ST MARKS SECONDARY SCHOOL
BIOLOGY
FORM 3
END OF YEAR EXAMINATION
PAPER 01 – 1 HOUR

16 JUNE 2026

READ THE FOLLOWING INSTRUCTIONS CAREFULY

1. **This test consists of 30 items. You will have 1 hour to complete this paper.**
2. **Each item in this test has four suggested answers lettered (a), (b), (c), (d). Read each item you are about to answer and decide which choice is best.**
3. **Shade the letter on your answer sheet that corresponds to the best choice**.

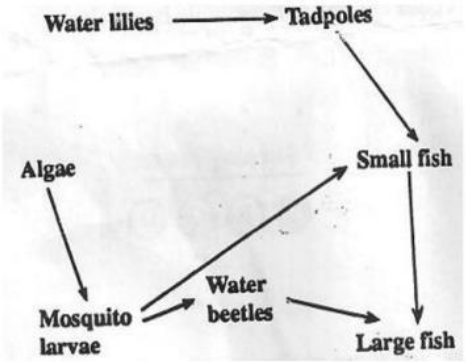
1. Atmospheric carbon dioxide is converted into organic compounds by the process;
   (a) Decay (c) Fossilization
   (b) Photosynthesis (d) Respiration

2. Oxidizing which of the following substances will yield the most energy?
   (a) Proteins (c) Fatty acids
   (b) Glucose (d) Water

3. A spider is an example of;
   (a) An arachnid (c) A cnadarian
   (b) A mollusk (d) An insect

4. In a typical food chain the green plants are referred to as the;
   (a) Producers (c) Saprophytes
   (b) Symbionts (d) Consumers

Items 5-6 refer to the following food web from an aquatic habitat.



5. The primary consumers are;
   (a) Tadpoles and small fish
   (b) Mosquito larvae and large fish
   (c) Mosquito larvae and small fish
   (d) Mosquito larvae and tadpoles

6. The group of organisms NOT shown in the diagram but which is of great importance in the habitat is the;
   (a) Secondary consumers (c) Decomposers
   (b) Tertiary consumers (d) Producers

7. Which of the following is most likely a food chain?
   (a) Snail → Caterpillar → Bird
   (b) Grass → Grass hopper → Bird
   (c) Snail → Algae →Small fish
   (d) Caterpillar → Toad → Snake

8. The relationship between the plant and nitrogen-fixing bacteria can be described as;
   (a) Parasitic (c) Carnivorous
   (b) Mutualistic (d) Communalistic

9. The pigment molecules responsible for photosynthesis are located in the;
   (a) Mitochondria (c) Nucleus
   (b) Cytoplasm (d) Chloroplasts

10. The oxygen that is released during photosynthesis came from the _____ molecules.
    (a) Carbon dioxide (c) Glucose
    (b) Water (d) Chlorophyll

11. The oxygen that is produced in photosynthesis diffuses out through the;
    (a) Stomata (c) Spongy mesophyll
    (b) Guard cells (d) Palisade cells

12. Which of the following factors limit the rate of photosynthesis at night?
    (a) Carbon dioxide (c) Water
    (b) Light intensity (d) Temperature

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Items 13-14 refer to the equation. The chemical equation for photosynthesis shown below is incomplete.

$$X + 6H_2O \rightarrow C_6H_{12}O_6 + Y$$

13. Which of the following combinations would accurately complete the equation?

	X	Y
(a)	$6CO_2$	$6O_2$
(b)	$6O_2$	$6CO_2$
(c)	O_2	CO_2
(d)	CO_2	O_2

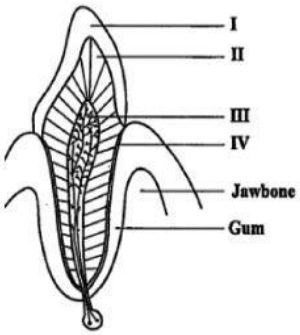
14. Analyze the equation and select the conditions necessary for photosynthesis to occur;
    (a) Sunlight & water (c) Chlorophyll only
    (b) Sunlight & chlorophyll (d) sunlight only

15. The dark reaction in photosynthesis is limited by;
    (a) CO_2, Temperature and Light
    (b) CO_2 ,Light and Water
    (c) Water, Temperature and CO_2
    (d) Oxygen, Water and Temperature

16. Which structure in a cell is responsible for energy production?
    (a) Mitochondrion (c) Nucleus
    (b) Cell wall (d) Cytoplasm

17. Which structures of the cell consist mainly of water?
    (a) Mitochondrion (c) Nucleus
    (b) Cell wall (d) Cytoplasm

18. A solution which has **equal** concentration of water and dissolved substances is described as;
    (a) Isotonic (c) Diluted
    (b) Hypotonic (d) Hypertonic

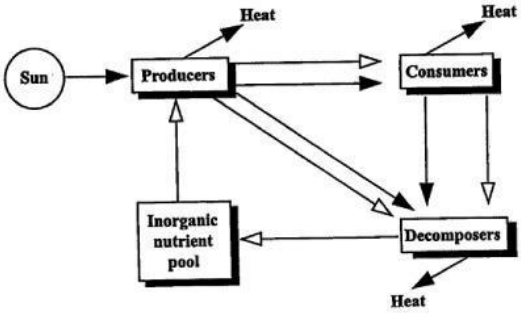


Item 19 refers to the following diagram of a section through an incisor tooth.

19. The region of the tooth sensitive to temperature is labelled;
    (a) I (c) III
    (b) II (d) IV

Item 20 refers to the following diagram:

20. Energy flow through ecosystems is not 100% efficient. This is because energy is;

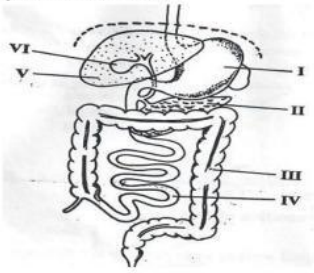


    (a) Linear, moving from one organism to the next.
    (b) Circular, moving in and out of organisms
    (c) Lost through respiration and excretion
    (d) Recycled from plants to the atmosphere

21. Which of the following is MOST likely to be alleviated by treatment with dietary iron supplements?
    (a) Sore throat and fever
    (b) Poor growth and swollen limbs in children
    (c) Presence of glucose in urine
    (d) Chronic fatigue

22. Which of the following enzymes works BEST in an acid pH?
    (a) Pepsin (c) Trypsin
    (b) Lipase (d) Amylase

Items 23-24 refer to the following diagram of the alimentary canal of man.



23. The production of bile pigment;
    (a) III (c) V
    (b) IV (d) VI

24. Most water and vitamins are reabsorbed at;
    (a) I (c) III
    (b) II (d) IV

25. When compared to a cheek cell, a muscle cell contains more;
    (a) Mitochondria (c) Ribosomes
    (b) Chromosomes (d) Vacuoles

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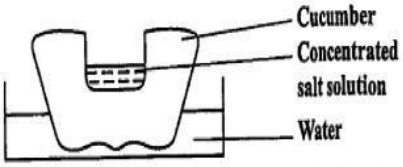
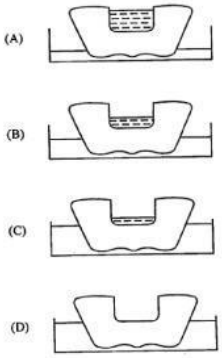
Item 26 refers to the following diagram.



26. Which diagram Best illustrates the levels of the liquids if the apparatus is left undisturbed for one hour?



27. The diet of a body builder should contain large amounts of;
    (a) Fat (c) Vitamins
    (b) Protein (d) Carbohydrates

28. Which of the following organisms are most important in biodegradation?
    (a) Bacteria (c) Omnivores
    (b) Earthworms (d) Vultures

29. _____ is another method of fixing nitrogen.
    (a) Dissolving nitrogen in water
    (b) Lightning
    (c) Plants taking in nitrogen in leaves
    (d) Global warming

Item 30 refers to the following information.
A man has poor night vision and his gums bleed whenever he brushes his teeth.

30. Which two vitamins are probably lacking from his diet?
    (a) A and B_1 (c) C and A
    (b) B_1 and B_2 (d) C and B_2

END OF TEST

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