NAME_____ADM NO_____CLASS_____

BIOLOGY FORM ONE

END TERM 2 EXAMINATION

TIME: 1 ½ HOURS

Answer all the questions in the spaces provided.

1. Name the branch of biology involved in the study of

    a. Relationships of living with each other and their environment.(1mrk)

    b. Identification and classification of organisms.(1mrk)

2. The binomial name of housefly is MUSCA DOMESTICA.

    i) State<u>two</u> mistakes in the way the scientific name is written. (2mks)

    ii) Re-write the name in correct manner following the rules of binomial nomenclature. (1mrk.)

3. State the use of each of the following apparatus: (3mrks)

    I)Bait trap

    ii) Specimen bottle

    iii) Pitfall trap

4. Give the functions of thefollowing parts in a light microscope.(3mrks)
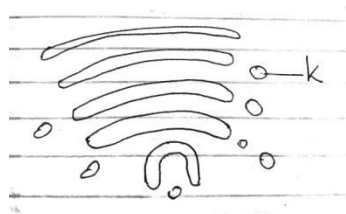
    a. Diaphragm

b. Condenser

c. Objective lens

5. b) Why is it not likely to use an electron microscope in a school laboratory?
   2mks

6. Study the diagram below and answer the questions that follow:

   (a) Identify the organelle.   1mk

   (b)Name the structure labelled K   1mk

(c)State two functions of the organelle named in (a) above.   2mks
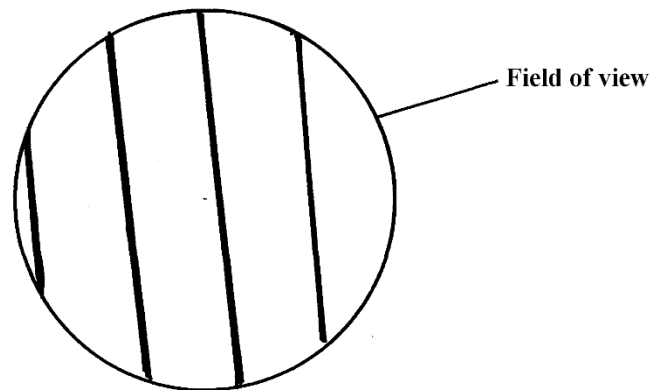
7. (i) What is the importance of carrying out the following procedures when
   preparing temporary slides in the laboratory?   (3mks).
          (A). Adding water to the specimen.

(b).Staining the specimen.

(c). Using a sharp blade to make sections.

8. A student estimating a cell size of an onion epidermal cells observed the following on the microscope field of view using a transparent ruler.

The student identified 20 cells across the field of view. Calculate the size of the cell inMicrometers (show your working) (3mks)

10.Define the term physiology(1mrk)

11. (a)Name the principal components of cell membrane (3mrks)

(b)(i) Why would a cell allow some substances to pass through it but not others? (1mrks)

(ii) Other than the property of semi- permeability stated in b (i) above, state two other properties of a cell membrane (2mrks

(c)Explain what would happen to the red blood cells if placed in concentrated salt solution.   3mks

12. Define the following terms(6mrks)
   a. Isotonic solution

   b. Hypotonic solution

   c. Hypertonic solution

13. What is meant by the following biological terms?

   (i)Crenation   (2mk)

   ii)   Haemolysis   (2mk)

14. What role does osmosis play in plants?(2mks)

15. Distinguish between diffusion and active transport (2mks)

16. Define the term nutrition(2mrks)

17. Name and explain the two types of nutrition(4mrks)

18. Differentiate between Chemotropism and Phototropism(4mrks)

19. Draw a well labelled diagram of a leaf showing the external features. (3mrks)

20. Define the term photosynthesis(2mrks)

21. What four conditions are needed for photosynthesis to occur?(4mrks)

22. (i)What is the importance of photosynthesis in nature?(2mrks)

(ii)The organelle below is importantin the process of Nutrition.
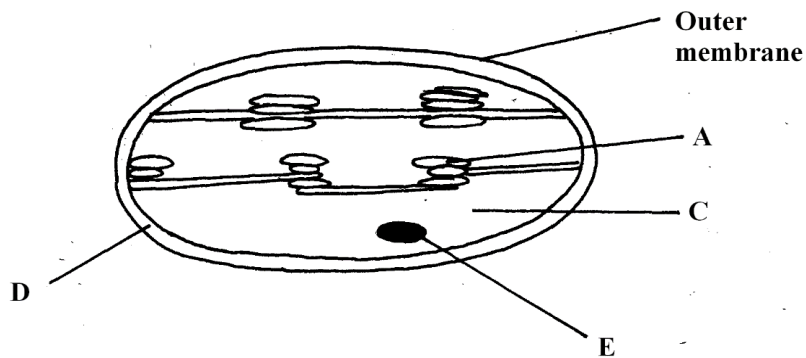
a)   Identify the organelle.   (1mk)

b)   Name the part labeled   (2mk

A

C

23. Name the part where the following stages of photosynthesis occur(2mrks)
    Light independent stage

Dark stage

24.State the role of light in the processes of photosynthesis(1mrk)

25.Name the building blocks of ;(3mrks)

   (I) Proteins

   (ii)Carbohydrates

   (iii) Fats

26.What are enzymes?(1mrks)

27.State the main properties of enzymes (2mrks)