

BIOLOGY
FORM ONE
END TERM 2 EXAM 2024
TIME: 1 ½ HOURS

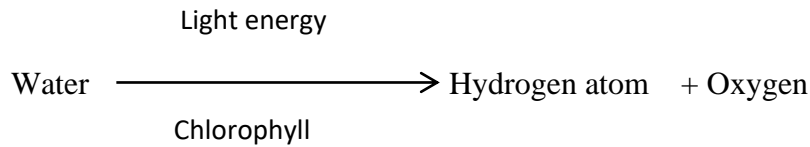
INSTRUCTIONS:

Answer all the questions in the spaces provided.

1. State three factors affecting the rate of photosynthesis. (3mks)
Light intensity
Carbon (iv) oxide conc
Temperature
Water
2. Name two plant process in which diffusion plays an important role. (2mks)
- Absorption of materials
- Gaseous exchange
3. Define the following terms.
(i) Osmosis (1mks)
❖ Process where solvent molecules (water) move from a lower concentration to a highly conc solution across a semi-permeable membrane.
(ii) Active transport (1mk)
- Movement of substances against conc gradient using energy.
4. Give the terms that describe the following
i) Bursting of red blood cells...Haemolysis (1mk)
ii) Outward pressure on the cell wall ...Turgor (1mk)
iii) Process by which plant cells lose water, shrink and become flaccid (1mk)
Plasmolysis
5. List three characteristics of living things that are not shown by a motor vehicle. (3mks)
❖ Growth and development
❖ Reproduction
❖ Irritability
6. Give the functions of the following parts of a microscope.
i) Body tube. - Holds the eye-piece and revolving nose-piece (1mks)
ii) Condenser - Concentrate light on the stage (1mk)

iii) Diaphragm Regulation amount of light passing through (1mk)

7. Use the equation below to answer the questions



(i) State the name of the above process (1mk)
Photosynthesis

(ii) Where does the process occur within the chloroplast? (1mks)

Grana

8. State the names of branches of biology dealing with the study of the following.

(i) Study of living things in their surrounding...Ecology (1mk)

(ii) Study of insects ...Ecology (1mk)

(iii) Study of inheritance and variation...Genetics (1mk)

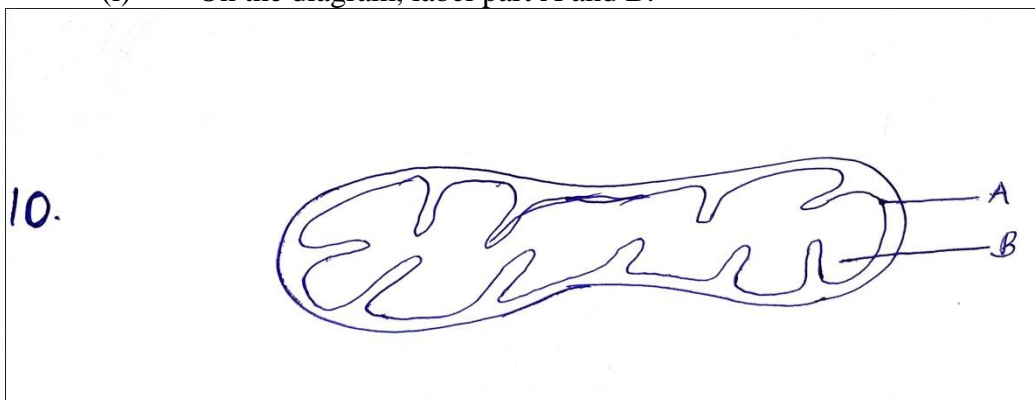
9. The scientific name for lion is *Panthera leo*

(i) To which kingdom does it belong...Animalia (1mk)

(ii) Which taxonomic group does the name *leo* refer to ...Species (1mk)

10. Use the diagram below to answer the questions.

(i) On the diagram, label part A and B. (2mks)



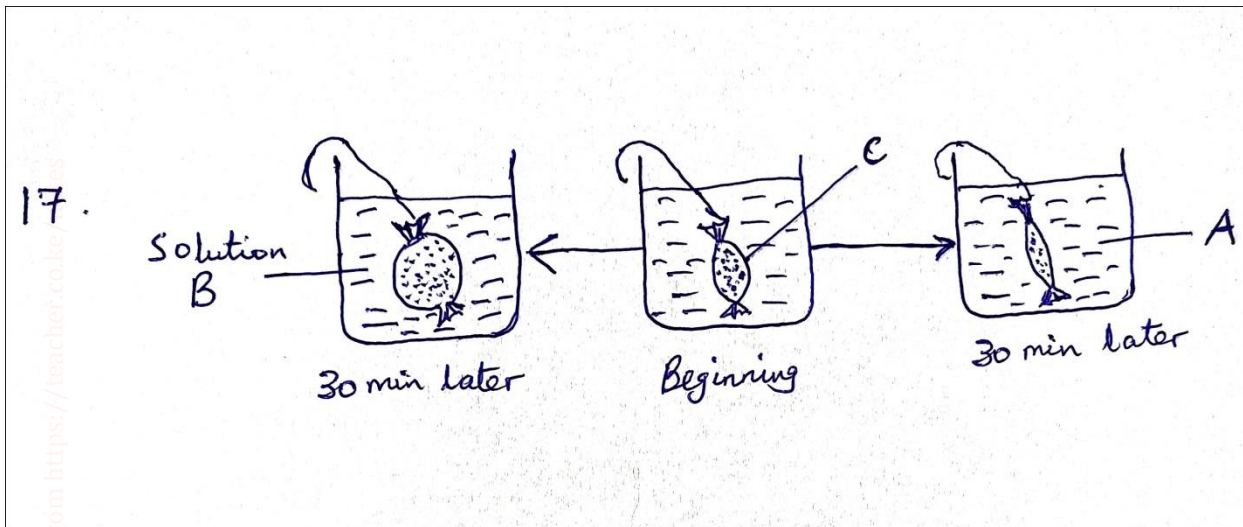
(ii) Give the name of the cell organelle above. (1mk)
Mitochondrion

(iii) Name two types of cells with high concentration of the above cell organelle. (2mks)

Muscle cells, sperm cells, apical meristem, kidney cell.

11. Differentiate between Autotrophism and Heterotrophism. (2mks)
- ❖ Autotrophism – Mode of nutrition where organisms manufacture their own food.
 - ❖ Heterotrophism: Mode of nutrition where organisms take in manufactured food
12. Give the names of apparatus used in collection of the following specimen.
- i) Small animals from rock surface or barks of trees, (1mk)
- Pooter
- (ii) Crawling animals (1mk)
- Pitfall trap
- (iii) Stinging insects - Pair of forceps
13. Name the five kingdoms into which the living things are grouped. (5mks)
- | | | |
|------------------|----------|-------|
| Stinging insects | | |
| Monera | Plantae | (1mk) |
| Protista | Animalia | |
| Fungi | | |
14. The seven taxonomic units of classification are Order, Genus, class, Species, Phylum (Division), Kingdom and Family.
- (i) State the taxonomic unit with the largest number of organisms (1mk)
- Kingdom
- (ii) Give the name of the fourth taxonomic unit (1mk)
- Order
- (iii) State the name of taxonomic unit whose some members can interbreed to produce infertile offspring. (1mk)
- Genus
15. State function of the following cell organelles.
- i) Lysosomes – destroying worn out organelles or cells (1mk)
- Centrioles (1mk)
- Cell division; formation of cilia and flagella
- ii) Ribosomes (1mk)
- Protein synthesis
16. State four factors that affect the rate of diffusion (4mks)
- Diffusion gradient
 - Surface area to volume ratio
 - Thickness of membranes
 - Size of molecules

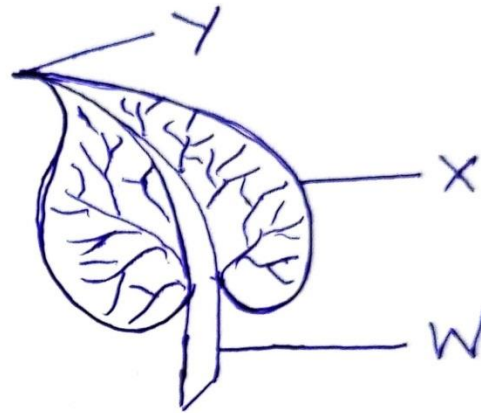
17. Use the diagrams below to answer the questions that follow



- (i) Name the physiological process shown above. (1mk)
Osmosis
- (ii) Give the name that describe the concentration of solution A and B. (1mk)
A – Hypertonic
B - Hypotonic
- (iii) Name one property of (c) that enhance the above process. (1mk)
- Semi-permeability

18. The diagram below represents part of a plant. Use it to answer the questions that follow.

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- (i) Name the parts labelled W, X and Y. (3mks)
- W – Petiole
 - X – Leaf margin
 - Y – Leaf apex

- (ii) Name any three internal parts of the part shown above. (3mks)
- Epidermis
 - Spongy mesophyll
 - Palisade layer
 - Veins

19. Name the six organ systems that make up an animal. (6mks)
- Digestive
 - Circulatory
 - Excretory
 - Nervous
 - Respiratory
 - Reproductive

20. Give the examples in each of the following.

- (i) Monosaccharide. (2mks)
Glucose, fructose, galactose
- (ii) Disaccharides (2mks)
Sucrose, Lactose, maltose
- (iii) Polysaccharides (2mks)
Starch, cellulose, Glycogen