii) Works against a concentration gradient

(iv) Maintains resting potential

A. (i) and (iv)

B. (ii) and (iii)

C. (i) and (iii)

D. All of these

Answer: D



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19. Local anaesthetic drugs, results in insensitivity to pain due to

- A. inhibiting influx K^+
- B. inhibiting efflux K^+
- C. inhibiting efflux Na^+
- D. inhibiting influx Na^+

Answer: D



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20. Nor adrenaline secreted by sympathetic nervous system is inactivated by

- A. Acetylcholine
- B. Acetylcholine esterase
- C. Dopamine
- D. Monamine oxidase

Answer: D



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21. Which one of the following transmits impulses to central nervous system ?

- A. Abducen nerve
- B. Trochlear nerve
- C. Oculomotor nerve
- D. Auditory nerve

Answer: D



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22. How many pairs of cranial nerves are mixed nerves ?

A. 3

B. 5

C. 4

D. 4

Answer: C



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23. The vagus nerve is the _____ cranial nerve.

A. 7th

B. 5th

C. 10th

D. 9th

Answer: C



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

- A. Vagus nerve
- B. Trigeminal nerve
- C. Facial nerve
- D. None of these

Answer: A



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25. The 3rd, 6th and 11th cranial nerves are respectively

A. oculomotor, abducens and spinal accessory

B. oculomotor, trigeminal and spinal accessory

C. optic, facial and spinal accessory

D. trochlear, abducens and vagus.

Answer: A



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26. Which of the following nerves is purely a motor nerve ?

A. Vagus

B. Facial

C. Abducens

D. Trigeminal

Answer: C



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27. Which of the following statements is incorrect

A. Sympathetic neural system is also known as craniosacral division of autonomous neural system.

B. Deficiency of vitamin A can cause night blindness.

C. Malleus is the largest ear ossicle.

D. Cranial nerve IX is a mixed nerve.

Answer: A



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28. Hypoglossal nerve controls the movements of

A. ear

B. heart

C. tongue

D. limbs

Answer: C



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

- A. Gastro intestinal movements
- B. Pancreatic secretions
- C. Cardiac movements
- D. Tongue movements

Answer: D



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

A. Movement of the eyeball

B. Movement of the tongue

C. Swallowing

D. Movement of the neck

Answer: A



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31. Non- myelinated nerve fibres occur in

- A. Optic nerves
- B. Spinal nerves
- C. Cranial nerves
- D. Autonomic nerves

Answer: D



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32. Which of the following cranial nerves of man is both sensory and motor ?

A. Olfactory

B. Optic

C. Trigeminal

D. Oculomotor

Answer: C



33. Modified sebaceous glands associated with
follicles of eye lashes

- A. Glands of Moll
- B. Glands of zeis
- C. Glands of swammerdan
- D. Glands of Harderian

Answer: B



34. Plica semilunaris is found in

A. functional 3rd eye lid

B. Vestigial upper lid

C. Vestigial 3rd eye lid

D. Vestigial lower eye lid

Answer: C



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35. The part of the ear where sound is transduced is

A. tympanic membrane

B. ear ossicles

C. semicircular canals

D. cochlea

Answer: D



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36. Cornea transplantation is specially successful because

- A. it is composed of enucleated cells
- B. it is a non-living layer
- C. its cells are least penetrable by bacteria
- D. it has no blood supply

Answer: D



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37. The black pigment in the eye, which reduces the internal reflection, is located in

A. retina

B. iris

C. sclerotic

D. cornea

Answer: A



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38. Uncoordinated movements of the 'eye ball is because of an injury to which cranial nerve

A. III

B. V

C. VII

D. VIII

Answer: A



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39. High frequency sound waves vibrate the basilar membrane

A. near the oval window

B. near the helicotrema

C. in the middle of cochlea

D. from oval window to helicotrema

Answer: A



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40. Macula maintains

A. static equilibrium

B. dynamic equilibrium

C. both (1) and (2)

D. none of these

Answer: C



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41. Wax gland present in the ear canal is called

- A. Sweat gland
- B. Prostate gland
- C. Cowper's gland
- D. Sebaceous gland

Answer: A



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42. Alzheimer disease, characterised by less memory is due to

- A. low acetyl choline
- B. high acetyl choline
- C. low dopamine
- D. high dopamine

Answer: A



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43. Increase in dopamine, that results in hallucinations and disorder behaviour is referred to as

A. Alopecia

B. Schizophrenia

C. Nyctalopia

D. Cerebral edema

Answer: B



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44. Parkinson's disease is due loss of dopamine release neurons, associated with

- A. Globus pallidus
- B. Putamen lobe
- C. Substantia nigra
- D. Hippocampal lobe

Answer: C



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45. Perception of ringing sounds in the ears when there is no real sound is

A. Vertigo

B. Tinnitus

C. Otalgia

D. Otitis

Answer: B



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46. Nerves that are not found in frog but are found in humans are

- A. glossopharyngeal and hypoglossal
- B. glossopharyngeal and spinal accessory
- C. spinal accessory and hypoglossal
- D. pneumogastric and hypoglossal

Answer: C



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47. If sensory fibres of a nerve carry the impulses from fungiform and filiform taste papillae of tongue to pons, the nerve is

- A. Trigeminal
- B. Facial
- C. Glossopharyngeal
- D. Vagus

Answer: B



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Exercise Iii Previous Aipmt Neet Questions

1. Receptor sites for neurotransmitters are present on

A. membranes of synaptic vesicles

B. pre-synaptic membrane

C. tips of axons

D. post-synaptic membrane

Answer: D



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2. Good vision depends on adequate intake of carotene rich food. 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. 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

Answer: B



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3. Photosensitive compound in human eye is made up of

- A. Guanosine and retinal
- B. Opsin and Retinal
- C. Opsin and Retinol
- D. Transducin and Retinene

Answer: B



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4. Choose the correct :

A. Nociceptors respond to changes in pressure

B. Meissner's corpuscles are thermoreceptors

C. Photoreceptors in 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 cells of the spinal cord would result in loss of

A. Integrating impulses

B. Sensory impulses

C. Voluntary motor impulse

D. Commissural impulses

Answer: C



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6. In mammalian eye, the 'fovea' is the center of the visual field, Where

A. More rods than cones are found

B. High density of cones occur, but has no rods

C. The optic nerve leaves the eye

D. Only rods are present

Answer: B



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7. A gymnast is able to balance his body upside down even in the total darkness because of

A. Organ of corti

B. Cochlea

C. Vestibular apparatus

D. Tectorial membrane

Answer: C



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8. Which of the following regions of the brain is incorrectly paired with its function?

A. Cerebrum-calculation and contemplation

B. Medulla oblongata-homeostatic control

C. Cerebellum-language comprehension

D. Corpus callosum-communication

between the left and right cerebral

cortices

Answer: C



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9. Stimulation of a muscle fiber 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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10. Which one of the following statements is not correct?

A. Retinal is the light absorbing portion of visual photo pigments.

B. In retina the rods have the photopigments 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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11. Injury localized to the hypothalamus would most likely disrupt

A. Short-term memory.

B. Coordination during locomotion

C. Executive functions, such as decision making

D. Regulation of body temperature

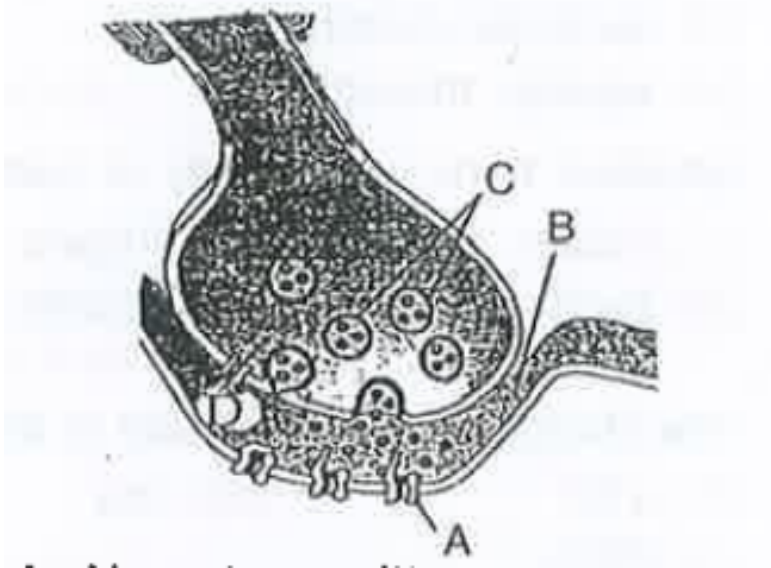
Answer: D



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12. A diagram showing axon terminal and synapses is given. Indentify 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^{++}

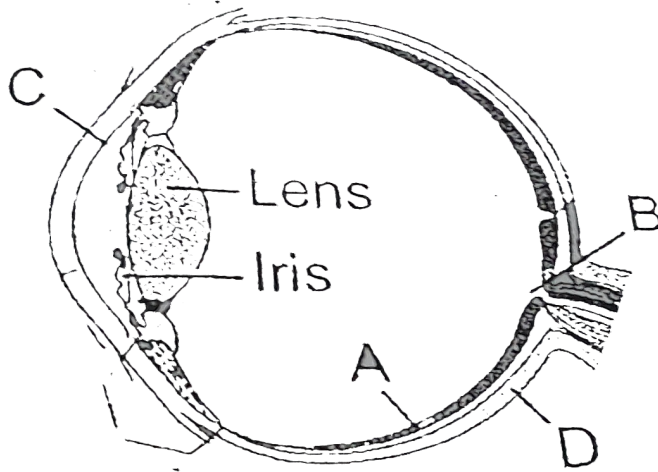
Answer: A



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13. 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 :



A. A-Retina-contains photo receptors-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-choroid-its anterior part forms ciliary

body

Answer: A



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14. 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 neurohormonal control system ?

A. Hypothalamus activates the parasympathetic division of brain

B. Sympathetic nervous system is activated releasing epinephrine and norepinephrin 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

Answer: C



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

A. Vestibular apparatus

B. Larossicles

C. Eustachian tube

D. Organ of corti

Answer: A



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16. The human hind brain comprises three parts, one of which is

A. Cerebellum

B. Hypothalamus

C. Spinal

D. Corpus callosum

Answer: A



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

- A. Comparative more permeable of K^+ ions
and nearly impermeable to Na^+ ions
- B. Comparatively more permeable to Na^+
ions and nearly impermeable to K^+ ions
- C. Equally permeable to both Na^+ and
 K^+ ions
- D. Impermeable to both Na^+ and K^+
ions

Answer: A



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18. The nerve centres 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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19. Which part of human brain is concerned with the regulation of body temperature ?

- A. Hypothalamus
- B. Medulla oblongata
- C. Cerebellum debe
- D. Cerebrum

Answer: A



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20. Alzheimer disease in humans is associated with the deficiency of :

A. Gamma aminobutyric acid(GABA)

B. Dopamine

C. Glutamic acid

D. Acetylcholine

Answer: D



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21. Cornea transplant in human is almost never rejected. This is because:

- A. It is composed of enucleated cells
- B. It is a non-living layer
- C. Its cells are least penetrable by bacteria
- D. It has no blood supply

Answer: D



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

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

B. Na^+ ions from extracellular fluid to intra cellular fluid

C. K^+ ions from extracellular fluid to intra cellular fluid

D. Na^+ ions from intracellular fluid to
extra cellular fluid

Answer: B



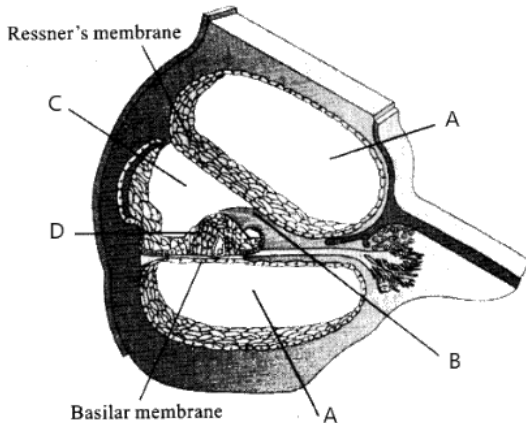
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23. Which one is correct difference between rod
and cone cells.



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24. Given below is a diagrammatic cross - section of single loop of the human cochlea.



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

A. D: Sensory hair cells, A : Endolymph,

B: Tectorial membrane

B. A : Perilymph, B : Tectroial membrane,

C: Endolymph

C. B: Tectorial membrane, C : Perilymph,

D: Secretory cells

D. C : Endolymph, D : Sensoty hair cells,

A: Serum

Answer: B



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

- A. Nucleus and mitochondria
- B. Perikaryon and dendrites
- C. Vacuoles and fibres
- D. Flagellum and medullary sheath

Answer: B



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26. Which one of the following is an example of negative feed back loop in humans ?

A. Secretion of sweat glands and constriction of skin blood vessels when it is too hot

B. Constriction of skin blood vessels and contraction of skeletal muscles when it is too cold

C. Secretion of tears after falling of sand particles into the eye

D. Salivation of mouth at the sight of delicious food

Answer: B



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27. Bowman's glands are located in the

A. Olfactory epithelium of our nose

B. Proximal end of uriniferous tubules

C. Anterior pituitary

D. Female reproductive system of

cockroach be positive

Answer: A



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28. During the transmission of nerve impulse through a nerve fibres, 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

Answer: B



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29. Bowman's glands are found in

- A. Olfactory epithelium
- B. External auditory canal
- C. Cortical nephrons only
- D. Juxtamedullary nephrons

Answer: A



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30. Which one of the following does not act as a neurotransmitter?

A. Acetylcholine

B. Epinephrine

C. Norepinephrine

D. Cortisone

Answer: D



31. One of the examples of the action of the autonomous nervous system is

- A. Knee-jerk response
- B. Pupillary reflex
- C. Peristalsis of the intestines de
- D. Swallowing of food

Answer: C



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

A. Swallowing

B. Movement of the eye ball

C. Movement of the neck.

D. Movement of the tongue

Answer: B



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

A. Norepinephrine

B. Acetylcholine

C. GABA

D. Dopamine

Answer: D



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