

FOCUS A365

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FORM 4 TERM 1 BIOLOGY PPI EXAMINATIONS 2018

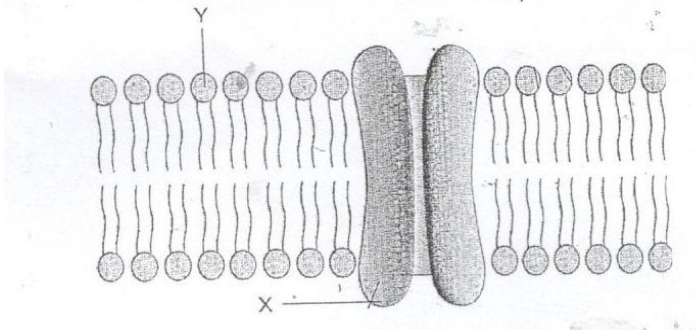
NAME: _____ ADM NO: _____ CLASS: _____

INSTRUCTIONS TO STUDENTS:

- Write your name, admission number and class in the spaces provided.
- Answer all the questions in this paper.
- All answer must be written in the spaces provided.
- Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

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1. The diagram shown below represents an organelle of a cell.



- i. Name the organelle 1mk

- ii. Name the parts labeled X and Y on the diagram. 2mks

2. Chloroplast is the organelle involved in the process of photosynthesis.

- i. Make a labeled diagram of a chloroplast to show the stroma, the grana and the lamellae. 3mks

- ii. State where carbon (IV) oxide fixation takes place. 1mk

- iii. Name the stored food in this organelle. 1mk

3. a) Define photosynthesis? 1mk

b) Explain the meaning of the term compensation point in photosynthesis. 1mk

c) Write a word equation for the process of photosynthesis

1mk

4. State three differences between aerobic and anaerobic respiration.

3mks

5. (a) Difference between meiosis and mitosis.

2mks

b) What is the importance of mitosis?

1mk

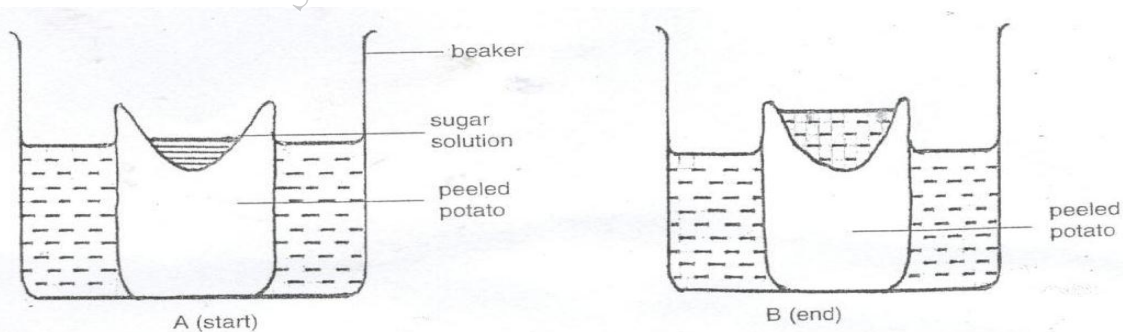
6. a) Difference between oviparous and viviparous mammals.

2mks

b) Give two example of egg laying mammals.

2mks

7. An experiment set up shown below was done by some secondary school students.



a. Explain the results of the experiment.

3mks

b. Give any one importance of the process that was being investigated in plants.

1mk

8. In a field trip, Amina saw the following organism.



a)(i) Name the Kingdom to which the organism belongs.

1mk

ii) Name the division to which the organism belongs.

1mk

b) Give two reasons for classifying the organism in the division you stated in (a) (ii) above.

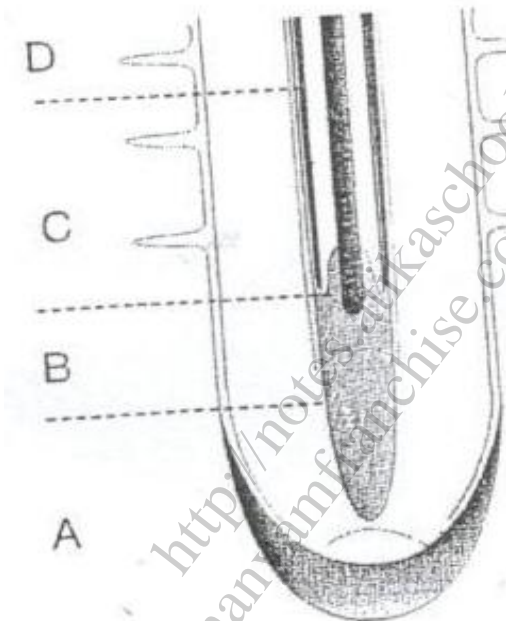
2mks

9. State four environmental factors that affect the rate of transpiration 4mks
10. Briefly explain how marine fish overcome osmoregulation problems. 4mks
11. Write the meaning of the following terms. 3mks
- a. Dominant allele
 - b. Genotype
 - c. Phenotype
12. a) What is rhesus factor? 1mk
- b) Why is it important to determine the Rhesus factor before blood transmission? 1mk
13. a) What is natural selection? 1mk
- b) List three examples of natural selection in action. 3mks
14. State four adaptations of the alveoli to its functions. 4mks

15. What is binomial nomenclature?

1mk

16. The diagram below represents a root tip.



Label first four regions marked A,B,C and D of the root tip and give the functions of each part. 4mks

A

B

C

D

17. List adaptations of the kidney nephron to its functions. 4mks
18. Explain how the skin is adapted to its protective functions. 4mks
19. When do proteins become the main respiratory substances? 2mks
20. Other than the modern Homo Sapiens name two other examples of early human species in genus Homo. 2mks
21. What causes Diabetes insipidus? 1mk
22. Name the nitrogenous waste product excreted by birds. 1mk
23. Name two types of specialized cells and give the functions of each. 4mks
24. State the role of Epididymis. 1mk