1. neuroglial cells support and protect ______.
   a. Muscle cells
   b. Glands
   c. Neurons
   d. Nephrons

2. ______ is an abundant inhibitory neurotransmitter in CNS.
   a. Adrenaline
   b. Acetylcholine
   c. GABA
   d. Noradrenaline

3. Recording of the electrical activity associated with the heartbeat is called ______.
   a. Oscilloscope
   b. Electrocardiogram
   c. Stethoscope
   d. Laparoscope

4. Molecules of neurotransmitter, released from the presynaptic neuron bind to receptors on the ______.
   a. Postsynaptic membrane
b. Cell body

c. Axonal membrane

d. None of these

5. Which one of the followings is the function of parasympathetic nervous system?

a. Stimulates oil and sweat glands in the skin

b. Pupil constriction

c. Acceleration of heart beat

d. Contraction of hair muscles

6. Comprehension of spoken and written words take place in the region of

a. Association Area

b. Motor Area

c. Wernicke’s Area

d. Broca’s Area

7. One of the followings is a naturally occurring compound which reduces the sensation of pain and generates feelings of well-being?

a. Acetylcholine

b. Dopamine

c. Endorphin

d. Epinephrine
8. There are _____ pairs of cranial nerves arising from the brain.
   a. 8
   b. 12
   c. 18
   d. 25

9. A short Gap in the myelin sheath around a nerve fiber is called ______.
   a. Dendrite
   b. Axon terminal
   c. Node of Ranvier
   d. None of these

10. Which of the following does not act as a neurotransmitter?
    a. Acetylcholine
    b. Glutamic acid
    c. Epinephrine
    d. Tyrosine

11. Hypothalamus and thalamus are in ______.
    a. Cerebellum
    b. Cerebrum
12. The basic cyclic pattern of inspiration and expiration are established by a respiratory center within the ______.

a. Cerebellum  
b. Medulla oblongata  
c. Cerebral cortex  
d. Thalamus

13. Which one of the following pairs is incorrectly matched in regard to the principal actions of neurotransmitters?

a. Endorphins - involved in moods  
b. Serotonin - involved in sleep cycle  
c. Norepinephrine - plays a role in emotions  
d. Somatostatin - inhibits pancreatic release of growth hormone

14. Functions of smooth muscles, cardiac muscles, organs, and glands are regulated by ______ system.

a. Parasympathetic  
b. Sympathetic  
c. Central nervous  
d. Autonomic
15. preganglionic neurons lie within the ______.

a. Parasympathetic nervous system  
b. Sympathetic nervous system  
c. Peripheral nervous system  
d. Central nervous system

16. spinal cord and brain are wrapped in protective membranes known as _____.

a. Axomembranes  
b. Meninges  
c. Nodes of Ranvier  
d. Myelin sheath

17. Which portion of the brain is responsible for various emotions such as pleasure, fear, and happiness?

a. Thalamus  
b. Reticular formation  
c. Hypothalamus  
d. Limbic system

18. The difference in voltage between the inside and outside of a cell is called ______.

a. Spike potential  
b. Action potential
19. Cocaine as a stimulant of the CNS interferes with the reuptake of ______ at synapses.

a. Acetylcholine  
b. Dopamine  
c. Oxygen  
d. Epinephrine

20. The cutaneous plexus and the papillary plexus consist of

a. Specialized cells for cutaneous sensations  
b. A network of arteries to provide dermal supply  
c. A network of nerves to provide dermal sensation  
d. Gland cells that release cutaneous secretions

21. Which one of the following is the correct statement regarding the particular psychotropic drug specified?

a. Barbiturates cause relaxation and temporary euphoria  
b. Hashish causes after thought perceptions and hallucinations  
c. Opium stimulates nervous system and causes hallucinations  
d. Morphine leads to delusions and disturbed emotions
22. During synaptic transmission of nerve impulse, neurotransmitter (P) is released from synaptic vesicles by the action of ions (Q). Choose the correct P and Q.

a. P = Acetylcholine, Q = Ca^{++}

b. P = Acetylcholine, Q = Na^{+}

c. P = GABA, Q = Na^{+}

d. P = Cholinesterase, Q = Ca^{++}

23. Which one of the common neurotransmitters is paired wrongly with the site where it is released?

a. Somatostatin - pancreas

b. Serotonin - spinal cord

c. Acetylcholine - Neuromuscular junctions

d. Endorphins - autonomic nervous system

24. Which one of the followings is correct in regard to the function of cerebellum?

a. Regulate heartbeat

b. Muscle coordination

c. Secretes melatonin

d. Sense reception

25. Broca's area in the left hemisphere is related to ______

a. Receiving the impulses from eyes

b. Speech
c. Learning and reasoning

d. Sensation of smell

26. The generation of excitation-contraction coupling involves all the following events except

a. Generation of end-plate potential

b. Release of calcium from troponin

c. Formation of cross-linkages between actin and myosin

d. Hydrolysis of ATP to ADP

27. The protein carrier in the membrane, called "sodium-potassium pump" pumps ______

a. Both Na\(^+\) and K\(^+\) in

b. Both Na\(^+\) and K\(^+\) out

c. Na\(^+\) in and K\(^+\) out

d. Na\(^+\) out and K\(^+\) in

28. Select the correct statement from the ones given below

a. Cocaine is given to patients after surgery as it stimulates recovery

b. Barbiturates when given to criminals make them tell the truth

c. Morphine is often given to persons who have undergone surgery as a pain killer

d. Chewing tobacco lowers blood pressure and heart rate
29. Which of the following options is appropriate for the processing center "Wernicke's area" found in left cerebral cortex?

a. Helps us to understand both written and spoken word
b. Adds grammatical refinements
c. Sends information to Broca's area
d. Both 1 and 3

Reason: To maintain the unequal distribution of Na$^+$ and K$^+$, the neurons use electrical energy.

a. Both Assertion and Reason are true and Reason is the correct explanation of the Assertion.
b. Both Assertion and Reason are true but the Reason is not the correct explanations of Assertion.
c. Assertion is true, but Reason is false.
d. Both Assertion and Reason are false.

31. The thin and convoluted outer layer of gray matter that covers the cerebral hemispheres is

a. Medulla oblongata
b. Thalamus
c. Cerebral cortex
d. Meninges

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

a. Comparatively more permeable to 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

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

<table>
<thead>
<tr>
<th></th>
<th>Distribution</th>
<th>Rod cells (distribution)</th>
<th>Cone cells (distribution)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>More concentrated in centre of retina</td>
<td>More concentrated in centre of retina</td>
<td>Evenly distributed all over retina</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td>Visual acuity</td>
<td>High</td>
<td>Low</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(3)</td>
<td>Visual pigment contained</td>
<td>Iodopsin</td>
<td>Rhodopsin</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4)</td>
<td>Overall function</td>
<td>Vision in poor light</td>
<td>Colour vision and detailed vision in bright light</td>
</tr>
</tbody>
</table>

a. (1)
b. (2)
c. (3)
d. (4)

34. Which neuroglia cells produce a fatty insulating material called myelin?

a. Satellite cells
b. Schwann cells
c. Both 1 and 2
d. Neither 1 nor 2

35. The difference in charge between inside and outside environment (change in voltage) of the nerve cell membrane is measured by ______.
36. Which one of the followings is responsible for the improvement of nutrient flow to the neurons and provides electrical insulation?

a. Neuroglia

b. Motor neuron

c. Sensory neuron

d. Interneuron

37. If vagus nerve in man is damaged, which of the following will not be affected?

a. pancreatic secretion

b. gastrointestinal movements

c. tongue movements

d. cardiac movements

38. Which of the following is not related to the autonomic nervous system?

a. Peristalsis

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

a. all potassium ions leave the axon

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

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

d. all sodium ions enter the axon

40. Which of the following nerves is the largest of all the cranial nerves?

a. Abducens nerve

b. Oculomotor nerve

c. Olfactory nerve

d. Trigeminal nerve

41. Which one of the following cranial nerves is carrying the nerve fibres originating from the Edinger-Westphal nucleus?

a. Oculomotor

b. Trochlear

c. Abducens

d. Vagus
42. **skeletal muscles** are controlled by ______.

a. Sympathetic nerves  
b. Parasympathetic nerves  
c. Somatic nerves  
d. Autonomic nerves

43. Which one of the followings is not correct about **neuroglial cells**?

a. Generate or transmit impulses  
b. Maintain healthy concentrations of important chemicals in the fluid  
c. Provide physical support and protection to neurons  
d. In PNS, responsible for myelination (Schwann cells)

44. Which one of the following aspects is an exclusive characteristic of living things?

a. Perception of events happening in the environment and their memory  
b. Increase in mass by accumulation of material both on surface as well as internally  
c. Isolated metabolic reactions occur in vitro  
d. Increase in mass from inside only

45. Given below is a diagrammatic cross section of a single loop of human cochlea:
Which one of the following options correctly represents the names of three different parts?

a. 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

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

Examine the diagram of the two cell types A and B given below and select the correct option.

a. Cell-A is the rod cell found evenly all over retina
b. Cell-A is the cone cell more concentrated in the fovea centralis
c. Cell-B is concerned with colour vision in bright light
d. Cell-A is sensitive to low light intensities

In the PNS, the neuroglial cells that form protective myelin sheaths are ______.

a. Microglia
b. Ganglionic cells
c. Oligodendrocytes
d. Schwann cells

49. Patients suffering from cholera are given a saline drip because

a. NaCl is an important component of energy supply
b. NaCl furnishes most of the fuel required for cellular activity
c. Na\(^+\) ions help in stopping nerve impulses and hence, sensation of pain
d. Na\(^+\) ions help in the retention of water in the body tissues

50. At a neuromuscular junction, synaptic vesicles discharge ______.

a. Acetylcholine
b. Epinephrine
c. Adrenaline
d. None of these

<table>
<thead>
<tr>
<th>Answer Keys</th>
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</thead>
<tbody>
<tr>
<td>1. c</td>
</tr>
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<td>6. c</td>
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<tr>
<td>16. b</td>
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<td>21. b</td>
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<td>31. c</td>
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