

FORM 1 TERM 3 APRIL 2022

BIOLOGY

1. Differentiate between Botany and Zoology (2 mks)

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2. Motor vehicle move, use energy and produce carbon iv oxide and water similar characteristics occur in living organisms yet motor vehicles are not classified as living organism. Explain (2 mks)

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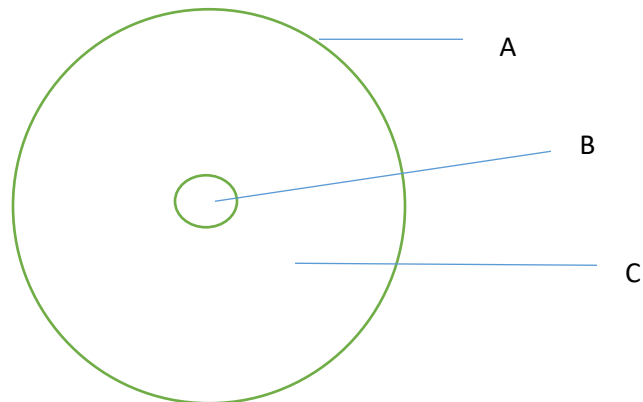
3. List skills that are gained on studying Biology (2 mks)

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4. Give three difference between the light and electron microscopes (3 mks)

Light microscope	Electron microscope	
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5. The diagram above was obtained from a certain organism.
i) Identify the structure (1 mk)

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- ii) Which type of microscope was used to view the structure (1 mk)

- iii) Name the parts labelled (2 mks)
B
C.....
- iv) State the function of the part labelled **A** (2 mks)

6. State the functions of the following parts of a light microscope
- a) Diaphragm (1 mk)
 b) Objective lens (1 mk)
7. Explain the importance of doing the following when testing a leaf for starch (4 mks)
- i) Boiling the leaf in water

- ii) Boiling the leaf in methlyated spirit

- iii) Boiling the methylated spirit in water bath

- iv) Placing a potted plant in the sun for 5 hours.....

8. Describe what happens during the light stage of photosynthesis (3 mks)

9. State **two** factors that affect enzymatic activities (2 mks)

10. State a function of the large intestine in humans (1 mk)

11. State the role of
- i) Vitamin C in human (1 mk)

- ii) Iron in humans (1 mk)

12. State two roles of **HCL** in the stomach (2 mks)

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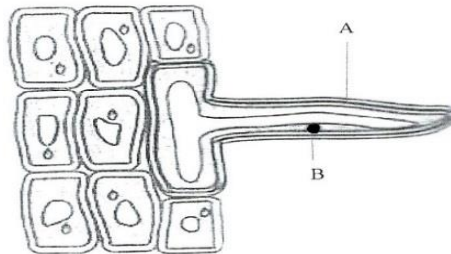
13. a) Complete the table given below (3 mks)

Eye –piece lens magnification	Objective lens magnification	Total magnification
X 5	_____	X20
X 10	X5	_____
_____	X10	X100

b) State **two** activities of the cell that are controlled by nucleus (2 mks)

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c) Identify the specialized cell illustrated below (1 mk)



i) (1 mk)

ii) Name the parts labelled (2 mks)

A.....

B.....

iii) What is Binomial nomenclature (1 mk)

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14. Name the organelles that would be found in large numbers in cells of a:

i) Rapidly respiring tissue (1 mk)

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ii) Secretory gland (1 mk)

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15. State the function of each of the following tissues

i) Meristematic (1 mk)

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ii) Blood (1 mk)

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16. Differentiate between plasmolysis and crenation (2 mks)

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17. The scientific name of an onion is *Allium cepa* Identify the genus and the species to which the organism belongs (2 mks)

a) genus.....

species.....

b) Outline three functions of carbohydrate in living organism (2 mks)

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c) What are the building blocks of proteins (1 mk)

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d) Give **two** factors that determine energy requirement in human beings (2 mks)

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e) Name the monosaccharides that make up the following substances

i) Sucrose..... (1 mk)

ii) Lactose (1 mk)

18. The table below shows the number of teeth in the jaws of an animal

	Canines	Incisors	Premola	Molars
Upper jaw	0	0	6	4
Lower jaw	8	0	6	6

a) Write the dental formula of the organism (1 mk)

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b) i) State the mode of feeding of this animal (1 mk)

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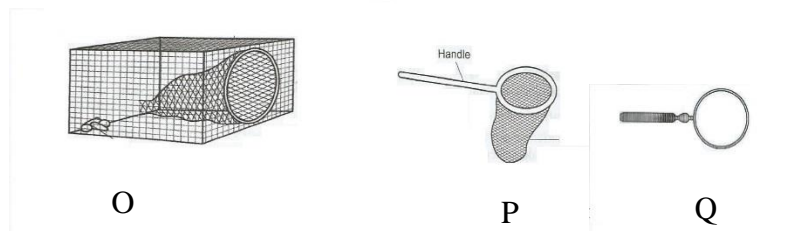
iii) Give **two** reasons for your answer (2 mks)

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iv) Name any **two** dental diseases (2 mks)

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v) The diagrams below represents common equipment used by Biologists



a) Identify the equipment
O..... (1 mk)

P..... (1 mk)

Q..... (1 mk)

19. a) Give the uses of the following apparatus (2 mks)

i) Speciment bottle

ii) Pooter

b) State **two** necessary precautions to be observed when collecting specimens (3 mks)

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c) Name the carbohydrate that is

i) Stored in plant seeds (1 mk)

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ii) Stored in mammalian muscles (1 mk)

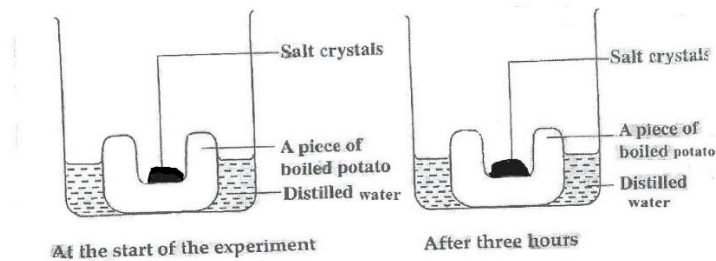
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iii) Most abundant in human blood (1 mk)

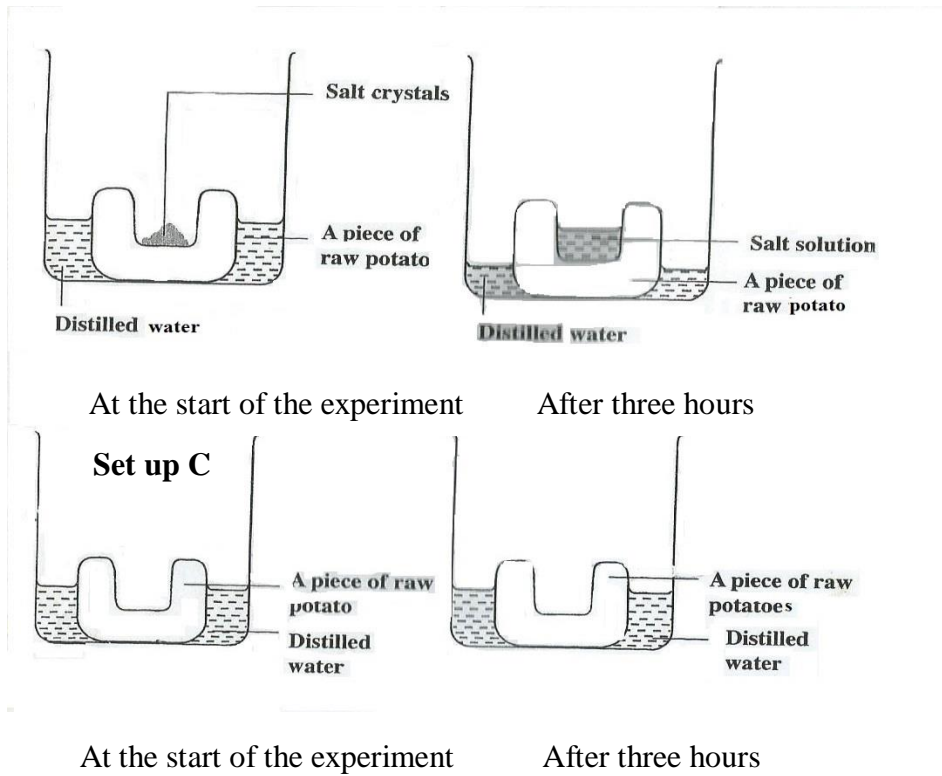
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20. A group of students set up the experiment below to investigate a certain physiological process

Set up A



Set up B



i) Name the physiological process being investigated (1 mk)

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ii) Account for the results in set-up A and B

A.....

B.....

iii) What was the purpose of set-up C? (1 mk)

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21. Name **two** structures found in plant cell that are absent in animal cell (2 mks)

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a) Define active transport (1 mk)

b) What is the significance of active transport in living organisms (2 mks)

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