**Copy of BCC LogoMultiple Choice Question Sheet**

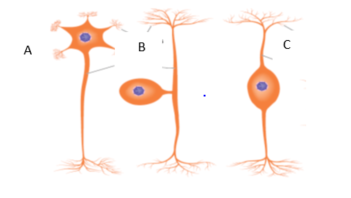
**Task 2 Part B Test – Nervous System**

***Do not write on this paper.***

1: The difference between white and grey matter within the spinal cord is that:

1. the white matter is far away from the nerve tracts within the spinal cord whilst the grey matter is closer.
2. the grey matter contains the unmyelinated nerve fibres and the white matter contains the cell bodies.
3. the white matter contains the dendrites of neurons, the grey matter contains the nerve fibres.
4. **the grey matter contains the cell bodies of neurons the white matter contains the myelinated nerve fibres.**

Use the diagram below to answer question 2.



2: Which of the following correctly labels the structural types of neurons shown above.

|  |  |  |  |
| --- | --- | --- | --- |
|  | A | B | C |
| (a) | multipolar | bipolar | unipolar |
| (b) | bipolar | multipolar | unipolar |
| (c) | unipolar | bipolar | multipolar |
| **(d)** | **multipolar** | **Unipolar** | **bipolar** |

3: The Corpus Callosum is found between the cerebral hemispheres and its function is to:

1. enable communication between the cerebrum and the cerebellum.
2. protect the hypothalamus.
3. enable the hypothalamus to connect with the pituitary.
4. **enable the two sides of the cerebrum to communicate with each other.**

4: The chemical that transmits a nerve stimulus via a somatic pathway to a muscle fibre is

1. noradrenaline.
2. cholesterol.
3. **acetylcholine**.
4. adenosine triphosphate.

5: Which of the following comparisons of the autonomic and somatic divisions of the peripheral nervous system are **incorrect**?

1. Somatic division affects the skeletal muscle, autonomic affects the involuntary and cardiac muscle.
2. **The efferent pathway of the autonomic division has a one neuron chain, whereas the somatic division has a two neuron chain.**
3. Somatic division releases acetylcholine at its synapses and autonomic division releases noradrenaline, adrenaline and acetylcholine at its synapses.
4. Autonomic division’s general function is homeostasis whereas the somatic division’s function is to respond to the external environment.

6: Which of the following statements about the autonomic division of the peripheral nervous system is correct?

1. This system is under voluntary control and can inhibit or excite the effector.
2. **It is made up of two nerve fibres that may excite or inhibit the effector.**
3. It consist of sensory neurons that respond to external environmental changes.
4. The autonomic division releases acetylcholine and is responsible for maintaining homeostasis.

7: Which of the following statements about the visceral sensory neurons are correct?

1. They relay impulses from the central nervous system to the skin and muscles.
2. **They transmit impulses from the internal organs to the central nervous system.**
3. They relay impulses from the skin and muscle to the central nervous system.
4. They transmit impulses from the central nervous system to involuntary muscles.

8: When a nerve cell is at rest there is a potential difference across the cell membrane of -70mV. This difference in charge is caused by

* 1. the membrane continuously pumps positively charged potassium ions from the intracellular fluid to the extracellular fluid.
  2. the intracellular fluid has more negatively charged ions than the extracellular fluid.
  3. **the extracellular fluid has more positive sodium ions than the intracellular fluid.**
  4. sodium ions which are positively charged are more concentrated in the intracellular fluid.

**Refer to the list below to answer the next question. This information shows some normal physiological changes in the human body.**

* + 1. Dilation of pupils
    2. Increase in heart rate
    3. Decreased secretion of saliva
    4. Increased secretion from sweat glands
    5. Dilation of blood vessels in the skin
    6. Decreased levels of adrenalin in blood

9: Which of the changes in the above list would result from stimulation by the sympathetic

division of the autonomic nervous system?

1. A, B, C and E
2. A, C, D and F
3. **A, B, C, and D**
4. B, C, E, and F

10: Which statement about nerve fibres is correct?

1. Fibres that have a larger diameter will conduct impulses slower than those with a smaller

diameter.

1. Myelinated fibres conduct impulses slower than unmyelinated nerve impulses.
2. **Nodes of Ranvier increase the speed of nerve impulse transmission.**
3. All myelinated nerve impulses end on skeletal muscles.