

Multiple choice question on thermoregulation

1. Integration of temperature information by the nervous system occurs mainly in the:
 - a. Spinal cord
 - b. Hypothalamus
 - c. Peripheral receptors
 - d. Amygdala.
2. The only available mechanism of heat transfer when the environmental temperature is greater than the body temperature is:
 - a. Radiation
 - b. Conduction
 - c. Convection
 - d. Evaporation.
3. What probably causes stimulation of the thermal receptors?
 - a. Changes in the metabolic rate of nerve ending
 - b. Changes in the membrane structure caused by heat or cold
 - c. Changes in the viscosity of the fluid surrounding the neurone
 - d. Changes in the concentration of sodium and potassium ion outside the neuron caused by change in temperature.
4. Normal body temperature can be raised by:
 - a. Oestrogen
 - b. Androgen
 - c. Progesterone
 - d. Gonadotropins.
5. What is mechanism by which infection causes fever:
 - a. Increased heat production and decreased heat loss
 - b. Pyrogens acting dependent of hypothalamus
 - c. Decreased heat production and decreased heat loss
 - d. Increased heat production only.

6. Peripheral receptors are located in;
 - a. Kidney
 - b. Skin
 - c. Hypothalamus
 - d. Liver.
7. Following are under the control of autonomic nervous system except:
 - a. Fear
 - b. Piloerection
 - c. Sweating
 - d. Cutaneous vasodilation.
8. Following are the examples of thermoregulatory mechanism in the vertebrates except:
 - a. Thermal migration
 - b. Basking
 - c. Hibernation
 - d. Satiety.
9. All are homeotherms except:
 - a. Rabbit
 - b. Frog
 - c. Bird
 - d. Man.
10. Heat loss is also termed as:
 - a. Thermogenesis
 - b. Dethermolysis
 - c. Thyrolysis
 - d. Thermolysis.
11. Which one is regarded as physiological thermostat:
 - a. Thyroid
 - b. Pineal
 - c. Hypothalamus
 - d. Adrenal.
12. Which of the following is an important difference between an ectothermic and an endothermic having similar body size:
 - a. Only ectotherms uses behavioral thermoregulation
 - b. Only endothermic can constrict and dialate blood vessel to the skin to alter the flow of heat
 - c. Only endotherms can get fever
 - d. An ectotherm has lower metabolic rate than the endotherm at body temperature of 37°C.

13. In Humming bird an adaptive hypothermia is called:
- Shallow torpor
 - Deep torpor
 - Hibernation
 - Aestivation.
14. which of the following statement is true of Brown fat:
- It is a major source of heat production in birds
 - It occurs only in hibernators
 - It produces heat without producing ATP
 - It provides fuel for muscle used for shivering.
15. What is the most important general difference between birds and mammals adapted to cold regions comparison to species adapted to warm regions:
- Higher metabolic rates
 - Brown fat
 - Ability to hibernation
 - Greater insulation.
16. Which of the following would cause a decrease in the hypothalamic set point for metabolic heat production?
- Taking and Aspirin when suffering from fever
 - Going to cold environment
 - Cooling the hypothalamus
 - Getting an infection that causes fever.
17. Mammalian hibernation:
- Is less common than hibernation in birds
 - Can occur at any time of the year
 - Is a regulated decrease in body temperature
 - Last for several month during which body temperature remains close to environmental temperature.
18. The function of countercurrent heat exchanger in hot fish is:
- To heat the blood returning to the heart
 - To cool the skin
 - To dissipate Excess heat generated by powerful swimming muscles
 - To trap heat in the muscles.

19. Which of the following animal does not show hyperthermia:
- a. Small rodent of the desert
 - b. Camel
 - c. Rat
 - d. Dogs.
20. The unique protein present in brown fat cell is:
- a. Prolactin
 - b. Thermogenin
 - c. Melatonin
 - d. Calcitonin.
