# KCSE PREDICTION 2018

# BIOLOGY PAPER 1 QUESTIONS

## Answer all questions

1. Name the organelle that performs each of the following functions in a cell.

   Proteins synthesis……

   Transport of cell secretions……

2. Explain what would happen to red blood cells if they are placed in a concentrated salt solution.
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3. a) State the role of light in photosynthesis.

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   b) Name one end product of dark reaction in photosynthesis.

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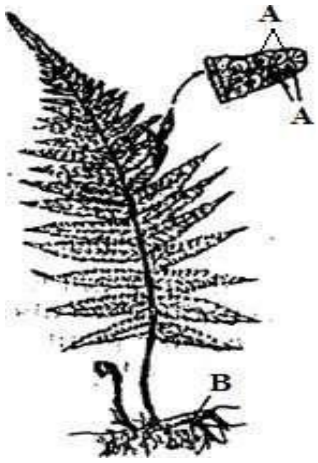
4. The diagram below represents a fern.




   Name

   a) The parts labelled

   A……..
   B……

   b) The division to which the plant belongs.
   ……
   ……

5. State two functions of cell sap.
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6. State three characteristics that ensure cross – pollination takes place in flowering plants.
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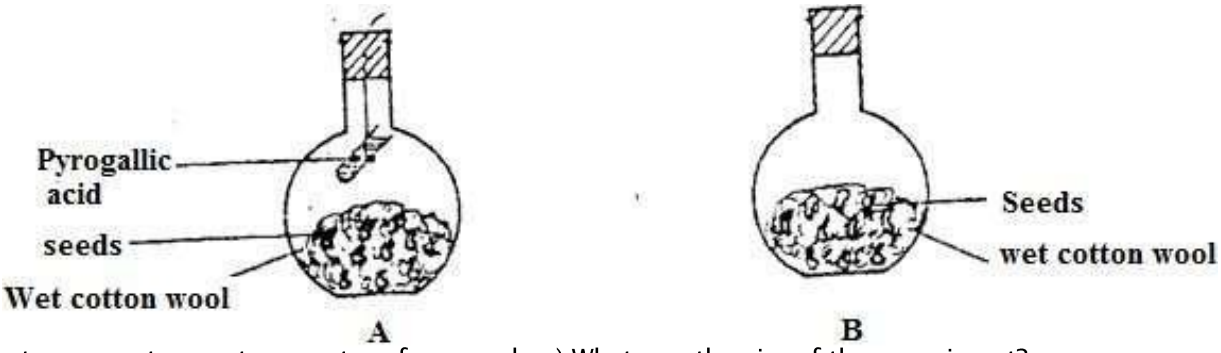
7. A student set up an experiment as shown in the diagrams below




The set up was at room temperature for a week. a) What was the aim of the experiment?
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b) What would be the expected results at the end of the experiment?

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8. Give two reasons why primary productivity in an aquatic ecosystem decreases with depth.
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9. State two ways by which the human immune deficiency (H.I.V) is transmitted other than through sexual intercourse?
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10. Give two reasons why sexual reproduction is important in organisms.
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11. State two advantages of metamorphosis to the life of insects.
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12. Other than having many features in common, state the other characteristics of a species.
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13. Why are green plants referred to as primary producers in an ecosystem?
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14. A person whose blood groups are AB requires a blood transfusion. Name the blood groups of the donors.
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15. Name the parts of the flower that are responsible for the production of gametes.
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16. A student caught an animal which had the following characteristics:

    Body divides into two parts

    Simple eyes

    Eight legs

    The animal belongs to the class

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17. What are the three end products of anaerobic respiration in plants.

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18. State two ways in which xylem vessels are adapted to their function.

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19. A person was found to pass out large volumes of dilute urine frequently. Name the

    a) Disease the person was suffering from

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    .....

    b) Hormone that was deficient

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    .....

20. State one effect of magnesium deficiency in green plants.

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21. a) State the function for co-factors in cell metabolism

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b) Give one example of a metallic co- factor

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22. State the importance of osmosis in plants.

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23. What is the formula for calculating linear magnification of a specimen when using a hand lens?
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24. Give a reason why staining is necessary when preparing specimens for observation under the microscope.
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25. a) State two environmental conditions that can cause seed dormancy.

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b) Name the part of a bean that elongates to bring about epigeal germination.
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26. State the importance of the following processes that take place in the nephrons of a human kidney.

a) Ultra filtration

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b) Selective reabsorption

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c) Name a disease of the liver whose symptom is jaundice

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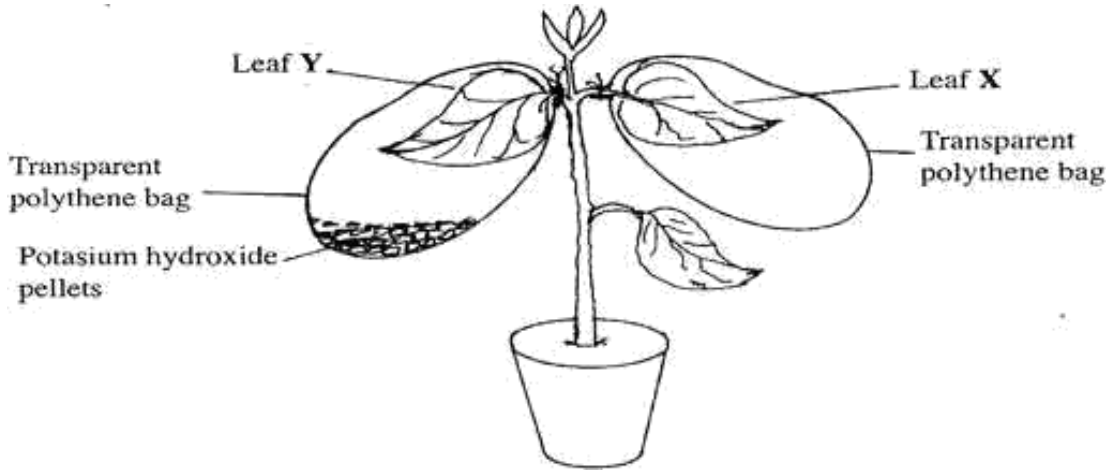
27. A potted plant was kept in the dark for 48 hours. Two leaves X and Y were treated as shown in the diagram below.




The experiment set – up was kept in sunlight for 6 hours after which a starch test was carried out on the two leaves.

a) What were the results of the starch test on leaves X and Y?

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b) Give reasons for your answers in (a) above.

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28. What is the role of bile salts in digestion in humans?

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29. What do you understand by the following terms?

a) Reproduction.

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b) Irritability

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30. Name two plant and two animal processes in which diffusion plays an important role.

a) Plant
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b) Animal
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31. Explain why large animals require an elaborate transport system.
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32. State the function of the following structures in a bony fish.

a) Gill rakers.

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b) Gill filaments.

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c) Gill bar

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33. What is the importance of the following in germination?

a) Oxygen

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b) Water

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34. A certain animal used 15cm3 of oxygen to oxidize a certain food substrate whose respiratory quotient was 0.705.

a) Calculate the volume of carbon (IV) oxide produced.

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b) Give the name of the food substrate.

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