**MASTERS PRE-UNIVERSITY COLLEGE, HASSAN 573201**

**BIOLOGY PRACTICE QUESTIONS**

**Topic: Neural control and co-ordination**

1. **In which animal nerve cell is present but brain is absent:**

a. Sponge b. Earthworm c. Cockroach d. Hydra

1. **Organ of corti is associated with**

a. Cerebral cortex b. Macula c. Cristae d. Cochlea

1. **The brain stem is made up of**

a. Mid brain, pons, cerebellum b. Midbrain, pons,B medulla oblongata

c. Diencephalon, medulla oblongata, cerebellum d. Cerebellum, cerebrum, medulla oblongata

1. **What is fovea centralis?**

a. Region of choroid with only cones b. Region of retina with only rod cells

c. Region of retina without any sensory cells d. Region of retina with only cone cells

1. **Put the following parts of a reflex arc in the correct order beginning with the sensory receptor.**

**i. Motor neuron ii. Interneuron iii. Effector iv. Sensory neuron v. sensory receptor**

a. v, iv, i, ii, iii b. v, iv, ii, i, iii c. i, ii, iii, iv, v d. i, v, iv, ii, iii

1. **During propagation of nerve impulses, the action potential results from the movement of:**

a. K+ ions from extracellular fluid to intracellular fluid

b. K+ ions from to intracellular fluid to extracellular fluid

c. Na+ ions from to intracellular fluid to extracellular fluid

d. Na+ ions from extracellular fluid to intracellular fluid.

1. **The correct sequence of meninges from inner to outer side is**

a) Duramater → arachnoid membrane→piamater b) Duramater → piamater→ arachnoid membrane

c) piamater→ arachnoid membrane→ Duramater d) arachnoid membrane→ Duramater→ piamater

1. **Nodes of ranvier are found in**

a) Axon b) Sperm c) Muscle fibre d) Nephron

1. **Reissner’s membrane seperates**
2. Scala vestibule and Scala media
3. Tympanic cavity and pharynx
4. Fenestra rotundus and Fenestra ovalis
5. Scala media and Scala tympani
6. **From inside to outside the correct order of the following cells in the retina would be**
7. Ganglion cells-photoreceptors cells-Bipolar cells
8. Ganglion cells-Bipolar cells-photoreceptors cells
9. Bipolar cells- photoreceptors cells- Ganglion cells
10. photoreceptors cells- Ganglion cells- Bipolar cells
11. **Receptors sites for neurotransmitters are present on**
12. Membranes of synaptic vesicles b. Pre-synaptic membrane
13. Tips of axons d. Post-synaptic membrane
14. **Unidirectional transmission of a nerve impulse through nerve fiber is due to the fact that**
15. Nerve fibre is insulated by a medullary sheath
16. Sodium pump starts operating only at the cyton and then continues into the nerve fibre
17. Neurotransmitters are released by dendrities and not by axon endings
18. Neurotransmitters are released by the axon endings and not by dendrites
19. **The transparent lens in the human eys is held in its place by**
20. Ligaments attached to the ciliary body
21. Ligaments attached to the iris
22. Smooth muscles attached to the iris
23. Smooth muscles attached to the ciliary body
24. **Which of the following structures or regions is incorrectly paired with its functions?**
25. Medulla oblongata : controls respiration and cardiovascular reflexes
26. Limbic system; consists of fibre tracts that interconnects different regions of brain, controls movement.
27. Hypothalamus: production of releasing hormones and regulation of temperature, hunger and thirst
28. Carpus callosum; band of fibers connecting left and right cerebral hemispheres
29. **Hypothalamus of the brain is not involved in this function**

a) Sleep –wake cycle b) Osmoregulation and thirst

c) Temperature control d) muscular movement

1. **Parkinson’s disease is caused by degeneration of brain neurons that are involved in movement control and make use of neurotransmitter:**

a. GABA b. Dopaminec. Acetylcholine d. Nor-epinephrine

1. **Resting potential of a nerve is:**

a. -30 mV b. -70 mV c. +70 mV d. +30 mV

1. **Auditory area is located in:**

a. Frontal lobe b. Parietal lobe c. Temporal lobe d. Occipital lobe

1. **Body posture, equilibrium and rapid muscle activities are controlled by**

a. Cerebellum b. Diencephalon c. Olfactory lobes d. Hypothalamus

1. **Match the following human spinal nerves in column I with the number of pairs in the column II and choose the correct option:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Column I** | | **column II** | |
| A | Cervical nerves | 1 | 5 |
| B | Thoracic nerves | 2 | 1 |
| C | Lumbar nerves | 3 | 12 |
| D | Coccygeal nerves | 4 | 8 |

**Codes: A B C D A B C D**

a. 2 4 1 3 b. 4 3 1 2

c. 3 1 2 4 d. 1 4 2 3

1. **A person entering the dark room suddenly finds a snake right in front of him. Which one of the following is likely to happen in his neurohormonal control system?**

a. Neurotransmitters diffuse rapidly across the cleft and transmit a nerve impulse.

b. Sympathetic nervous system is activated releasing epinephrine from adrenal medulla.

c. Hypothalamus activates the parasympathetic division of brain

d. Sympathetic nervous system is activated releasing epinephrine from adrenal cortex

1. **Among which one of the following groups of chemicals all are neurotransmitters**

a. Glycine, Dopamine, Melatonin

b. Somatostatin, serotonin, acetylcholine

c. Noradrenalin, Somatostatin, threonine

d. Acetylcholine, noradrenalin, dopamine

1. **Which of the following statements are correct and incorrect /**

i. Synaptic cleft of neurons secrete adrenaline

ii. Myelinated nerve fibers are enveloped with Schwann cells, which form myelin sheath around the axon

iii. Non-Myelinated nerve fibre is enclosed by a Schwann cell that does not form myelin sheath

iv. Spinal cord and cranial nerves are made of non-Myelinated nerve fibers

a. i, ii are correct but iii and iv are incorrect

b. i ii and iii are correct but iv is wrong

c. iii and iv are correct but i and ii are incorrect

d. ii and iii are correct but i and iv are incorrect

1. **The waxy substance, which coats the surface of auditory canal is produced by**

a. Tympanum ` b. ceruminous glands

c. sebaceous glands d. Meibomian glands

1. **Ommatidia serve the purpose of photoreception in**

a. Sunflower b. Cockroach c. Frog d. Humans

1. **Myelin sheath is produced by**
2. Schwann cells and oligodendrocytes
3. Astrocytes and Schwann cells
4. Oligodendrocytes and Osteoclasts
5. Osteoclasts and astrocytes
6. **Jumping of the action potential at the nodes of Ranvier is known as:**
7. Saltatory conduction
8. Neurotransmission
9. Recovery phase
10. Active phase
11. **Semicircular canals occur in**
12. Heart b. Ear c. Eye d. Brain
13. **Sound is transmitted from middle ear to internal ear due to**
14. Vibrations of tympanum b. Vibration of stapes

c. striking of stapes d. All of these

1. **All the unconscious activities like heartbeat, involuntary breathing and gut peristalsis are controlled by**

a. Medulla oblongata b. Cerebrum and medulla

c. Cerebellum and medulla d. cerebrum and cerebellum

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| --- | --- | --- | --- |
| **Sl.no** | **Key** | **Sl.no** | **Key** |
| **1** | D | **16** | B |
| **2** | D | **17** | B |
| **3** | B | **18** | C |
| **4** | D | **19** | A |
| **5** | B | **20** | B |
| **6** | D | **21** | B |
| **7** | C | **22** | D |
| **8** | A | **23** | D |
| **9** | A | **24** | B |
| **10** | B | **25** | B |
| **11** | D | **26** | A |
| **12** | C | **27** | A |
| **13** | A | **28** | B |
| **14** | B | **29** | C |
| **15** | **A** | **30** | A |
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