FORM ONE HOLIDAYS KEYNOTE BIOLOGY 10 QUESTION PAPERS



FORM 1 HOLIDAYS KEYNOTE BIOLOGY TEN QUESTION PAPERS

Prefer Calling Amobi Group of Examiners

@ 0743 333 000 OR 0706 851 439

For Marking Schemes

N/B In Response to the Huge Costs Associated in Coming Up with Such/Similar Resources Regularly, We inform us All, MARKING SCHEMES ARE NOT FREE OF CHARGE. However Similar QUESTIONS, Inform of soft Copies, are Absolutely FREE to Anybody/Everybody. Hence NOT FOR SALE

by Amobi Group of Examiners.

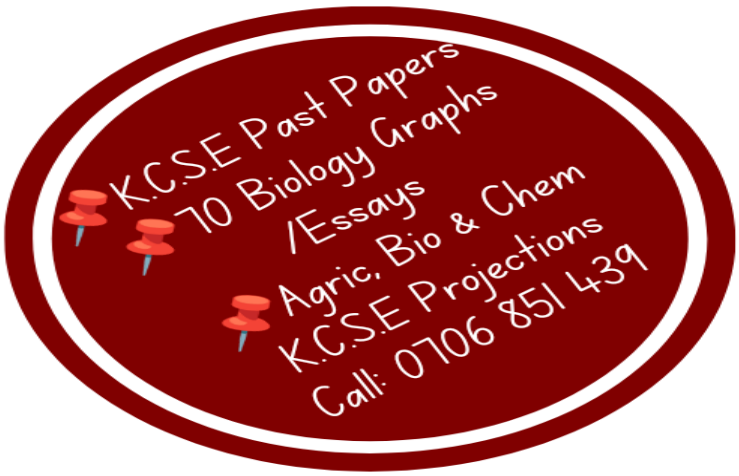
CALL AMOBI GROUP OF EXAMINERS @ 0743 333 000 OR 0706 851 439 TO ACQUIRE :













FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 01

1. i) Explain two main branches of Biology**.** **(2mks)**

2. (ii) Name the cell organelle which would be abundant in: **(2mks)**

i) Sperm cell:

ii) Pancreas:

3. What is the name given to the study of; **(3mks)**

Fungi

Cells

Tissues

4. Give reason why each of the steps is followed when preparing a cross section of a leaf for examination under a microscope. **(2mks)**

a) Cutting very thin sections

b) Using sharp razor blade when cutting

5. State three importance of osmosis in plants **(3mks)**

6. a) Name the following apparatus used in specimen collection and for each, mention its function. **(6mks)**

Name	Apparatus	Function
		
		
		

b) State four precautions during collection and observation of specimen**.** **(4mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

7. Differentiate between plants and animals in terms of nutrition**.** **(2mks)**

8. Define the term species**.** **(2mks)**

9. State **three** principles of binomial nomenclature **(3mks)**

10. Name the tissue in plants responsible for.

a) Transport of water and mineral salts. **(1mk)**

b) Transport of synthesized food substances. **(1mk)**

11. State the functions of the following cell organelles.

a) Golgi apparatus. **(1mk)**

b) Ribosomes **(1mk)**

c) Lysosomes **(1mk)**

12. Name the organelle which carry out the following functions in a cell

(a) Transport of lipids **(1mk)**

(b) Formation of cilia and flagella **(1mk)**

13. The table shows substances at different concentrations between sea-water and the cell sap of the root hair cells of sea weeds.

Substance	Iodine	Phosphorus	Potassium
Concentration in sea w	20	50	33
Concentration in sea w root hair cell	40	42	21

a.) Name the process by which;

i. The iodine molecules were absorbed by the root hair cell **(1mk)**

ii. The phosphorus molecules were absorbed by the root hair cell. **(1mk)**

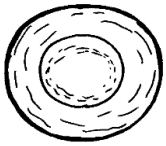
14. State four importance of studying Biology. **(4mks)**

15. Give three properties of a cell membrane**.** **(3mks)**

16. Explain three roles of diffusion in animals. **(2mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

17. The diagram below a red blood cell that was subjected to a certain treatment.





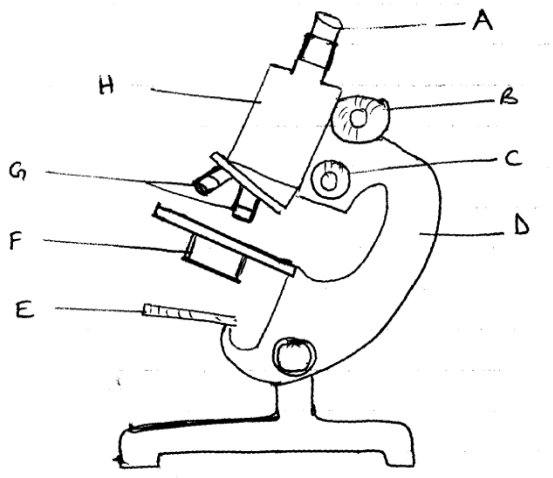
At start *at the end of experiment*

a) Account for shape of the cell at the end of the experiment. **(2mks)**

b) Draw a diagram to illustrate how a plant cell would appear if subjected to the same treatment **(1mk)**

18. Plant cells do not burst when immersed in distilled water. Explain **(2mks)**

19. The following is a diagram of a light microscope.



a) Name the parts labeled A, B, C, D and E. **(5mks)**

b) State the functions of parts labeled F and G **(2mks)**

c)State the formular for calculating magnification in a Light Microscope. **(1mk)**

20. Name the organelle that Contains enzymes that are capable of destroying old damaged cell. **(1mk)**

21. The scientific name for beans is Phaseolus vulgaris

a) What taxa does the term Phaseolus represent **(1mk)**

b) State **two** rules that are followed when giving a scientific name to an organism **(2mks)**

22. List four careers that require knowledge in biology **(4mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

23. Classify the following organisms into their kingdoms **(4mks)**

Organisms	**Kingdom**
a) Maize,Beans	……...
b) Mushrooms,Yeast	…….
c) Protozoa, algae	……
d) Bacteria	……

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 02

1. a) Name the main branch of Biology that studies the following. **(2mks)**

i. Organisms such as a Crocodile.

ii. Organisms seen as a bean plant.

b) Explain the following biology sub-branches **(5mks)**

i. Mycology

ii. Ornithology

iii. Anatomy

iv. Cytology

v. Bio chemistry

c) State any three scientific skills gained through the study of biology **(3mks)**

2. Explain four reasons why you would encourage your friends in High school to study Biology **(4mks)**

3. a) Explain the following characteristics of living organisms **(4mks)**

i. Growth

ii. Development

b) State any two environmental problems that the study of biology tries to solve. **(2mks)**

c) Name the characteristics of living organisms, illustrated through the following activities. **(4mks)**

i. A cow giving birth to a calf.

ii. A student eating "Githeri" in the dining hall

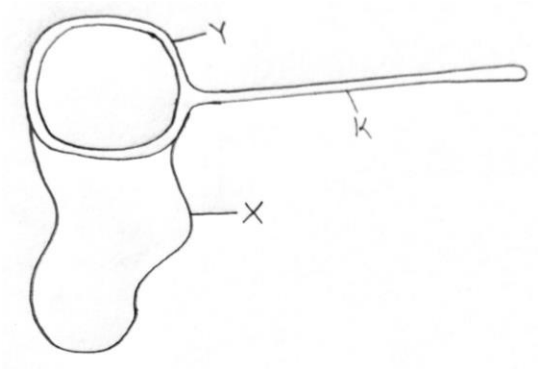
iii. A gazelle running away after spotting Lion from a distance.

iv. A student sneezing after smelling strong perfume.

4. Give two significance of locomotion to animals **(2mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

5. a) Below is an instrument used for collection of specimen



i. Name the instrument **(1mk)**

Name parts labelled; **X & Y**

ii) Briefly explain how the instrument works **(2mks)**

b) State two precaution to follow when collecting a spider for biology study. **(2mks)**

c) State three ways in which plants compensate for their inability to locomote. **(3mks)**

6. How does nutrition as a characteristics of living organism differ in plants and animals. **(2mks)**

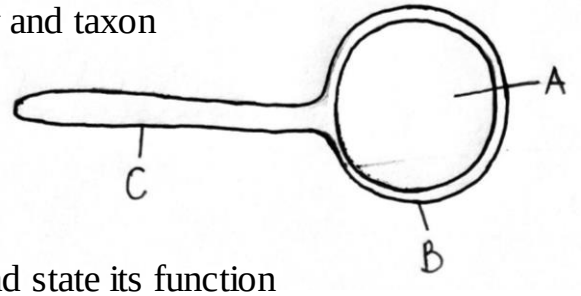
7. Differentiate between locomotion and movement **(2mks)**

8. a) Define classification **(2mks)**

b) State two reasons for classifying organisms **(2mks)**

c) Differentiate between taxonomy and taxon **(2mks)**

9. a) Label parts A, B, C **(3mks)**



b) Identify the apparatus above and state its function **(2mks)**

c) If magnification of a drawing is X8 and the drawing length is 16cm.

What is the actual length of the object **(3mks)**

10. a) What is binomial nomenclature **(2mks)**

b) The scientific name for maize is *Zea mays*. Identify the generic and specific name **(2mks)**

c) State two rules of binomial nomenclature **(2mks)**

d) A cross between a donkey and a horse produces an infertile offspring called mule.

Give a reason **(2mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

11. State the five kingdoms into which living things are placed and its each case give two examples of organisms **(5mks)**

12. List the seven units of classification in an hierarchical order from the smallest into the largest. **(7mks)**

13. Define the term cell **(2mks)**

14. Name two types of microscopes **(2mks)**

15. Fill the table below

Part	**Function**
(i)	Holding while carrying microscope
Base	(ii)
(iii)	Contains lens for magnifying object
Fine adjustment knob	iv
Mirror	(v)
Condenser	(vi)

16. Mention four rules to be observed when one is using a microscope **(4mks)**

17. A student observed an animal cell under a microscope which was magnified X675 times using an eye-piece lens magnification power X15. What was the objective lens power?

(Show your working) **(4mks)**

18. State four differences between light microscope and electron microscope. **(4mks)**

19. Name two functions of a microscope. **(2mks)**

20. Mention two handling practices and care of a light microscope. **(2mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 03

1. Name the branch of Biology involved in each of the following. **(3mks)**

a) Study of inheritance and variations.

b) Study of cells

c) Study of parasites

2. Describe what each of the following branches of Biology involves. **(3mks)**

a) Ecology –

b) Entomology –

c) Microbiology -

3. List four professional occupations in which the study of biology is important. **(4mks)**

4. Differentiate between growth and development. **(2mks)**

5. Give four reasons why animals move from one place to another. **(4mks)**

6. Complete the table below appropriately. **(6mks)**

Branch of biology	*Name of scientist who specializes in it.*	*Name of study*
i. Zoology	ii.	iii.
i.	ii. Ecologist	iii.
i.	ii.	iii. Study of fungi

7. How does nutrition as a characteristic of living organism differ in plants and animals? **(2mks)**

8. State the importance of each of the following in living organisms. **(2mks)**

a) Nutrition –

b) Excretion –

9. A car produces energy, moves about and produces waste products yet it is regarded as a non-living thing. Explain this observation. **(4mks)**

10. Make a well labeled diagram of a magnifying lens. **(4mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

11. (a) Explain the meaning of the term Binomial nomenclature. **(1mk)**

(b) State the three rules used in Binomial nomenclature. **(3mks)**

12. Name the taxonomic units of classification in ascending order. **(7mks)**

13. The scientific name *Lantana camara* refers to a green herbaceous plant. Other related plants include; *Lantana trifoliate* and *Vitex rifoliate* .

a) From the list, identify the plants belonging to the same genus. **(2mks)**

b) From the name *Lantana Camara*, which name represents:-

i) Genus name **(1mk)**

ii) Species name. **(1mk)**

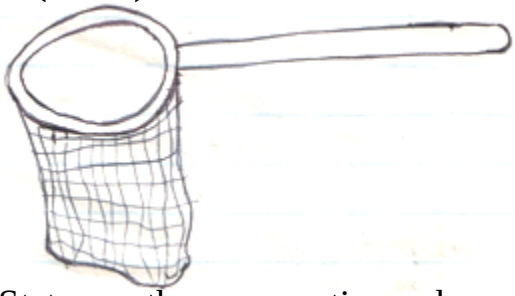
14. State three importance of classification of living organisms. **(3mks)**

15. (a) Explain why it is important to use scientific names of organisms in biology other than common names. **(1mk)**

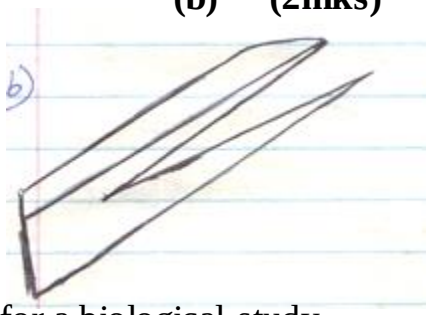
(b) VITEX is a genus of a tree found on Mt. Kenya. The specific name has been latinised to KENESIS. Write down the scientific name of the tree. **(2mks)**

16. State the name and function of each of the following apparatus as used in specimen collection

a) **(2mks)**



(b) **(2mks)**



17. State any three precautions when collecting specimens for a biological study. **(3mks)**

18. A leaf drawn using a hand lens measured 10cm long. The actual length of the leaf was 5cm. Work out the magnification of the drawing. **(2mks)**

19. Kingdom is the largest taxonomic unit of classification with the highest members. List down the 5 kingdoms as used in classification. **(5mks)**

20. Define the term species. **(1mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 04

1. State the use of the Pooter in the study of living organisms **(1 mark)**

2. When are two organisms considered to belong to the same species **(1 mark)**

3. Define the following term

I. Entomology **[1 mk]**

II. Genetics **[1 mk]**

4. The scientific names of three animals leopard, wolf and lion in the family carnivora are; *Panthera pardus*, *Canis lupus* and *Panthera leo* respectively.

a) Why are scientific names given in Latin? **(1 mark)**

b) What does *Canis* refer to? **(1 mark)**

c) Giving a reason, state the organisms that are MOST closely related. **(1 mark)**

5. State the specific sites in which the following reactions occur: **(2mks)**

(i) Light stage.

(ii) Dark stage.

6. State two functions of cell membrane **(2mks)**

7(a) Explain the term cell specialization. **(1mk)**

(b) State how each of the cells listed below is specialized to carry out its function;

(i) Palisade cell. **(1mk)**

(ii) A sperm cell. **(1mk)**

8. Give one structural and one functional difference between smooth endoplasmic reticulum and rough endoplasmic reticulum **(2 mks)**

9. Name the parts of a light microscope which perform each of the following functions.

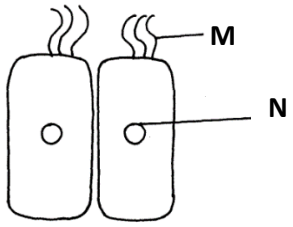
i. Controlling the amount of light entering the specimen. **(l mk)**

ii. Magnifies the object. **(1 mk)**

iii. Used for focusing image under low power. **(lmk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

10. The diagram below shows a type of epithelial tissue.



a. Name the parts labelled **M** and **N**. **(2mks)**

b. State function of structures labelled **M**. **(lmk)**

c. Name **one** part of the body where **M** can be found. **(lmk)**

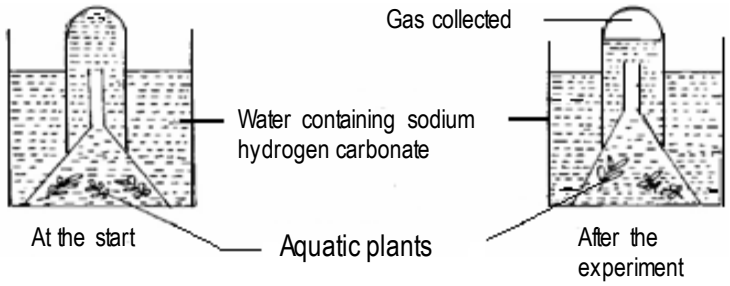
11. Give **two** functions of a cell membrane. **(2mks)**

12. (a) What is the formula for calculating linear magnification using a light microscope. **(1mk)**

b) State two functions of centrioles **(2mks)**

13.(a) Name **two** raw materials for the dark stage process of photosynthesis. **(2 marks)**

(b) The set up shows an experiment to investigate photosynthesis.



(i) What gas was collected in the test tube? **(1 mark)**

(ii) What was the role of sodium hydrogen carbonate in the experiment? **(2 marks)**

14.a) The diagram below represents a cell organelle.



(i) Identify the organelle. **(1mk)**

(ii) Name the part labelled B. **(1mk)**

(iii) State the function of the part labelled A. **(1mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

b) State the functions of the following parts of light microscope

(i) Condenser **(1mk)**

(ii) Diaphragm **(1mk)**

15. State the characteristics of living things that is being demonstrated by plants producing carbon (IV) oxide during daytime **(1 mark)**

16. Why is it necessary to expand biology to include the study of non-living things? **(1 mark)**

17. Give one importance of each of the following processes in living organisms. **(3 mks)**

(a) Locomotion:

(b) Excretion:

(c) Irritability**:**

18. Give a reason for the following.

i. A mature plant cell does not collapse even after losing water. **(2mks)**

ii. Explain what would happen to red blood cells if they are placed in a concentrated salt solution.

19. Distinguish between plasmolysis and Haemolysis. **(2mks)**

20. A student collected a bone from the school garden. The bone was measuring 45 cm. He drew the bone in his book and his diagram was 9 cm long.

Calculate the magnification of his drawing. **(2 marks)**

21. Name the tissue that carry out the following functions in mammals.

a) Binds and supports various organs in the body. **(1 mark)**

b) Transport oxygen throughout the body. **(1 mark)**

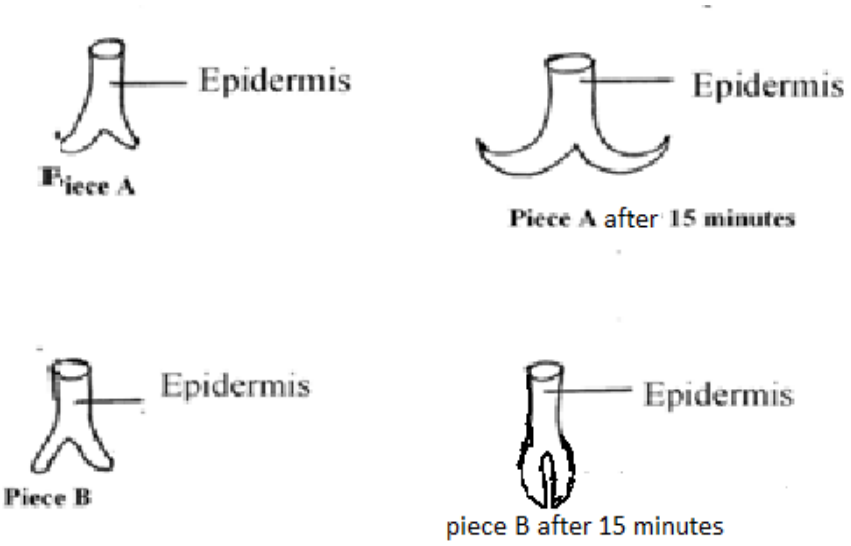
c) Contract and relax to bring about movement. **(1 mark)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

SECTION B

22.a) Define the term cell physiology **(1mk)**

b) Two pieces of leaf petioles were cut as shown in the diagram below, then each piece placed in solution of different concentration.



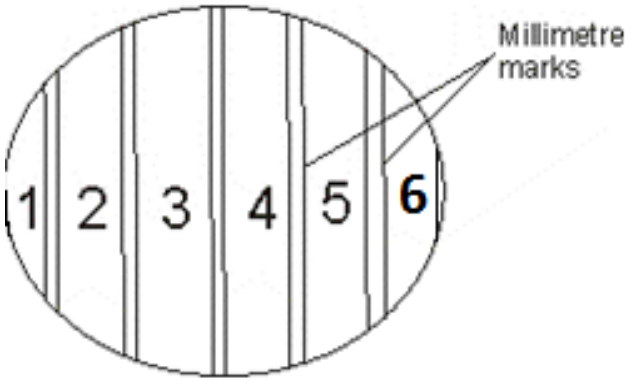
i) What physiological process was being investigated in this experiment? **(1mk)**

ii) Suggest the type of solution piece B was placed **(1mk)**

iii) Explain the appearance of piece A after 15 minutes **(3mks)**

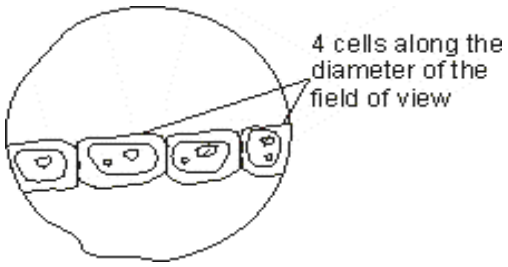
24.(a) Name two types of slides**:** **(2 mks)**

(b) When estimating the size of an onion epidermal cell, a transparent ruler was placed on the field of view of a light microscope and the number of mm marks counted as shown below.



Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

The transparent ruler was then measured and replaced with a section of an onion epidermis on the field of view as shown below.



(i) Using the information provided above, calculate the average size of an onion epidermal cell **(3mks)**

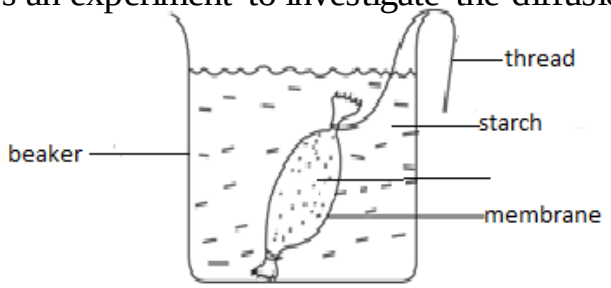
(ii) State <u>one</u> limitation of the method above for illustrating cell size **(1mk)**

(c) Explain why,

(i) Adrop of water was placed on the epidermis before a coverslip was placed on top. **(1mk)**

(ii) A sharp surgical blade was used when cutting the epidermal sections: **(1mk)**

25. The diagram below shows an experiment to investigate the diffusion of substances through a membrane.

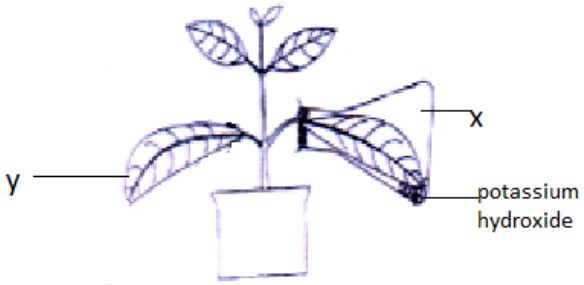


a) Account for the observations made at the end of the experiment. **(4mks)**

b) State two uses of osmosis in plants. **(2mks)**

c) Name two body regions in man where active transport occurs. **(2mks)**

26. A health plant was kept in the dark for 48 hrs .Then one of its leaves (x) was enclosed in a glass flask as down below .The whole plant was then returned to light



Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

a) After 48 hrs the leaves were tested for starch. What observations do you expect? **(2marks)**

b) i) What conclusions can you draw from this observation **(1mark)**

ii) Explain your conclusion in b (i) above **(2marks)**

c) Why was the plant kept in the dark for 48 hrs **(1mark)**

SECTION C

27a) Define the following terms **(3mk)**

i) Photosynthesis

ii) Chemosynthesis

iii) Nutrition

b) How is the structure of leaf adapted to the photosynthetic function? **(8mks)**

c) Describe the light stage of photosynthesis **(9mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 05

1. Biology is derived from two Greek words bios and logos. What is the meaning of

Bios **(1mk)**

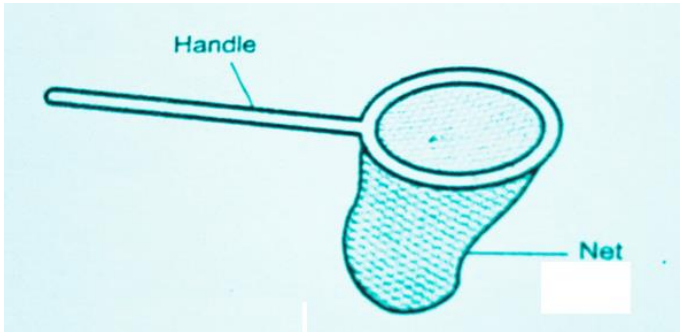
Logos **(1mk)**

2. List three main branches of biology and for each give its definition **(6mks)**

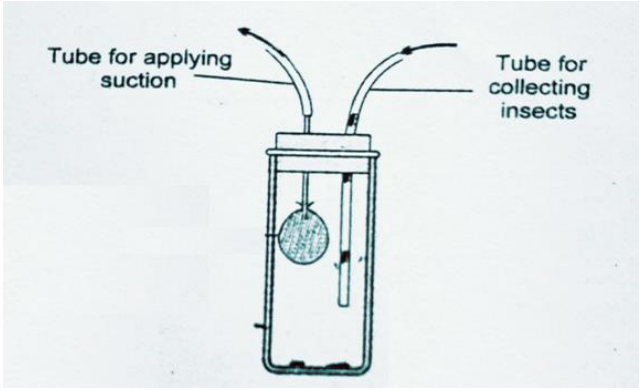
3. Describe six characteristics observed among living organisms **(12mks)**

4. Identify the following apparatus and for each state the function **(6mks)**

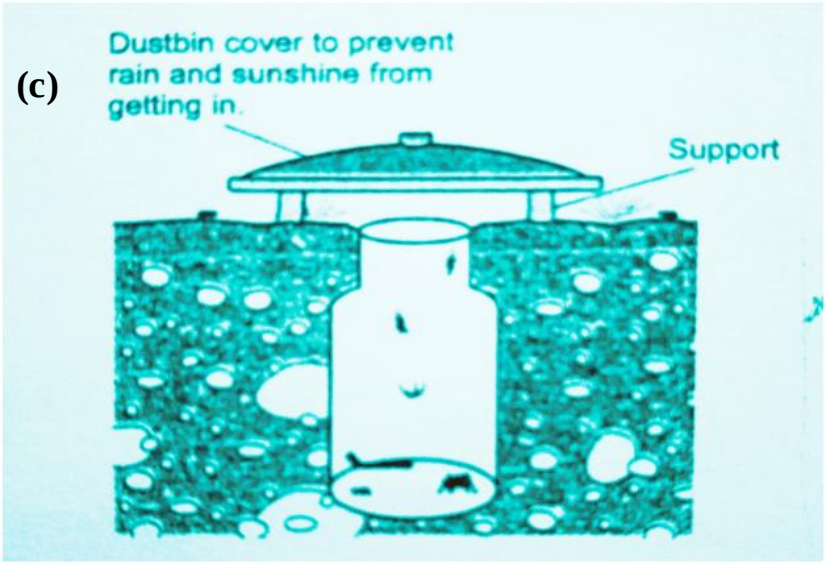
(a)



(b)



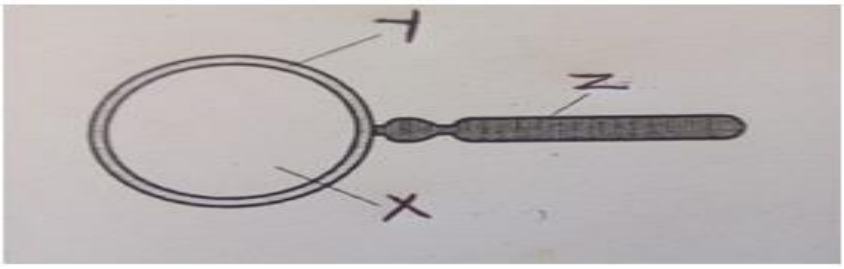
(c)



Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

5. Outline the four precautions to be observed during collection and observations of organisms during practical study. **(4mks)**

6. The diagram below shows an instrument used in the laboratory



(a) Name the instrument **(1mk)**

(b) Label the parts: X, Y & Z **(3mks)**

(c) What is the function of the instrument?

(d) The student observed the housefly whose actual length was 8cm. She used the apparatus named above 6(a) above and the total magnification was X4. Calculate the length of the drawing. Show your working. **(3mks)**

7. **(a)** What is classification? **(1mk)**

(b) What is the need for classification? **(4mks)**

8. Fill the table below by identifying the correct kingdom and appropriate representative in each case **(5mks)**

kingdom	**representative**
a)	Hydra
b)	Protozoa
c)	Yeast
d) Monera	
e)	Garden pea

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

9.

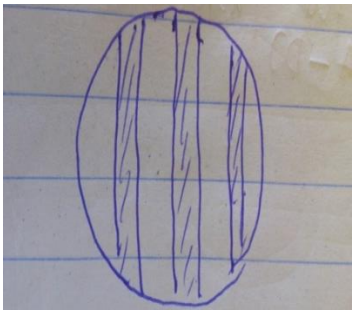
a) Distinguish between magnification and resolution **(2mks)**

b) Fill the table below **(3mks)**

Eye-piece lens	Objective lens	Total magnification
X30	(i) ……	X600
X14	X5	(ii) ……
(iii) ……	X40	X2000

c) Study the diagram below and answer the questions that follow

The diagram represents the field of view observed under the light microscope during the form one practical lesson.



If the students counted 10 cells across the field of view, calculate the size of one cell in micrometers. Show your working. **(3mks)**

10. What is the importance of the following practices in biological preparation of the specimen?

i) Cutting very thin sections **(1mk)**

ii) Staining the cells using common dyes **(1mk)**

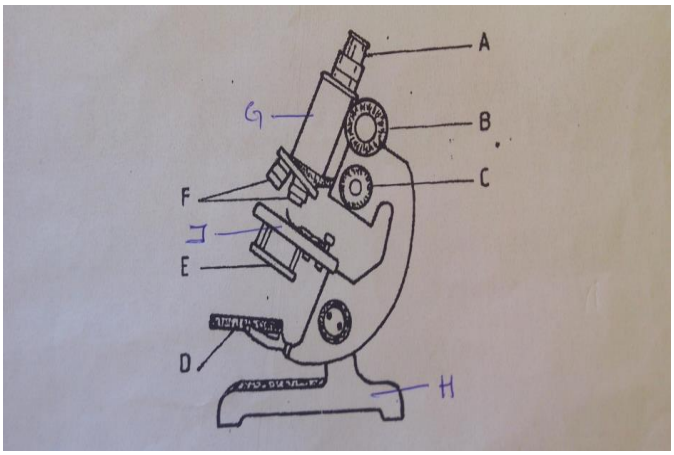
iii) Adding a drop of water on the cell **(1mk)**

11. Distinguish between unicellular and multicellular organisms. **(2mks)**

12. Identify three types of cells found in plants. **(3mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

13. The figure shows a microscope



(a) Name the parts of the microscope shown below. **A, C, J & D** **(4mks)**

(b) State the functions of the parts **B, E, F**,**G** & **H**

14. State three importance of studying biology **(3mks)**

15. For the table below, identify the cell organelle and state the appropriate function **(10mks)**

CELL ORGANELLE	FUNCTION
a) Cell wall	……
b) ……	Add carbohydrates to protein and transport them in the cell
c) Nucleus	……
d) Nucleolus	……
e) ……	Protein synthesis
f) Chloroplast	……
g) ……	Contain lytic enzymes
h) Rough endoplasmic reticulum	……
i) ……	Transport lipids
j) ……	Site for respiration

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

16. Name the taxonomic units of classification in order of hierarchy **(7mks)**

17. **(a)** What is the name given to the double naming of living organisms? **(1mk)**

(b) The scientific name of a cat is ***Felis catas.*** Which taxonomic group does the name ***Felis*** and ***catas*** refer to? **(2mks)**

(c) Outline four principles used in double naming system of living organisms **(4mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 06

1. i) State **one** process that takes place during the light stage and **one** that takes place in the dark stage of photosynthesis. **(2mks)**

Light stage;

Dark stage;

ii) Name three products of the light stage of photosynthesis **(3mks)**

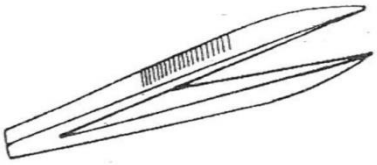
iii) Name **three** types of cells in the leaves where photosynthesis occurs **(3mks)**

2. Name **one** example of the specialized cells in plants and one example in animals.

(i)Plants **(1mk)**

(ii) Animals **(1mk)**

3. Identify the following apparatus and state its functions.



4. A student measured the length of a mitochondrion on a photomicrograph whose magnification was X 40000 and found it to be 1mm. Calculate the actual size of the mitochondrion. **(3mks)**

5. State the type of solution that makes the plant cell. **(2mks)**

i) Flaccid

ii) Turgid

6. Name the carbohydrate stored in:

i) Cell wall. **(1mk)**

ii) Mammalian liver. **(1mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

7. Name the monosaccharides that make up the disaccharides below

a) Sucrose **(1mk)**

b) Lactose **(1mk)**

c) Maltose **(1mk)**

8. (a) Name **three** characteristics of living organisms **(3mks)**

(b) Apart from Plantae and Animalia, name **three** other kingdoms. **(3mks)**

9. Draw a well labeled diagram show the external parts of a simple leaf **(6mks)**

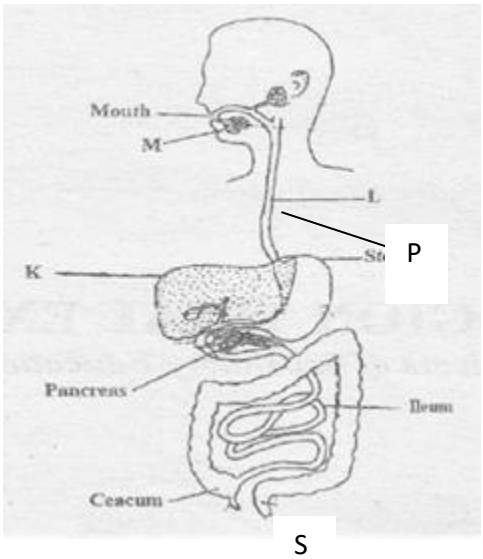
10. **Give two** characteristics that distinguish scientific names from common names. **(2mks)**

11. (a) What is cell specialization **(1mk)**

(b) Name **three** types of tissues found in animals **(3mks)**

(c) Name **three** main types of lenses found on a light microscope **(3mks)**

12. The diagram below represents the digestive system in man. Study the diagram and answer The questions that follow



(a) Label the part K ,L, S and salivary glands M and ۲ **(5rnks)**

(b) Name **three** hormones which are secreted along the alimentary canal **(3mks)**

13. List down **four** differences between a light microscope and an electron microscope **(4mks)**

14. List down **four** factors that determines energy requirements in human being: **(4mks)**

15. Define the following branches of Biology. **(2mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

i) Genetics

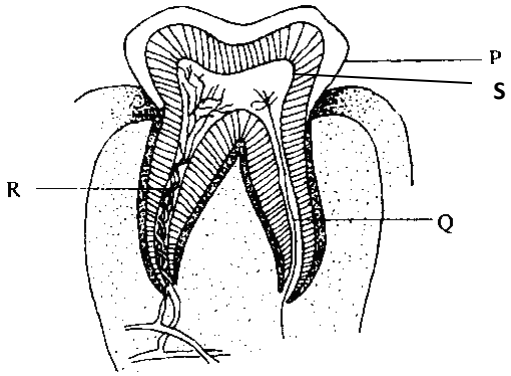
ii) Entomology

16. State the functions of each of the following organelles.

a) Nucleolus **(1mk)**

b) Golgi apparatus **(2mks)**

17. The diagram below represents a longitudinal section of a human tooth.



(a) Identify the type of tooth. **(1mk)**

(b) Give one reason for your answer in (a) above. **(1mk)**

(c) State one function of the tooth. **(1mk)**

(d) State the function of the part labeled Q **(1mk)**

e) Name the parts labeled P, Q, R, and S **(3mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 07

1. Name the branches of biology that deal with study of**:** **(2mks)**

(a) Inheritance and variations

(b) Chemical changes inside living organisms

2. Name the cell organelles that would be abundant in:

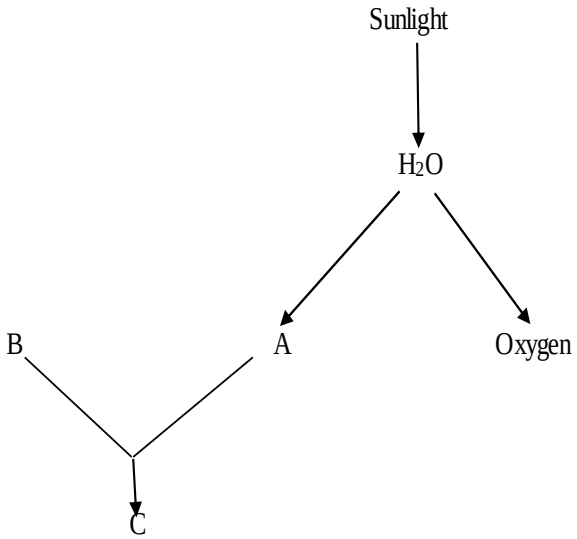
a) White blood cells destroying pathogens **(2mks)**

b) Palisade mesophyll cells

3.(a) When observing a specimen through a light microscope, a student noted that the field of view was dark. Name 2 parts of the microscope that the student should adjust to make the field of view clear **(1mk)**

(b) A specimen was magnified 1000 times by a light microscope whose eye piece lens magnification is X10. Calculate magnification of objective lens. **(2mks)**

4. The flow diagram below represents a process of photosynthesis. Study diagram and answer the questions that follow.

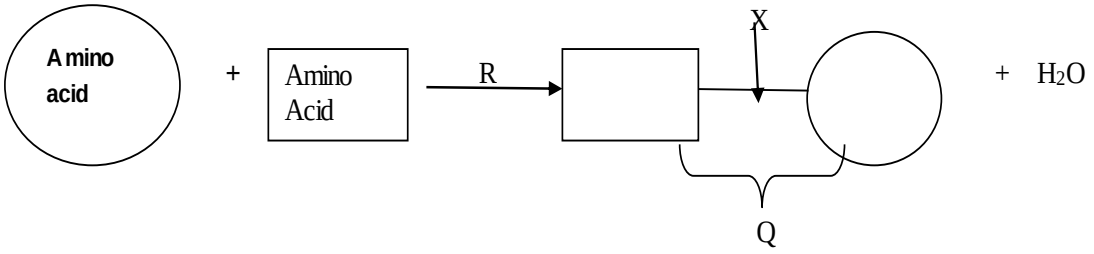


(a) Name the substances labeled **A, B & C** **(3mks)**

(b) Write an equation to show the process illustrated above **(1mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

5. The following is a diagrammatic representation of protein synthesis. Study and answer the questions that follow.



(a) Name process R **(2mks)**

(b) Where in the cell does R take place?

(c) Name

(i) Product Q **(2mks)**

(ii) Part X

6. (a) Name an element which is a present in proteins but is not in carbohydrates **(1mk)**

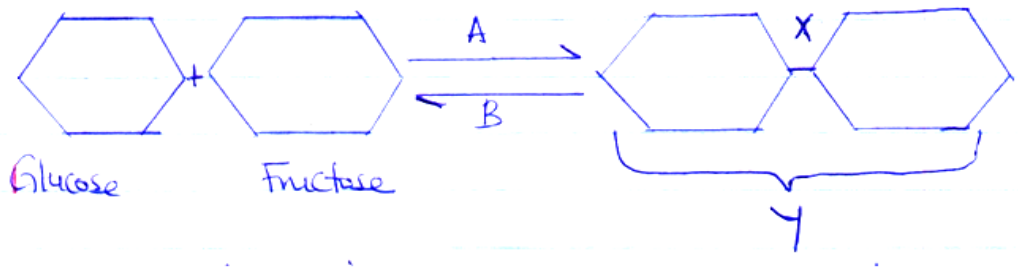
(b) State two functions of proteins in the human body **(2mks)**

7. State the functions of the following cell structures. **(2mks)**

(i) Centriole

(ii) Contractile vacuole

8. Study the reaction below and answer the questions that follow



(a) What biological processes are represented by A and B **(2mks)**

(b) Identify the product Y **(1mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

9. A solution of sugarcane was boiled with hydrochloric acid; sodium hydrogen carbonate was added to the solution which was then heated with Benedict's solution. An orange precipitate was formed

(a) Why was the solution boiled with hydrochloric acid? **(1mk)**

(b) To which class of carbohydrates does solution of sugarcane belong? **(1mk)**

(c) State the form in which carbohydrates are stored in **(2mks)**

(i) Plants

(ii) Animals

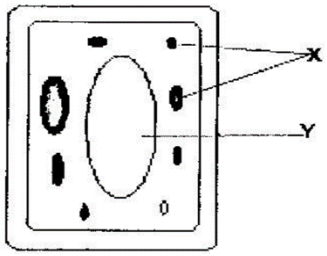
10. Explain the importance of each of the following during the process of digestion in human beings

(a) Teeth **(1mk)**

(b) Saliva **(2mks)**

11. State two ways in which active transports differs from diffusion. **(2mks)**

12. The figure below is a diagram of a cell as seen under the light microscope.



(a) Name two structures that shows this is a plant cell and not an animal cell. **(2mks)**

b) Name one chemical compound that is only found in the structure labeled X. **(1mk)**

c) Name the fluid in the part labeled Y . **(1mk)**

d) Other than through enzymatic action, how else can a disaccharide be hydrolyzed to its constituent monosaccharides. **(1mk)**

13. Give two skills gained by a student learning Biology. **(2 marks)**

14. Name the unit of classification that has the least organisms. **(1 mark)**

15. What is the importance of using a hand lens in classification of organisms. **(1 mark)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

16. What characteristics of living organisms is represented by the following characteristics:

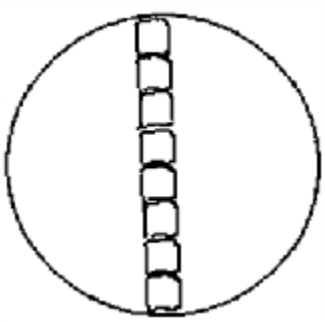
a) A cat producing kittens. **(1mk)**

b) A girl dropping a hot pan**.** **(1mk)**

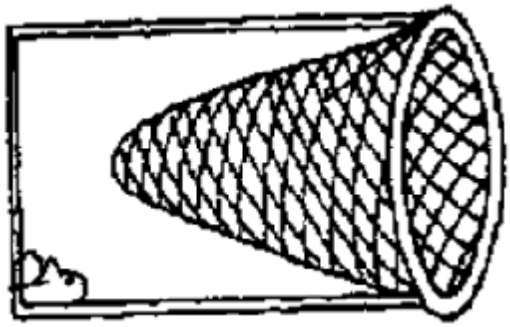
17. a) An electron microscope has a much greater resolving power than a light microscope. Explain the meaning of the term resolving power. **(1 mark)**

b) Give a reason why an electron microscope cannot be used to study life specimen. **(1 mark)**

18. During a practical lesson to estimate the size of a cell, using the sketch below which some students observed, calculate the length of one cell in micrometers given that the field of view was 8mm wide. **(3 marks)**



19. The diagram below represents a certain apparatus used by biology students.



(i) Identify the apparatus above. **(1 mark)**

(ii) State the function of the apparatus named in b) (i) above. **(1 mark)**

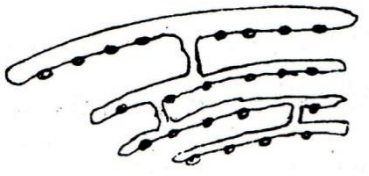
20. Black jack (<u>Bidens</u> <u>pilosa</u>) belongs to the family Compositae. What is it's:

Genus. **(1 mk)**

Species. **(1 mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

21. i) Identify the organelle represented by the diagram below. **(1 mk)**



ii) State the function of the organelle identified in 21(i) above. **(1 mk)**

22. State the importance of each of the following process in living things. **(2 mks)**

i. Respiration

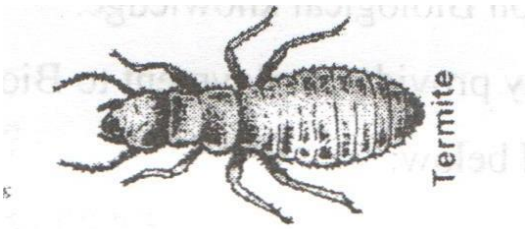
ii. Gaseous exchange

23. Give a reason why each of the following steps are followed when preparing cross sections of a leaf for examination under a microscope: **(2mks)**

a) Cutting very thin section

b) Using sharp razor blade (scalpel) during cutting.

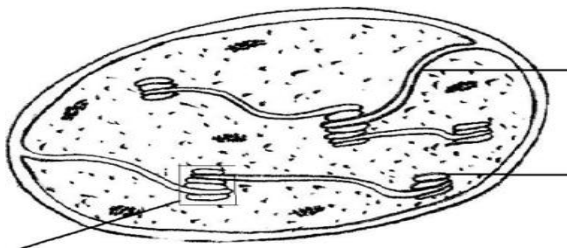
24. Calculate the magnification of the drawing of the termite below given that the actual length of the termite is 0.9cm long . Show your working **(2mks)**



25. Below is a structure of chloroplast. Label on the diagram using the letters provided, the parts where the following processes of photosynthesis take place: **(2mks)**

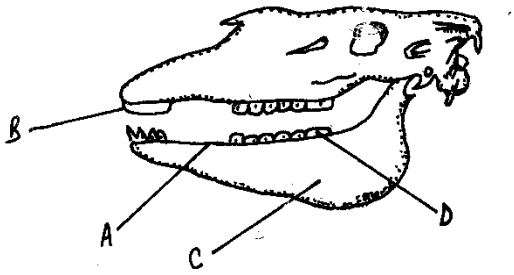
(i) Photolysis (use letter P)

(ii) Carbon IV oxide fixation (use letter C)



Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

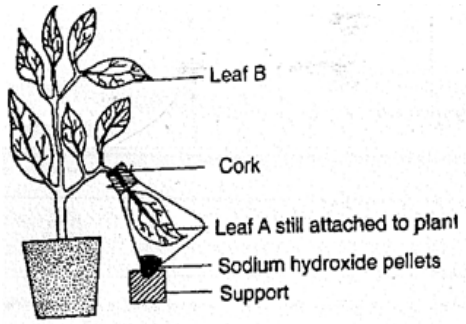
26. Study the figure below and answer the questions that follow.



a) Name the parts labeled B, C and D **(3 mks)**

b) State the function of part labeled A. **(1 mk)**

27. Study the diagrams below and then answer the questions that follow.



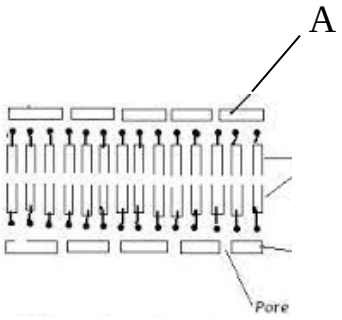
(a) What was the aim of the experiment? **(1mk)**

(b) Explain why leaf A is still attached onto the plant. **(1mk)**

(c) What property of sodium hydroxide enables it to carry out its intended role? **(1mk)**

(d) In the test for starch in either leaf A or B, name the role played by methylated spirit **(1mk)**

28. The diagram below represents a cell structure. Study it and answer the questions that follow



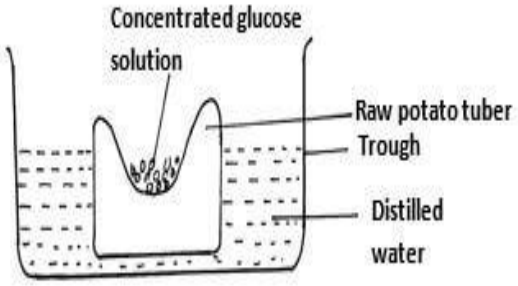
a) Name the cell structure shown above. **(1mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

b) State two functions of the organelle**.** **(2mks)**

c) Name the building blocks part labeled A. **(1mk)**

29. A group of students set up an experiment to investigate a certain physiological process. The set up was as shown in the figure below.



After sometimes the students observed that the level of the glucose solution had risen

a) Name the physiological process being investigated**.** **(1mk)**

b) Account for the rise in the level of salt solution in the experiment. **(2mks)**

c) Suggest the results that the students would obtain if they repeated the experiment using a piece of boiled potato tuber. **(1mk)**

30. When testing for starch in a leaf, explain the reasons for doing the following: **(3mks)**

i) Dipping the leaf in boiling water

ii) Boiling methylated spirit indirectly in water bath

iii) Washing the leaf in water after boiling in methylated spirit

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 08

1. a) Name the branch of science that deals with the study of living things **(1mk**

b) Name the branch of Biology that deals with the study of ; **(2mks**

I. plants

ii. Animals

2. State three differences between plants and animals **(3mks**

3. a) Distinguish between taxonomy and taxon **(2mks**

b) Define the term species **(2mks**

c) State the seven classification units starting from the smallest unit **(7mks**

d) What is the name given to the system of assigning two scientific names to an organism? **(1mk**

e) A scientist discovered a new organism and decided to assign it a scientific name.

What rules should be put in consideration while assigning the name? **(4mks**

4. Name five kingdoms used in classifying organisms and give an example in each **(5mks**

5. a) Give the functions of the following organelles(3mks

i) Mitochondrion

ii) Ribosomes

iii) Vacuole

b) In an experiment to estimate the size of a cell a student determined the field of view to be 3mm.On observing onion epidermal cells, he counted 11 cells across the field of view.

Determine the size of each cell. **(3mks**

c) Explain the importance of the following procedures during preparation of the slides. **(3mks)**

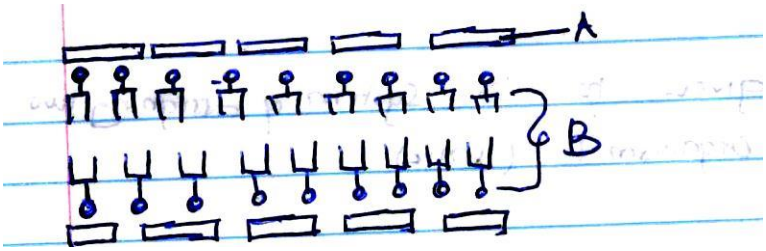
i. Cuting thin sections

ii. Staining

iii. Placing section in water

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

6. The diagram below represents a cell organelle. Study it and answer the questions that follow



a) Name the organelle shown above **(1mk**

b) State two functions of the organelle **(2mks**

(c) Name the parts labeled A & B **(2mks**

d) State two properties of the organelle you have named **(2mks**

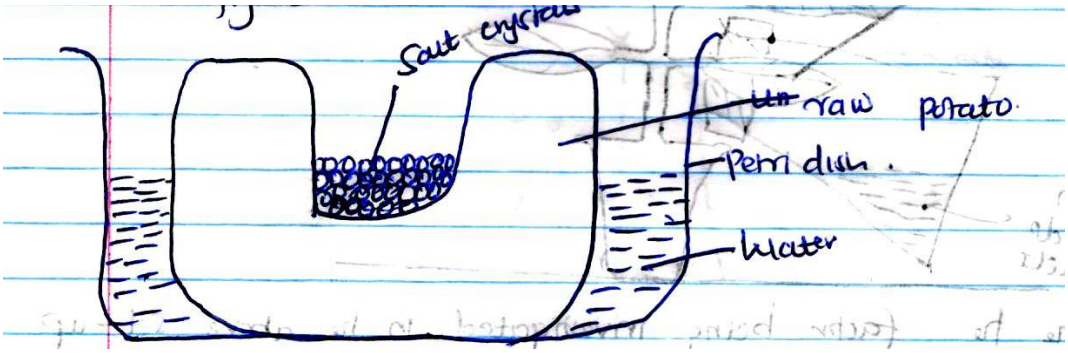
7. Explain the following terms **(3mks**

i) Diffusion

ii) Active transport

iii) Plasmolysis

8. A group of students set up an experiment to investigate a certain physiological process. The set up was as shown in the figure below



After sometimes the students observed that the level of the salt solution had risen

a) Name the physiological process being investigated **(1mk**

b) Account for the rise in the level of salt solution in the experiment **(3mks**

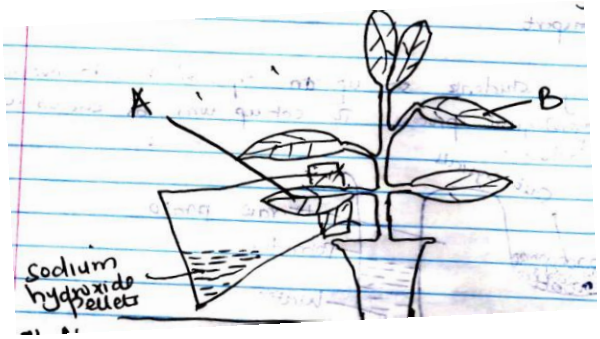
c) Suggest the results that the students would obtain if they repeated the experiment using a piece of boiled pawpaw **(1mk**

d) State the importances of the process named above in living organisms **(3mks**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

9. Name two photosynthetic cells in plants **(2 mks)**

10. The diagram below represents an experiment set up by students of Kiboko Secondary School



a) Name the factor being investigated in the above set up **(1mk**

b) Why is it necessary to first keep the set up in the dark for 48hrs? **(1mk**

c) What is the role of sodium hydroxide pellets in the experiment **(1mk**

d) When testing for starch in a leaf, explain the reasons for doing the following **3mks**

i) Dipping the leaf in boiling water

ii) Boiling the leaf in methylated spirit

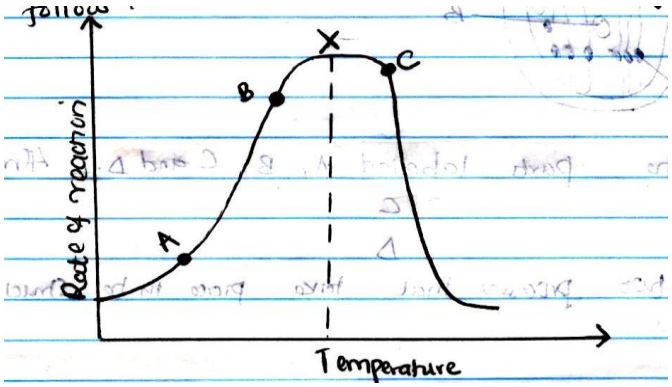
iii) Boiling methylated spirit indirectly in a water bath

e) Name the reagent used to test for starch **(1mk**

f) State the expected results for leaves A and B after a starch test **(2mks**

g) Explain the results in (f) above **(2mks**

11. The graph below shows the effect of temperature on an enzyme catalysed reaction. Study it and answer the questions that follow



a) Account for the shape of the curve between points A and B **(3mks**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

b) What does the point marked x represent? **(1mk**

c) Explain the curve beyond point c **(2mks**

12. a) Name the elements present in carbohydrates **(3mks**

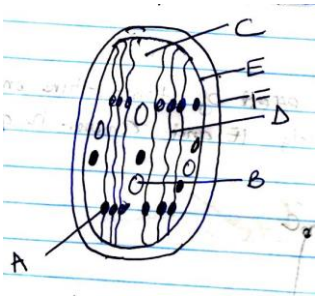
b) Name carbohydrates that is: **3mks**

i. Abundant in mammalian blood

ii. Stored in the liver

iii. Stored in seeds

13. The diagram below represents a chloroplast. Study it and answer the questions that follow



a) State the function of this organelle **(1mk**

b) Name the parts labeled A, and C. **(2mks**

c) List two processes that take place in the structure labeled A **(2mks**

d) Name the process that takes place in the structure labeled C **(1mk**

e) Name the chemical pigment found in the structure labeled A and state its function **(2mks**

14. State three adaptations of a leaf to its photosynthetic functions **(3mks**

15. State five factors that affect the process of diffusion **(5mks**

16. a. State the functions of the following parts of a microscope: **(3 mks)**

i. Condenser

ii. Fine adjustment knob

iii. Objective lens

b. State two differences between a light and electron microscope. **(2 mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 09

1. State the name given to the study of **(2mks)**

(i) Insects

(ii) Classification of living organisms.

2. (a) Name the products of complete hydrolysis of sucrose. **(1mk)**

(b) What happens to these products named in (a) above, when they are excess in the body of man. **(2mks)**

3. (a) State the roles of light in plant nutrition. **(2mks)**

(b) Give a reason why glucose formed at the end of photosynthesis is converted at once into starch. **(1mk)**

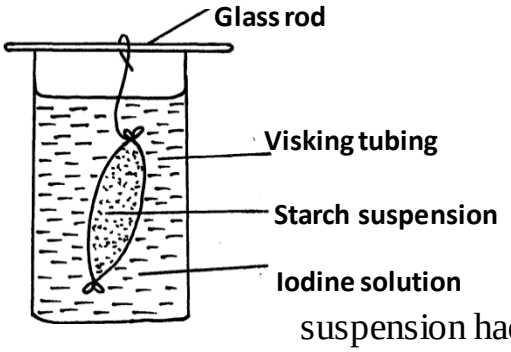
4. (a) State the formula for calculating linear magnification of a specimen when using a hand lens. **(1mk)**

(b) Give **one** functional advantage of use of the following microscopes. **(2mks)**

(i) Light Microscope

(ii) Electron Microscope.

5. An investigation was set up as shown in the diagram below.



After 30 minutes, starch suspension had turned blue-black while iodine solution retained its colour.

(a) Name the physiological process that was being investigated in the experiment. **(1mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

(b) Account for the results observed after 30 minutes. **(3mks)**

6. Define the term osmosis. **(2mks)**

7. (a) Distinguish between homodonts and heterodonts. **(1mk)**

(b) A certain mammal has no incisors, no canines, 6 premolars and 6 molars in the upper jaw. In the lower jaw, there are 6 incisors, 2 canines, 6 premolars and 6 molars.

(i) Write down the dental formular of this mammal. **(1mk)**

(ii) What is the mode of nutrition of this mammal? **(1mk)**

8. The reaction represented by equation below occurs in the body

Hydrogen peroxide $\longrightarrow$ Oxygen + Water

(a) Name enzyme **Z** **(1mk)**

(b) Name an organ in the human body where this reaction occurs **(1mk)**

(c) State the biological importance of the reaction above **(1mk)**

9. State how each of the cells below are specialized to carry out their functions

(a) Palisade cell **(1mk)**

(b) A sperm cell **(1mk)**

10. State the functions of each of the following organelles.

(i) Ribosomes **(1mk)**

(ii) Golgi apparatus **(1mk)**

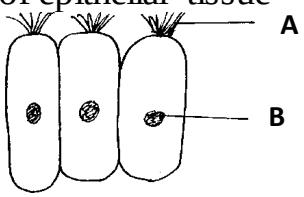
11. Name the bond that exists between amino acids during condensation process of forming proteins? **(1mk)**

12. Explain how the following factors affect the rate of photosynthesis

(a) Concentration of carbon (iv) oxide. **(1mk)**

(b) Light intensity **(1mk)**

13. Study the figure below which shows a type of epithelial tissue

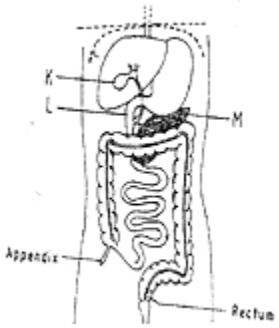


Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

(a) State the name of structure **A**. **(1mk)**

(b) Give an example in humans where this epithelium is found **(1mk)**

14. The diagram below represents part of the human digestive system.



Name the organs labeled L and M. **(2mks)**

15. Some form one students wanted to collect the following animals for study in the Laboratory. State the suitable apparatus they should use.

i) Flying insects **(1mark)**

ii) Crawling stinging insects **(1mark)**

iii) Small animals from tree barks **(1mark)**

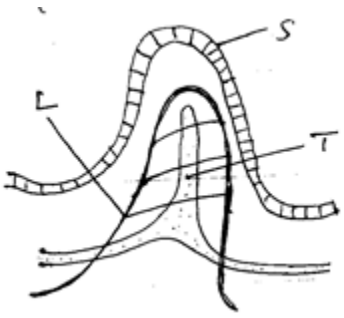
16. Study the diagram below and answer the questions that follows

a) Identify the structures labeled A and B **(2marks)**

b) What process takes place in the parts labeled A and B **(2mark)**

17. A student estimated the diameter of a field of view to be 2.8mm. The diameter was occupied by four onion cells. Estimate in micrometers the diameter of onion cell. Show your working. **(2 marks)**

18. The diagram below represents structure found in the walls of ileum.



Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

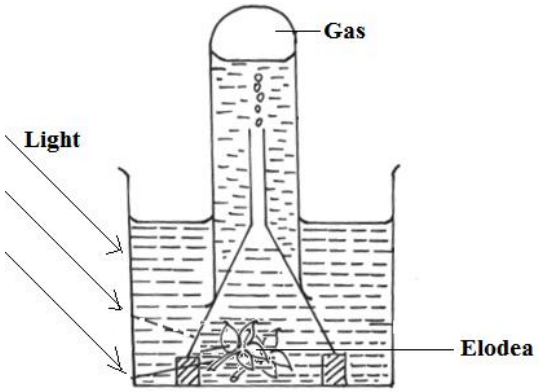
a) Identify the structure shown in the diagram. **(1 mark)**

b) Name parts labeled S, T and L. **(3 marks)**

c) Name products of digestion which are absorbed into; **L** & **T** **(2 marks)**

d) State how the above structure is adapted to its function. **(2 marks)**

19. The diagram below represents a set up that was used to investigate a certain process in a plant.



(a) State the process that was being investigated. **(1 mark)**

(b) Other than the factors shown, state two factors that would affect the process named in (a) above. **(2 mark)**

20. Outline two roles of active transport in human beings. **(2 marks)**

21. Write the role of the following parts of microscope. **(3marks)**

i) Mirror

ii) Diaphragm

iii) Coarse adjustment knob

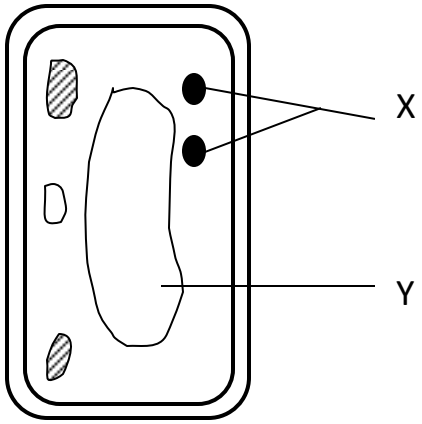
22. Explain w hy plant cells do not burst when immersed in distilled water. **(2mks)**

23. (a) State two functions of bile juice in the digestion of food? **(2marks)**

(b) How does substances concentration affect the rate of enzyme reaction? **(1mark)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

24. The diagram below represents a cell



a) Name the parts labeled X and Y **(2marks)**

b) State why the structures labeled X would be more on one side than the other side. **(1mark)**

25. a) What is diffusion **(2marks)**

b) How does diffusion gradient affect the rate of diffusion? **(1mark)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

FORM ONE HOLIDAYS KEYNOTE
BIOLOGY QUESTION PAPER NO: 10

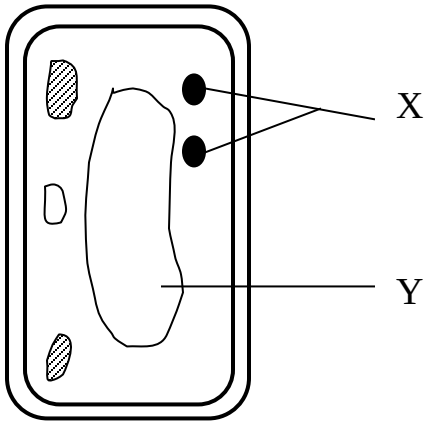
1. State the functions of the following organelles **(3marks)**

a) lysosomes

b) Golgi apparatus

c) Chloroplast

2. The diagram below represents a cell



c) Name the parts labeled X and Y **(2marks)**

d) State why the structures labeled X would be more on one side than the other side. **(1mark)**

3. Write the role of the following parts of microscope. **(2marks)**

i) Mirror

ii) Diaphragm

4. Explain why plant cells do not burst when immersed in distilled water. **(1mk)**

5. An experiment was carried out to investigate the rate of reaction shown below

Sucrose $\longrightarrow$ Fructose + Glucose

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

For the products; Fructose and Glucose to be formed, it was found that substance K was to be added and the temperature maintained at 37^{o}C. When another substance L was added, the reaction slowed down and eventually stopped.

(a) Suggest the identity of the substances K and L **(2marks)**

(b) Explain how substance L slowed down the reaction. **(1mark)**

6. (a) State two roles of light in the process of photosynthesis. **(2marks)**

(b) Name one product of dark phase reaction in photosynthesis. **(1mark)**

7. A solution of sugarcane was boiled with hydrochloric acid; sodium carbonate was added; cooled and Benedict's solution was added then boiled. An orange precipitate was formed.

(a) Why was the solution boiled with hydrochloric acid? **(1mark)**

(b) Why was sodium carbonate added? **(1mark)**

(c) Name the type of reaction that takes place when simple sugars combine to form complex sugar. **(1mark)**

8. (a) State two functions of bile juice in the digestion of food? **(2marks)**

(b) How does substrate concentration affect the rate of enzyme reaction? **(1mark)**

9. A certain animal has no incisors, no canines, six premolars and six molars in its upper jaw, in the lower jaw there are six incisors, two canines, six premolars and six molars.

Write its dental formular? **(2marks)**

10. Name the physiological process by which gas exchange takes place at the respiratory surface of animal and plants. **(1mark)**

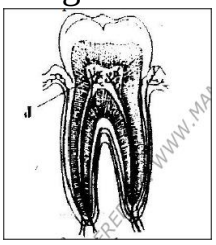
11a) The action of ptyalin stops at the stomach. Give a reason. **(1marks)**

b) State a factor that denatures enzymes **(1mark)**

c) Name the features that increase the surface area of small intestines. **(2marks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

11. The diagram shown below shows a section through a human tooth.



a) i.) Identify the type of teeth. **(1mk)**

ii.) Give a reason for your answer in 12(a) i) above. **(1mk)**

b) How is the part J important in the functioning of the tooth? (**2mks)**

13. Name the functions of the following apparatus.

i.) Pitfall trap **(1mk)**

ii.) Bait trap (**1mk)**

14. State any two functions of lipids in the body. **(2mks)**

15. The scientific name for cat is Canis Domestica.

i) Identify two mistakes made in writing the name above. **(2mks)**

ii) State two reasons why latin language are preferred when writing the above name. **(2mks)**

16. State two factors that increase the rate of photosynthesis. **(2mks)**

17. Raymond observed eight epidermal cells across the field of a light microscope. If the diameter of the field of the field of view is 4mm, estimate the average size of each cell in micrometer. Show your working. **(3mks)**

18. Give the reason for carrying out the following procedures when preparing wet mounts of plant tissues.

i.) Making very thin sections **(1mk)**

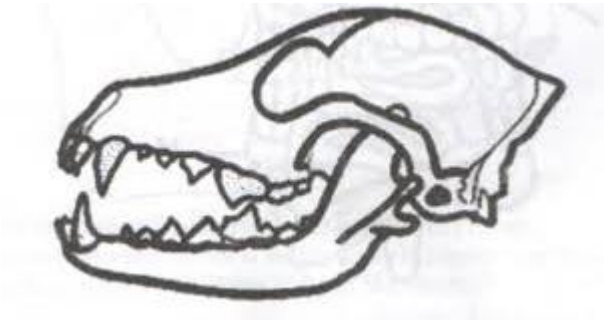
ii.) Adding water on the plant section **(1mk)**

iii.) Placing cover slip over the plant section **(1mk)**

19. Give three roles of active transport in living organisms. **(3mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

20. The diagram below represents the lower jaw of a mammal.



i.) Name the mode of nutrition of the mammal whose jaw is shown. **(1mk)**

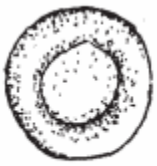
ii.) Give two observable reasons for your answer in 20 i.) above **(2mks)**

iii.) Label the incisor tooth in the diagram**.** **(1mk)**

21. a) Define the term photosynthesis. **(1mk)**

b) Name three photosynthetic cells in a leaf. **(3mks)**

22. The diagram below shows what happens to red blood cells when it was put in a solution.



At start

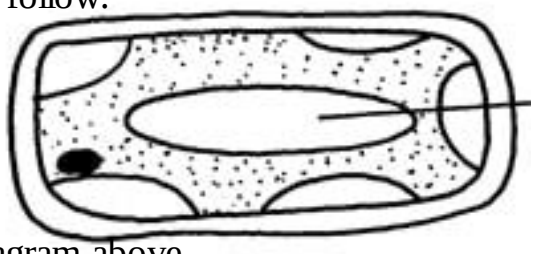


At the end of experiment

a) Name the type of solution in which the cell was put. **(1mk)**

b) Name the process demonstrated in the diagram**.** **(1mk)**

23. The cell shown below was obtained from a piece of potato that was immersed in 20% salt solution. Study it and answer the questions that follow.



i) Name the process shown in the diagram above. **(1mk)**

ii) Account for the observation above**.** **(3mk)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

24. Study the table below and answer the questions that follow.

	Sodium ion concentration	Iodide ion concentration
Sea water	250	35
Cell sap	100	550

a.) Identify the physiological process responsible for the absorption of the following substances through the roots of plants in this habitat:

i.) Sodium ion **(1mk)**

ii.) Iodide ion **(1mk)**

25. Give three enzymes that are produced in the small intestine. **(3mks)**

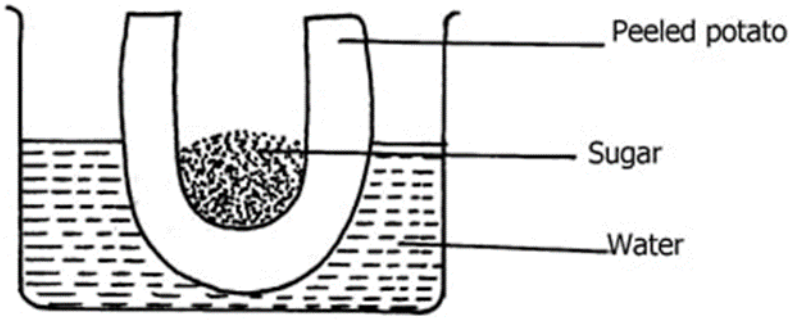
26. Name the mineral or vitamin necessary for the following; **(3mks)**

Blood clotting

Nerve impulse transmission.

Night vision

27. An experiment was set-up as shown below and left for one hour



(a) State the expected result at the end of one hour **(1mk**)

(b) Explain the observations made in this experiment. **(2mks)**

Prefer Calling Amobi Group of Examiners@ 0743 333 000 or 0706 851 439 for Marking Schemes

CALL AMOBI GROUP OF EXAMINERS @ 0743 333 000 OR 0706 851 439 TO ACQUIRE :









