END OF TERM EXAM 2019
BIOLOGY PAPER ONE FORM FOUR TERM 2 2019
TIME: 2HRS   PAPER 231/1

NAME: _____ CLASS: _____ ADM NO: _____

INSTRUCTIONS

Attempt all the questions in this paper on the spaces provided.
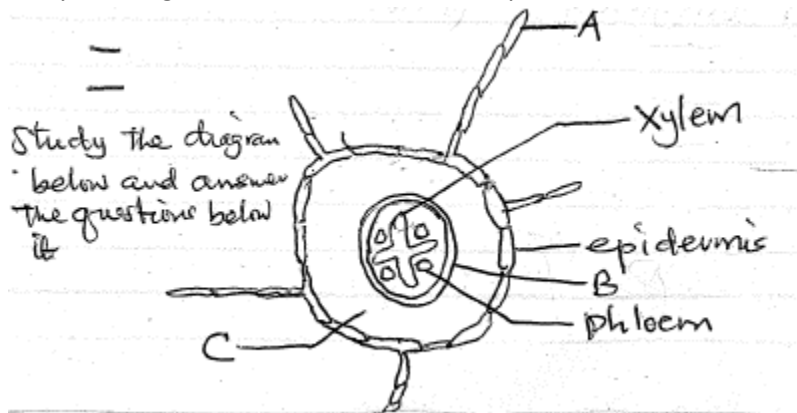
1. List down cell structures that can only.
   a) Be seen under the light microscope   (2mks)

   b) Be seen under the electron microscope   (2mks)

2. Name three forces that drive the process of transpiration in plants.   (3mks)

3. State four functions of plant roots   (4mks)

4. Study the diagram below and answer the questions below it

a) Name structures B and C   (2mks)

   B

   C

b) State two ways in which structure labeled A is adapted to its functions   (2mks)

5. Describe the following terms;
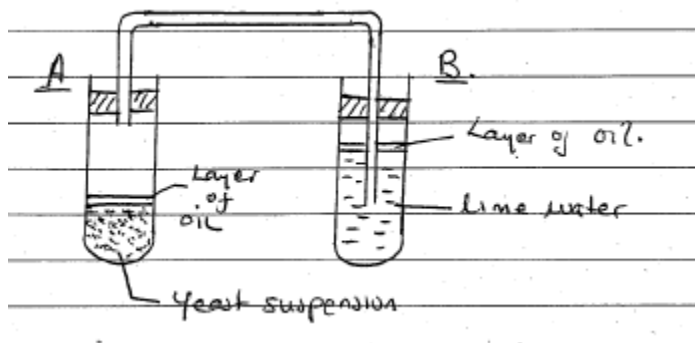   a) Isotonic solution   (1mk)

   b) Plasmolysis   (1mk)

   c) Turgidity   (1mk)

6. Draw a neat diagram showing the structures of a mitochondrion   (4mks)

7. Study the diagram below and answer the questions that follow

a) What is respiration? (1mk)

b) Why is the layer of oil poured over:- (2mks)
   i) The yeast suspension

   ii) The lime water

c) Name the type of respiration taking place in boiling tube A (1mk)

d) What is the expected observation in boiling tube B (1mk)

8. .
   a) State the name of the organelle where respiration takes place (1mk)

   b) How is the organelle you have named in 8(a) adapted to its functions (2mks)

9. .
   a) What is oxygen debt? (1mk)

   b) State the products of aerobic respiration (3mks)

10. .
   a) What is homeostasis?   (1mk)

   b) State two homeostatic functions of the liver   (2mks)

11. Mention two diseases that affect the liver   (2mks)

12. Describe the following terms;
   a) Hibernate

   b) Aestivate

13. During which stage of cell division does;
   i)   Spindle fibres form   (1mk)

   ii)   Synapsis take place   (1mk)

   iii)   Chromosome assemble at the equation   (1mk)

14. Give reason why do fishes, reptiles and amphibians lay several eggs   (3mks)

15. How are flowers adapted to insect pollination   (4mks)

16. State three changes which take place in a flower after fertilization   (3mks)

17. Distinguish the following as used in biology
    a) Sigmoid growth curve and intermittent growth curve   (2mks)

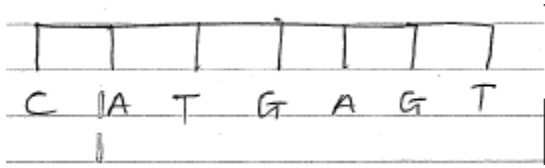   b) Growth and development   (2mks)

18. State three differences between growth in plants and animals   (3mks)

19. .
    a) Define the term mutation   (1mk)

    b) State two functions of DNA   (2mks)

c) Write a complimentary base sequence of mRNA that could be coded for using DNA strand shown below (1mk)

C	A	T	G	A	G	T

20. .

a) .

i) What is etiolation (1mk)

ii) State the importance of etiolation (1mk)

b) Distinguish between a neurone and a nerve (1mk)

21. .

a) What does the term evolution mean (1mk)

b) Give an example of a vestigial structure in human (1mk)

22. .

a) State two evidences of evolution (2mks)

b) Differentiate between homologous and analogous structures (1mk)

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23. .
   a) The diagram below represents a neurone

   i) Name the neurone   (1mk)

   ii) Using an arrow, show the direction of movement of impulses.   (1mk)

   b) State the survival name in the way shoot and roots respond to gravity   (1mk)

24. Explain why most recessive genres are expressed phenotypically in male offspring of humans   (3mks)