231/1
BIOLOGY PAPER 1 (THEORY)
TERM TWO
TIME: 2 HOURS
FORM THREE

Kenya certificate of Secondary school Education (KCSE)

INSTRUCTIONS TO CANDIDATES

1. Write your name and Admission number in the spaces provided above.

2. Sign and write the date of examination in the space provided above.

3. Answer **ALL** questions in the space provided.

4. Candidates should check the question paper to ascertain that all the pages are printed.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1 - 23	80	

1. Using definition only differentiate between growth and development (2 mks)

   ……

2. Name two cell structures that synthesize the following cell organelles (2 mks)
   a) Ribosomes

      ……

   b) Nucleolus

      ……

3. Give four different between plants and animals (4 mks)

   ………

4. Give the functions of the following parts of a microscope (4 mks)
   a) Condenser

      ……

   b) Objective lens

      ……

   c) Body tube

      ……

   d) Diaphragm

   ……

5. Study the reaction below and answer the questions that follow.
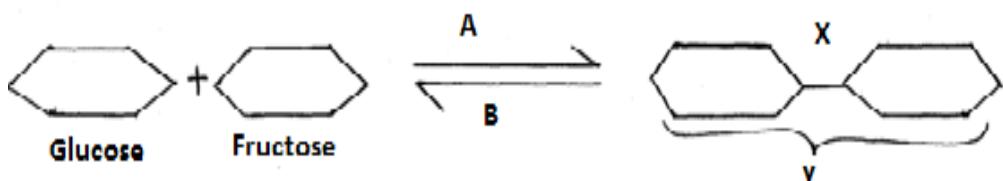
   a) What biological processes are represented by A and B? (2mk)

……

……

b) Identify the product Y.   (1mk)

……….

c) State the bond represented by X.   (1mk)

……….

6. In an experiment to investigate an aspect of digestion, two tubes A and B were set up as shown in the diagram below.
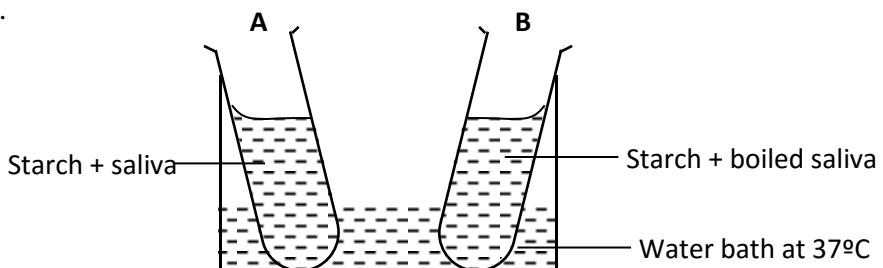
The test tubes were left in the water bath for 30 minutes. The content of each tube was then tested for starch using iodine solution.

a) What was the aim of the experiment?   (1 mk)

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b) Explain the expected in the tube.   (4 mks)

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7. Explain the events of the light stage of photosynthesis. (3mk)

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8. State **two** adaptations of red blood cells to their functions (4 mks)

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9. Explain how the following adaptation reduce transpiration in xerophytes
   a) Sunken stomata   (2 mks)

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……….

b) Thick waxy cuticle   (2 mks)

………

………

10. Name the:

    a) Material that strengthens xylem tissue   (1 mk)

        ……

    b) Tissue that is removed when the bark of a dicotyledonous plant is ringed   (1 mk)

        ……

    c) Conducts water in a plant (1 mk)

        ……

11. The diagram below represents an organ from a bony fish. Study the diagram and answer thequestions that follow:
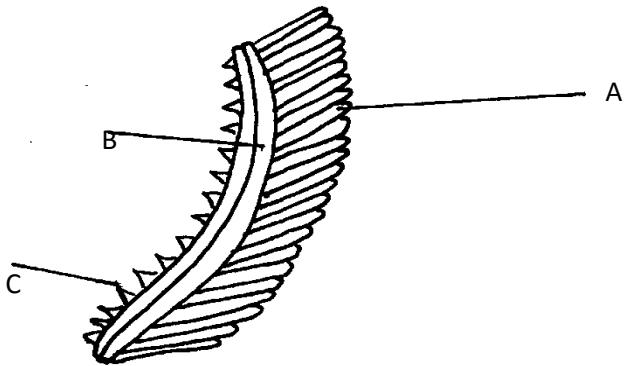
    a) State the functions of each of the following: (3 mks)

        A.……

        ……

        B.……

        C.……

    b) How is the structure labeled **C** adapted to its function (4 mks)

        ……

        ……

        ……

        ……

12. Name one part of the mammal that the above organ represents in function   (1 mk)

    ……

13.

    a) Give two phases of aerobic respiration   (2mks)

        ……

        ……

    b) Give two end products anaerobic respiration   (2 mks)

        ……

        ……

14. Name three plant leaf excretory products   (3 mks)

………..

………..

………..

15. A student mixed a sample of urine from a person with Benedict's solution and heated, the colour changed to orange.

a) What was present in the urine sample   (1 mk)

………………………………………………………………………………………………….

b) What did the student conclude on the health status of the person (2 mks)

………………………………………………………………………………………………….

………………………………………………………………………………………………….

c) Which organ in the person may not be functioning properly   (1 mk)

………………………………………………………………………………………………….

16. Namethree diseases that affect the kidney (3mks)

………..

………..

17.

a) What is meant by the term taxonomy (1 mk)

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……………………………………………………………………………………………………

b) The scientific name of a rat is Rattusnorvegicus

(i)   Write the name correctly   (1 mk)

……………………………………………………………………………………………………..

(ii) Identify the genus and species names   (2mks)

……………………………………………………………………………………………………

The diagram below represents a bread mould:-

a) Identify the kingdom to which the organism belongs   (1 mk)
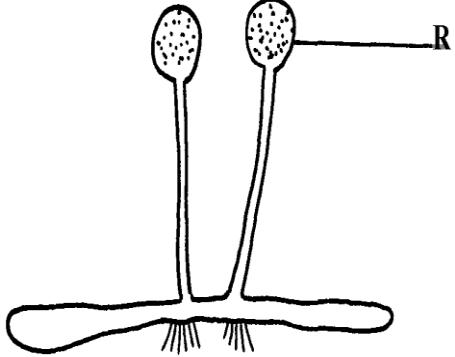
………………………………………………………………………………………………….

b) Name the part marked R   (1 mk)

……………………………………………………………………………………………………..

c) Identify three types of leaf phylotaxy(3 mks)

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18. What is the significance of the following in the ecosystem:

a) Decomposers   (2 mks)

……………………………………………………………………………………………………..

b) Predators   (2 mks)

……………………………………………………………………………………………………..

19. Birds feed on grasshoppers that feed on grass.

a) Draw a possible food chain from the above information   (2 mks)

……………………………………………………………………………………………………

……………………………………………………………………………………………………

b) Explain why the biomass of organisms decreases at each preceding trophic level.(2 mks)

……………………………………………………………………………………………………

……………………………………………………………………………………………………

20. Name the causative agent of the following diseases;

a) Cholera   (1 mk)

……………………………………………………………………………………………………..

b) Typhoid   (1 mk)

……………………………………………………………………………………………………..

21. Identify three ways of estimating population size in a population (3mks)

…………………………………………………………………………………………………..

…………………………………………………………………………………………………..

…………………………………………………………………………………………………..

22. Name two part of an ovule that develops into each of the following parts of a seed after fertilization

                                                                            (2 mks)

a) Testa

……………………………………………………………………………………………………

b) Endosperm

……………………………………………………………………………………………………