



Dr. Blosa Science

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NAME:.....

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SENIOR FOUR

553/1

BIOLOGY

PAPER 1

EXAM 13

TIME: 1 HOUR 30 MINUTES

Instructions:

Answer all questions in sections A, B and C.

Section A:

Answers should be written as letters in the corresponding column in the table below

Section B and C:

Answers should be written in the spaces provided

9. Growth of plant roots towards water is called positive
A: thigmotropism
B: hydrotropism
C: geotropism
D: phototropism
10. Which one of the following is not part of the ear structure?
A: Ossicle
B: Auricle
C: Ampulla
D: Tympanum
11. The ability of an organism to maintain a stable and constant internal environment is called
A: Homeostasis
B: Osmoregulation
C: Disease control
D: appropriate response
12. Which one of the following is not a waste product?
A: carbon dioxide
B: water
C: faeces
D: Nitrogenous wastes
13. Which one of the following is false? The main excretory organs in the mammals are:
A: kidney
B: lungs
C: skin
D: Anus
14. Urine contains no glucose since
A: the nephron is impermeable to glucose
B: Glucose passes back into the blood stream
C: the kidney converts glucose to urea
D: Glucose is used for respiration before reaching the collecting duets.
15. Which part of the brain is the temperature regulating center?
A: Hypothalamus
B: cerebrum
C: cerebellum
D: Pituitary body
16. Where in the kidney nephron does re-absorption of sugar occur?
A: first coiled part
B: second coiled region
C: Ascending limb of Henle's loop
D: Descending limb of Henle's loop
17. Which one of the following would lead to excretion of large quantities of sugar in urine of a man?
A: Removal of his pancreas
B: Drinking large quantities of water
C: A hot day
D: A meal rich in carbohydrates
18. Which one of the following does not cause an increase in human body temperature?
A: constriction of peripheral blood vessels
B: shivering of muscles
C: increased metabolic rate
D: dilation of deep lying blood vessels
19. Which of the following substances are excretory products of animals?
1. Carbon dioxide
2. uric acid
3. urea
4. ammonia
A: all of them
B: 2 and 3
C: 2,3 and 4
D: 1, 2 and 3
20. What is the most probable main end product of nitrogenous excretion in the crocodile?
A: Ammonia
B: Urea and Ammonia
C: urea and uric acid
D: Uric acid

21. Phagocytosis is a process whereby
 A: White blood cells ingest and destroy bacteria
 B: white blood cells cause the bacteria to stick together
 C: white blood cells dissolve the outer coats of invading bacteria and destroying them
 D: antibodies fight antigens
22. Which of the following is not a pigment?
 A: Hemoglobin B: Melanin C: carotene D: Tocopherol
23. What is the possible percentage composition of blood to body weight?
 A: 45% B: 55% C: 10% D: 3%
24. The blood vessel in man with capillaries at both ends is the
 A: pulmonary artery B: Hepatic portal vein
 C: Hepatic artery D: Hepatic vein
25. The blood constituents involved in preventing loss of blood, when the skin is injured are
 A: platelets, globulin and calcium B: Prothrombin, fibrin and platelets
 C: fibrin, glycogen and prothrombin D: Fibrinogen, hemoglobin and calcium
26. Red corpuscles are manufactured in the
 A: Thyroid gland B: marrow of bones
 C: liver D: Islets of Langerhans
27. Some of the red cells in some people's blood are sickle-shaped. Their presence in the blood
 A: traps malaria parasite
 B: causes sickle cell anaemia
 C: causes pain in skeletal muscles
 D: Helps the blood to carry oxygen more efficiently.
28. Oxygen is mainly transported in the
 A: plasma B: Platelets C: Leucocytes D: Erythrocytes.
29. In the process of blood clotting, thrombin acts as an enzyme to bring about conversion of
 A: fibrinogen to fibrin B: fibrin to fibrinogen
 C: prothrombin to thrombokinase D: thrombokinase to prothrombin
30. People who travel on an open lorry on a cold misty morning likely to experience:
 A: Vasoconstriction B: vasodilation
 C: palpitation D perspiration

SECTION B:

31. The graph below shows the body temperature of animal A, B, measured over a 24 hour period

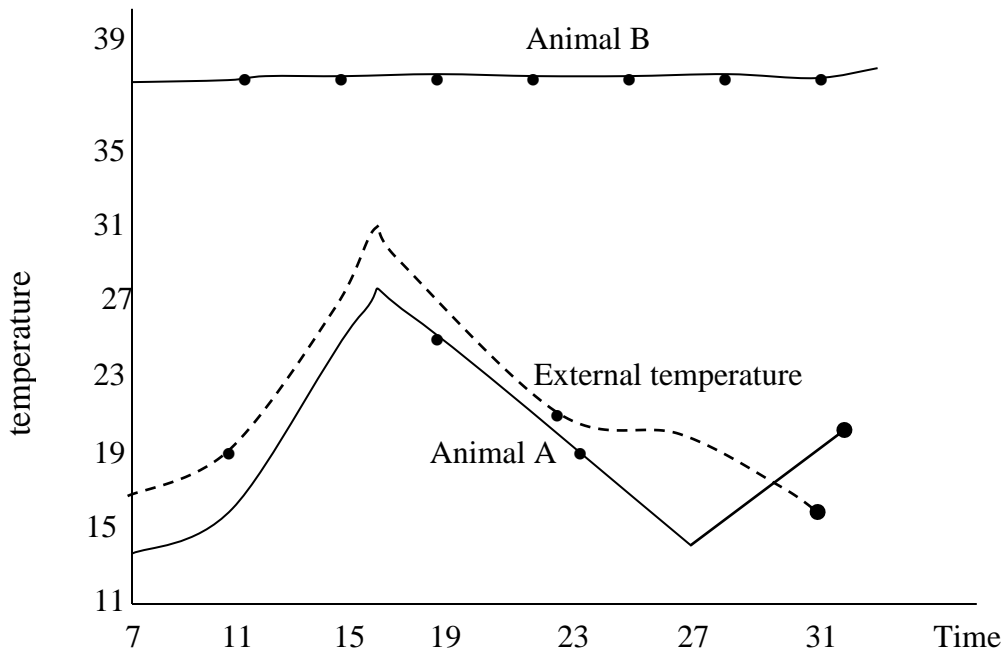


Fig 1

(a) What happens to the body temperature of animal A as the external temperature increases?

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(b) What happens to the body temperature of animal B as the external temperature increases?

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(c) From the graph what can you deduce about the activity of A and B at night time?

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What advantages does this give one animal have over the other in respect of night activities?

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SECTION C

32. Explain what happens to a piece of plant tissue when put in a strong salt solution.