**Copy of BCC LogoMultiple Choice Questions**

**Task 3: Test – Homeostasis and Immune System 2023**

1. Aerobic respiration is a chemical reaction that produces a number of waste products which are detected by different sensory receptor to maintain homeostasis. Those receptors that would be most sensitive to these wastes would be
2. osmoreceptors, chemoreceptors and alpha cells.
3. carotid and aortic bodies, osmoreceptors and central chemoreceptors.
4. thermoreceptors, osmoreceptors and beta cells.
5. peripheral and central chemoreceptors.
6. Whilst exercising during the heat of the day the body is cooled by sweating which can lead to dehydration. If the body becomes too dehydrated:
7. osmotic pressure of the blood decreases.
8. chemoreceptors in the hypothalamus will be stimulated.
9. ADH secretion will be increased.
10. the permeability of the distal convoluted tubule to water will be reduced.
11. Which section of the brain contains the vasomotor centre which regulates the diameter of

blood vessels?

1. hypothalamus
2. medulla oblongata.
3. cerebellum.
4. cerebrum
5. Which combination works together to reduce blood flow to the skin?
6. Midbrain/decease in heart rate.
7. Parasympathetic/vasoconstriction.
8. Cerebrum/lower cardiac output.
9. Sympathetic/vasoconstriction.
10. Which of the following identifies correctly the receptors and effectors?

|  |  |  |  |
| --- | --- | --- | --- |
| **Receptors X** | **Effectors X** | **Receptors Y** | **Effectors Y** |
| hot thermoreceptors | skin arterioles and sweat glands | cold thermoreceptors | skin arterioles and voluntary muscles |
| cold thermoreceptors | central blood vessels and sweat glands | hot thermoreceptors | central blood vessels and voluntary muscles |
| hot thermoreceptors | skin arterioles and voluntary muscles | cold thermoreceptors | central blood vessels and sweat glands |
| cold thermoreceptors | central blood vessels and voluntary muscles | hot thermoreceptors | skin arterioles and sweat glands |

A.

B.

C.

D.

1. A key component of cell-mediated immunity is the body’s production of
2. antigens.
3. antibodies.
4. memory B cells.
5. killer T cells.
6. Pus is formed when special cells of the immune system enter a site of infection and ingest or engulf foreign matter. These cells are called
   1. T cells
   2. phagocytes
   3. lymphocytes
   4. antigens
7. Select the correct statement regarding a new-born baby and the immune system below.
8. The baby has yet to develop a non-specific immune system.
9. The baby’s specific immune system has been exposed to many foreign antigens.
10. The baby has some specific immunity from antibodies that have crossed the placenta.
11. The baby has developed active immunity from antigens that have crossed the placenta.
12. A toxic substance, partly consisting of a foreign protein, penetrated the epidermis of the skin. It was immediately detected by a particular cell type resident under the skin surface which responded by multiplying and producing another cell type. This new cell manufactured and secreted a substance which inactivated the toxin. The toxin was neutralised by the work of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
13. Complement cells
14. mast cells
15. B cells
16. Phagocytes
17. Which of the following is not true about the thymus gland?
18. It activates T cells.
19. It shrinks after puberty
20. It produces T cells
21. It lies in the centre of the chest approximately