

HOLIDAY TEST

Answer all questions in sections A and B and any two questions in C

Answers to sections A and B must be written in the spaces provided

Section C must be answered on the answer sheets provided.

Answers to sections A

1		6		11		16		21	
2		7		12		17		22	
3		8		13		18		23	
4		9		14		19		24	
5		10		15		20		25	

SECTION A (30 MARKS)

- Which one of the following characteristics is used to classify arthropods as insects;
 - Presence of wings
 - Breathe through spiracles
 - Thorax divided into three thoracic segments
 - Presence of antennae
- The most destructive stage of an insect is known as;
 - Imago
 - Adult
 - Pupa
 - Larva
- Which of the following statements is biologically true about lymphatic system flow?
 - Facilitated by the pumping action of the heart.
 - Takes place in one direction only from heart to the tissues.
 - Takes place in one direction only from tissues to the heart.
 - Takes place in one direction only from the lymph nodes to the tissues.

4. Which of the following is the nitrogenous excretory product in amoeba
 - A. Uric acid
 - B. Urea
 - C. Ammonia
 - D. Carbon dioxide
5. Clay soil is usually water logged due to
 - A. too much water
 - B. small pores
 - C. poor drainage
 - D. a higher force of capillarity.
6. The organs of excretion in insects are known as;
 - A. Nephron
 - B. Malpighian tubules
 - C. Nephridium
 - D. Tracheoles
7. Which of the following is the importance of the biconcave shape of red blood cells,
 - A. enable the red blood cells carry more oxygen
 - B. reduce the weight of the red blood cell
 - C. allow red blood cells pass through capillary walls
 - D. allow red blood cell fit into narrow lumen of capillaries
8. Endotherms are different from ectotherms because,
 - A. Endotherms regulate their body temperature
 - B. Endotherms' body temperature increases as the temperature of the environment increases
 - C. Endotherms cannot generate heat internally
 - D. Endotherms are less active than ectotherms in low environmental temperature
9. Which of the following will prevent soil erosion?
 - A. Regular hoeing
 - B. Growth of grass plants.
 - C. Addition of fertilizer
 - D. Ploughing down the slope.

10. Lack of Carbohydrates in the diet of a child is responsible for
- A. kwashiorkor
 - B. marasmus
 - C. pellagra
 - D. rickets.
11. Carbon dioxide is mainly transported in the
- A. plasma
 - B. platelets
 - C. white blood cells
 - D. red blood cells
12. A non - directional plant movement in response to a stimulus from external environment is called
- A. Tropism
 - B. Photoperiodism.
 - C. Tactic movement.
 - D. Nastic movement.
13. Which one of the following is the best description of gaseous exchange?
- A. Breathing in oxygen and breathing out carbon dioxide.
 - B. Absorption of oxygen from the alveoli and diffusion of carbon dioxide from blood capillaries to the alveoli
 - C. Release of energy in the cell
 - D. Respiration
14. Which of the following is the end product of the digestion of proteins in the stomach?
- A. Amino acids
 - B. polypeptides
 - C. peptides
 - D. pepsin
15. If a microscope eye piece has a number X10 written on it and objective lens has a number X45 written on it, the magnification
- A. 4.5
 - B. 10
 - C. 45
 - D. 450
16. Which one of the following practices helps in maintaining soil fertility?
- A. Crop rotation.
 - B. Terracing
 - C. Bush burning
 - D. Zero grazing

17. Which one of these represents the route taken by urine in mammals?

- A. Bladder, ureter, collecting tubule, urethra.
- B. Collecting tubule, ureter, bladder, urethra.
- C. Ureter, urethra, bladder, collecting tubule.
- D. Urethra, bladder, collecting tubule, ureter.

18. An athlete has just finished a race. The phrase “oxygen debt” refer to;

- A. The amount of oxygen originally present in the muscles of the athletes before the race.
- B. The amount of oxygen taken in after the race and used to complete the combustion of some of the lactic acid.
- C. The total amount of oxygen taken in during panting after the race.
- D. The amount of oxygen needed by the lungs after the race for combustion of glucose.

19. Which one of the following is not a function of the liver?

- A. Detoxification of poisons.
- B. Regulation of cholesterol production.
- C. Storage of amino acids.
- D. Storage of vitamins and mineral salts.

20. Which one of the following is the correct order of arrangement from the smallest to the largest group of organisms?

- A. Species, order, genus, class, phylum.
- B. Species, class, order, genus, phylum
- C. Species, class, order, genus, phylum.
- D. Species, genus, order, class, phylum.

21. Which one of the following protozoa has cilia?

- A. Amoeba
- B. Euglena
- C. Paramecium
- D. Plasmodium

22. Which of the following is a function of progesterone?

- A. Prepares the uterine wall for implantation
- B. Initiates the process of birth.
- C. Initiates ovulation.
- D. Initiates formation of corpus luteum

23. Which one of the following groups of animals possesses an open circulatory system?
- Insects
 - Amphibians
 - Mammals
 - Fish
24. Functionally, the most diversified organ in the human body is the
- brain
 - liver
 - stomach
 - kidney
25. which of the following is the end product of digestion catalyzed by salivary amylase
- glucose
 - amino acids
 - maltose
 - lactose

SECTION B (30MARKS)

Answer all questions in this section. Answers must be written in the spaces provided.

31. Three equal sized shoots A, B and C bearing the same number of leaves from similar herbaceous plants were treated as follows:

- A: - had the upper epidermis of all its leaves covered with petroleum jelly
 B: - had the lower epidermis of all its leaves covered with petroleum jelly
 C: - All its leaves were left uncovered.

The three shoots were cut under water and each placed in one of the three identical potometers. All the potometers were then left under a shade. After 4 minutes, the photometer bearing shoot C was transferred to a sunny place. The movement of the air bubble in each potometer was recorded every 2 for 6 minutes and the results were recorded in the table below.

Time (minutes)		0	2	4	6
Distance moved by the air bubbles (cm)	A	0	1.0	2.0	2.5
	B	0	0.5	1.0	1.5
	C	0	1.5	3.0	6.0

- a) Using the information in the table above, on the same axes plot graphs of distance moved against time take in the three shoots. (7 ½ marks)

b) Describe the pattern of movement of the air bubble in each of the three potometers during the time of experiment. (3marks)

i) A

ii) B

iii) C

c) Explain the pattern of movement of the air bubbles

i) A

(3 marks)

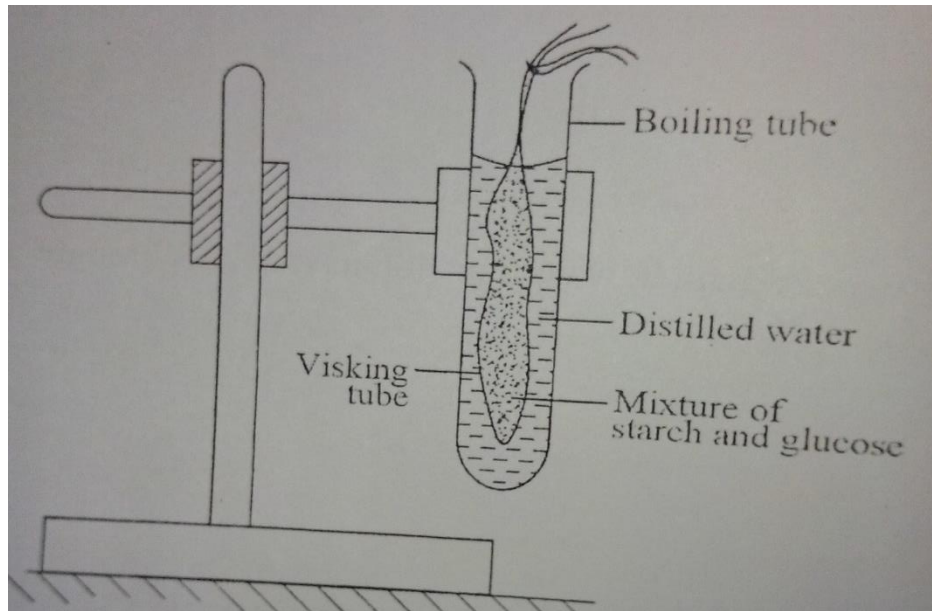
ii) B

(3 marks)

iii) C

(4 marks)

32. A solution containing starch and glucose was put in a visking tube in the set-up shown in the figure below and left to stand for 30 minutes.



After 30 minutes, samples were drawn from the contents of the visking tube and boiling tube, then iodine and Benedict's tests carried out on each of them.

a) Describe what was observed with iodine test on (1mark)

i) Visking tube content

ii) Boiling tube content

b) Explain your observations in a). (2marks)

c) Describe what was observed with benedict's test on (2marks)

i) Visking tube content

ii) Boiling tube content

d) Explain your results in c) above (3marks)

e) Giving reasons, state the nature of the visking tube (2marks)

