NEET : CHAPTER WISE TEST-18

SUBJECT :- BIOLOGY **DATE.....**
CLASS :- 11th **NAME.....**
CHAPTER :- NEURAL CONTROL AND COORDINATION **SECTION.....**

(SECTION-A)

1. _____A_____ neuron has one axon and one dendrite and is found in_____B_____. Fill in the blanks with correct option for A and B, respectively.
(A) Unipolar, retina
(B) Bipolar, embryonic stage
(C) Bipolar, retina
(D) Multipolar, cerebral cortex

2. Which of the following is an incorrect statement w.r.t. neuron?
(A) Neuron is a microscopic structure composed of three major parts, namely, cell body, dendrites, and axon.
(B) Cell body contains cytoplasm, organelles and granular bodies called Nissl's granules.
(C) Dendrite carry impulses away from the cell body.
(D) The axon is a long fibre, the distal end of which is branched.

3. Multipolar neurons have one axon, two or more dendrites and are found in
(A) Retina
(B) Cochlea
(C) Cerebral cortex
(D) Embryonic stage

4. Which of the following is an incorrect difference between electrical and chemical synapse?

	Feature	Chemical synapse	Electrical synapse
(A)	Impulse transmission	Slower	Faster
(B)	Synaptic cleft	Smaller	Larger
(C)	Abundance in body	More abundant	Less abundant
(D)	Direction of impulse	Unidirectional	Bidirectional

5. Unidirectional transmission of impulse through a chemical synapse is due to
(A) Release of neurotransmitters by axon and not by dendrites
(B) Release of neurotransmitters by dendrites and not by axon
(C) Insulation of axon by myelin sheath
(D) Secretion of myelin by Schwann cells

6. The potential difference is maintained across a resting membrane of neuron due to differential distribution of
(A) Na^+ and Cl^- ions
(B) Na^+ and Ca^{2+} ions
(C) Ca^{2+} and Mg^{2+} ions
(D) Na^+ and K^+ ions

7. All of the following are correct statements about non- medullated nerve fibres, except
(A) It is found in spinal and cranial nerves.
(B) It is commonly found in autonomous and somatic neural system.
(C) It is enclosed by Schwann cells that do not form a omyelin sheath around axons.
(D) Both (B) and (C).

8. The Na^+-K^+ pumps of axonal membrane
(A) Operate during repolarization and pump 3 Na^+outwards and 2 K^+ into the cell
(B) Operate during depolarization and pump 3 Na^+ outwards and 2 K^+ into the cell
(C) Operate during resting state and pump 2 K^+ outwards and 3 Na^+ into the cell
(D) Operate during resting state and pump 3 Na^+ outwards and 2 K^+ into the cell

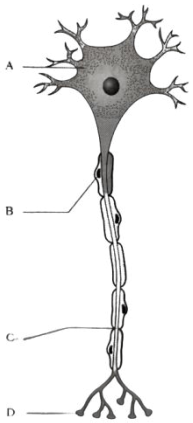
9. During propagation of a nerve impulse, the action /potential results from movement of
(A) K^+ ions from extracellular fluid to intracellular fluid
(B) Na^+ ions from extracellular fluid to intracellular fluid
(C) Na^+ ions from intracellular fluid to extracellular fluid
(D) K^+ ions from intracellular fluid to extracellular fluid

10. Which of the following statements are correct w.r.t. repolarization?
(i) K^+diffuses outside the axonal membrane.
(ii) Resting membrane potential of the membrane is restored.
(iii) No movement of ions takes place across axon membrane.
(iv) Na^+ diffuses outside the axon membrane.
(A) (i) and (ii) (B) (iii) and (iv).
(C) (ii) and (iv) (D) (i) and (iv)

11. Which of the following neurotransmitters generate an excitatory potential at neuromuscular junction?
(A) Dopamine (B) Acetylcholine
(C) Adrenaline (D) Serotonin

12. Saltatory conduction of a nerve impulse takes place through
(A) Myelinated axon
(B) Non-myelinated axon
(C) Cell body
(D) Dendrite

13. In the given labelled diagram of the neuron, find the incorrect match w.r.t. labelled part, its identification and one of its feature/function.



(A) A-Nissl's granules-Present in cell body and dendrite
(B) B-Schwann cell-Forms myelin sheath in CNS
(C) C-Nodes of Ranvier-Gap between two adjacent myelin sheaths
(D) D-Synaptic vesicles knob-- Contain neurotransmitter

14. Destruction of the anterior horn cells of the spinal cord would result in loss of
(A) Sensory impulses
(B) Integrating impulses
(C) Motor impulses
(D) None of these

15. Find the incorrect match:
(A) Thalamus- Controls reflexes respiration, cardiovascular
(B) Association area- Neither clearly sensory nor motor in function
(C) Hypothalamus- Controls body temperature, urge for eating and drinking
(D) Corpus callosum- Tract of nerve fibres which connect the two cerebral hemispheres

16. Corpora quadrigemina are four round swellings which are present on
(A) Dorsal portion of midbrain
(B) Ventral portion of midbrain
(C) Dorsal portion of hindbrain
(D) Ventral portion of hindbrain

17. The afferent nerve fibres of the PNS
(A) Transmit impulses from CNS to tissues
(B) Transmit impulses from receptor to CNS
(C) Act as interneurons in spinal cord
(D) Are motor in function

18. Aqueduct of Sylvius connects
(A) Third ventricle with fourth ventricle
(B) Lateral ventricles with third ventricle
(C) Fourth ventricle with central canal of spinal cord
(D) Fourth ventricle with subarachnoid space

19. Injury to the frontal lobe of cerebrum would most likely disrupt
(A) Muscle coordination
(B) Cardiovascular reflexes
(C) Gastric secretions
(D) Decision making

20. Which of the following connects ventricles of cerebral hemispheres with ventricles of diencephalon?
(A) Corpus callosum
(B) Iter
(C) Metacoel
(D) Foramen of Monro

21. Which of the following meninx is in contact with brain tissue of human?
(A) Duramater (B) Piamater
(C) Arachnoid mater (D) Sclera

22. Medulla oblongata has all of the following centres,except
(A) Respiratory rhythm centre
(B) Pneumotaxic centre
(C) Centre controlling gastric secretions
(D) Cardiovascular reflex controlling centre

23. Find the correct match
(A) Cerebrum- Balance and coordination
(B) Thalamus - Thermoregulation centre
(C) Hypothalamus- Major coordinating for sensory and motor signalling
(D) Association area - Complex functions like memory, communication and intersensory communication

24. Which of the following cranial meninx has spider's web-like structure?
(A) Duramater
(B) Arachnoid mater
(C) Piamater
(D) Both (A) and (C)

25. All of the following are function of sympathetic nervous system, except
(A) Dilation of pupil
(B) Accelerates peristalsis
(C) Increases the force of cardiac eontraction increases and heart rate
(D) Increase the secretion of sweat glands

26. The primary olfactory area is located in which of the following part of cerebrum?
(A) Frontal lobe (B) Temporal lobe
(C) Occipital lobe (D) Parietal lobe

27. Middle cerebellar peduncles connect
(A) Cerebellum to midbrain
(B) Cerebellum to pons
(C) Cerebellum to medulla oblongata
(D) Two cerebral hemisphere

28. Which of the following is incorrect w.r.t. the function of limbic system along with hypothalamus?
(A) Regulation of sexual behaviour
(B) Motivation
(C) Creativity, decision making and execution of plans
(D) Expression of emotional reactions

29. Which of the following are correctly paired?
(A) Forebrain and medulla oblongata
(B) Hindbrain and thalamus
(C) Midbrain and corpora quadrigemina
(D) Brainstem and cerebrum

30. A patient has slurred speech, frequent stumbling, tremors and impaired coordination of arms and legs. This condition is caused due to disorder of
(A) Cerebrum and called ataxia
(B) Cerebellum and called ataxia
(C) Cerebrum and called agnosia
(D) Cerebellum and called agnosia

31. Which category of nervous system comprises the whole complex of nerves, fibres, ganglia and plexus by which impulses travel from central nervous system to visceral organs and vice versa?
(A) Visceral nervous system
(B) Somatic nervous system
(C) Sympathetic nervous system
(D) Peripheral nervous system

32. Identify the wrong statement w.r.t. sympathetic nervous system.
(A) It is said to have thoracolumbar outflow
(B) It has 21 pairs of chain ganglia or paravertebral ganglia located ventral and lateral to the spinal cord.
(C) The post-ganglionic fibres are mostly cholinergic.
(D) It activates sweat secretion and inhibits peristalsis.

33. Upon stimulation of the vagus nerve, the heart rate
(A) Increases
(B) Decreases
(C) Remains same
(D) First increases then decrease

34. The autonomic nervous system does not regulate
(A) Dilation or constriction of pupil
(B) Rate of peristalsis
(C) Heart rate
(D) Memory and learning

35. Broca's area is located in the lower portion of left frontal lobe of brain. It is linked with speech production. Thus, its destruction causes inability to produce speech and the condition is called
(A) Aphasia (B) Agnosia
(C) Ataxia (D) None of these

(SECTION-B)

36. Parkinson's disease is a progressive nervous system disorder due to loss of brain cells that produce
(A) Acetylcholine
(B) Dopamine
(C) Epinephrine
(D) Gamma-amino butyric acid (GABA)

37. Nissl granules are found in ____I____ and ____II____, but are absent in ___III___. Choose the correct option.

	I	II	III
(A)	Cell body	Axon	Dendrite
(B)	Axon	Dendrite	Cell body
(C)	Cell body	Dendrite	Axon
(D)	Cell body	Dendrite	Cyton

38. Arrange the following steps of transmission of impulses in a correct sequence:
I. Arrival of action potential at axon terminal.
II. Neurotransmitter binds to the receptor on post-syn- aptic membrane.
III. Opening of specific ion channels generating excitatory or inhibitory potential.
IV. Synaptic vesicles fuse with the synaptic membrane and neurotransmitter releases in synaptic cleft by influx of Ca^{2+}.
(A) I → II → IV → III (B) I → IV → II → III
(C) III → II → IV → I (D) II → I → III → IV

39. Which of the following statements are correct for chemical synapse?
(i) Pre- and post-synaptic neurons are separated by fluid-filled synaptic cleft.
(ii) Bidirectional conduction of impulses.
(iii) Presence of synaptic vesicles in the axon terminals.
(iv) The membranes of pre-synaptic and post-synaptic neurons are in close proximity.
(A) (i) and (ii) (B) (ii) and (iii)
(C) (i) and (iii) (D) (iii) and (iv)

40. Which of the following part(s) of human brain is/are paired?
(A) Olfactory lobe
(B) Cerebellar hemisphere
(C) Pons varolii
(D) Both (A) and (B)

41. Which of the following is a function/feature of cerebellum?
(A) Does not have convulations.
(B) Has centres for taste and smell.
(C) Wraps around a structure called thalamus.
(D) Coordinates voluntary movements such as posture, balance, coordination and speech.

42. The inner parts of cerebral hemispheres and a group of associated deep structures like ___A___ and ___B___, form a complex structure called the limbic lobe or limbic system.
Choose the correct option for blanks A and B, respectively.
(A) Amygdala, hypothalamus
(B) Amygdala, hippocampus
(C) Corpus striatum, hippocampus
(D) Thalamus, hypothalamus

43. Arbor vitae is found in
(A) Cerebrum (B) Thalamus
(C) Hypothalamus (D) Cerebellum

44. Match the options given in column I with those of column II and choose the correct answer.

	Column I		**Column II**
(A)	Frontal lobe	A	Somatosensory area
(B)	Parietal lobe	B	Motor functions
(C)	Temporal lobe	C	Vision
(D)	Occipital lobe	D	Hearing

45. In cochlea, the tymanic canal is separated from median canal by
(A) Reissner's membrane
(B) Basilar membrane
(C) Tectorial membrane
(D) Plasma membrane

46. Find the mismatch:
(A) Tangoreceptors-Merkel's discs
(B) Propioreceptors-Golgi-tendon organs
(C) Photoreceptors-Rods and cones
(D) Phonoreceptors-Cristae and maculae

47. Which of the following is a wrong match?
(A) Caloreceptors-Ruffini's endings
(B) Frigidoreceptors-End-bulbs of Krause
(C) Propioreceptors-Johnston's organs
(D) Statoreceptors-Neuromast organs

48. Which of the following is an incorrect statement?
(A) Third ventricle of brain is found in diencephalon.
(B) Frontal and parietal lobes of cerebrum are separated by lateral sulcus.
(C) Ependymal cells are present in the lining of ventricles of brain.
(D) Hindbrain is also called mesencephalon.

49. Which of the following is an incorrect statement w.r.t. spinal cord and spinal nerves?
(A) All spinal nerves are mixed.
(B) The dorsal root of each spinal nerve is motor.
(C) The tapered lower end of spinal cord near L, and L. vertebra is called conus medullaris.
(D) The bundle of spinal nerves and spinal nerve rootlets is called cauda equina.

50. The parts of human brain that helps in regulation of sexual behaviour, expression of excitement, pleasure, rage, fear etc. are:
(A) Limbic system and hypothalamus
(B) Corpora quadrigemina and hippocampus
(C) Brain stem and epithalamus
(D) Corpus callosum and thalamus