

25. The diagram below represents an organism



- (a) Name the class to which the organism belongs. (1mark)

- (b) State **two** observable features present in the organism which support your answer in (a) above. (2marks)

26. State the functions of the following structures in nerve fibre
- i. Schwann cell..... (1mark)
- ii. Dendrons..... (1mark)

27. Suggest why it is biologically unwise for a sweating person to mop away sweat out the skin with a dry piece of cloth. (2 marks)

28. State **two** adaptation in the ileum that increase surface area for absorption. (2 marks)

29 Name the end products of anaerobic respiration in animals (2 marks)

30. State the role of the following hormones in homeostasis
- i. Aldosterone hormone (1 mark)
- ii. Ant diuretic hormone (1 mark)

Name INDEX NO.

School Candidate's Signature

Date

BIOLOGY
Paper 1
July/August 2015
231/2
2 Hours

NAROK SOUTH SECONDARY SCHOOLS JOINT EVALUATION EXAMS
 KENYA CERTIFICATE OF SECONDARY EDUCATION
 Biology 231/1
July/August 2015

INSTRUCTIONS TO CANDIDATES:

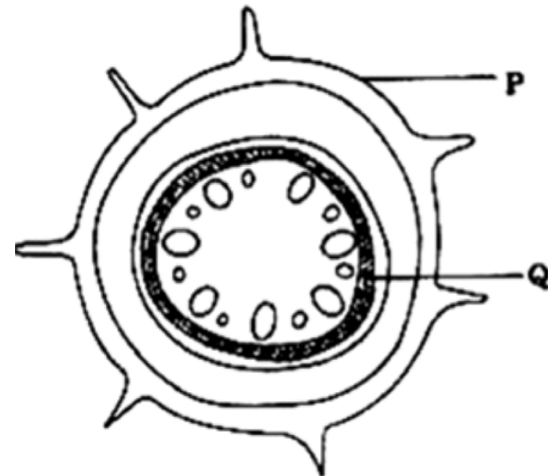
Answers all questions in the spaces provided for each question.

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 - 30	80	
TOTAL SCORE	80	

This paper consists of 8 printed pages
 Candidates should check the question paper to ensure that all the pages are printed as indicated and no questions are missing.

1. State the name given to the study of:
- a) Insects..... (1mrk)
- b) Birds..... (1mrk)

2. The diagram below shows a transverse section through a plant organ



- a) Name the plant organ from which the section was obtained (1mark)
-
- b) i) Name the class to which the plant organ was obtained (1mark)
-
- ii) Give a reason for your answer in (b) (i) above (1mark)
-
- c) State the function of the part labeled Q (1mark)
-
3. Name the organelle that:
- a) Manufacture and transport lipids and steroids in a cell (1mark)
-
- b) Contain lytic enzymes capable of destroying damaged cells (1mark)
-
4. a) What are conjugated proteins (1mark)
-
- b) Name a conjugated protein which:
- i) form hair, hooves, horns and feathers (1mark)
-
- ii) Is found in skeletal muscles (1mark)
-

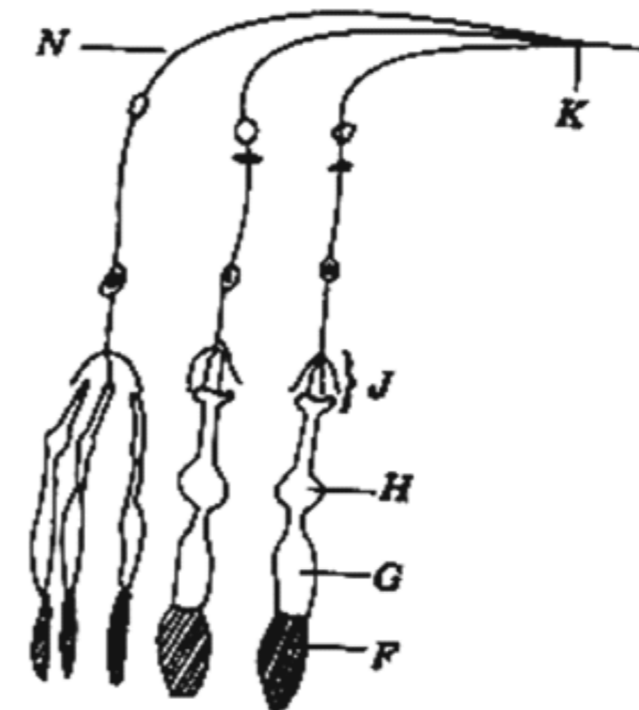
22. a) Under which of the following microscope magnification would one see a larger part of the specimen, x 40 or x 400. (1mark)
-

(b) Give reason for your answer. (1mark)

.....

23. State **three** reasons why plants lack complex excretory organs like those found in animals. (3marks)
-
-
-

24. The diagram represents a section through the retina



- (a) Name the parts labeled H,G and J (3marks)
-
-
-

- (b) (i) Name the pigment contained in part F and state its function. (2marks)
-
-

(ii) State the function of the part K (1mark)

.....

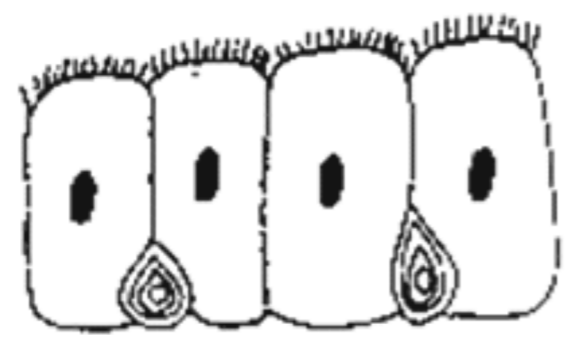
- (a) Account for the difference in the amount of red blood cells in the person when living at sea level for 2years and at 5000m for the same period of time. (2marks)
-
-
-
- b) What other difference would be observed between a person at sea level and that living at 5000m for 1week. (2marks)
-
-
-

19. State **two** disadvantages of hard exoskeleton (2marks)

.....

.....

20. The diagram below represents epithelial cells found in the trachea.



- (a) State the adaptation of epithelial tissue to its function. (2 marks)
-
-
- (b) Name the structures that keep the lumen of trachea open. (1 mark)
-

21. Name **two** components of plasmalemma. (2 marks)

.....

.....

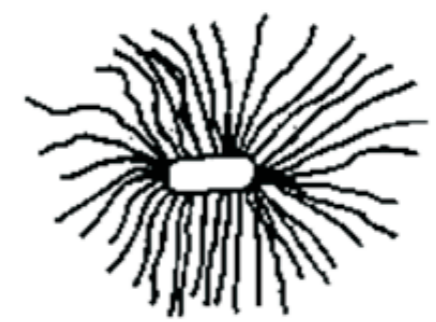
5. Define the following terms as used in the ecology
- i. Niche
- (1mark)
- ii. Biomass
- (1mark)
- iii. Carrying capacity
- (1mark)

6. State **two** conditions that leads to plasmolysis in plant cells

..... (2 marks)

7. a) State the type of joint found at the knee and elbow in human beings (1mark)
-
- b) Give **one** main distinguishing characteristic of the joint name in (a) above (1mark)
-
- c) Name a bone which posses the following features
- i) Sigmoid notch (1mark)
- ii) Olecranon process (1mark)

8. The diagram below represents a mature plant seed



- a) i) Identify the agent of dispersal for the above seed (1mark)
-
- ii) Give a reason for your answer in (a) above (1mark)
-
- b) Give **two** advantages of fruits and seed dispersal
- (2marks)

9. The paddle in whales and fins in fish help in adapting to aquatic habitats even though their evolution origin is different.

- a) Give the name used to describe such structures
 (1mark)
- b) State the evolutionary phenomenon displayed by the structures
 (1mark)

10. State any **three** differences between organism in kingdom monera and protocista

 (3marks)

11. a) Define the term basal metabolic rate
 (1mark)

b) Explain why a breastfeeding woman require more protein than a non-breastfeeding woman.
 (1mark)

12. a) Name the type of response shown when a pollen grain tube grows into the style
 (1mark)

b) State the biological importance of the response identified in (a) above
 (1mark)

13. How is support achieved in stems of herbaceous plants
 (2marks)

14. a) What is genetic counseling
 (1mark)

b) In cattle, horned condition **H** is dominant over hornless (polled) condition (**h**).A horned

bull was crossed with a horned heifer and a polled calf was obtained.

- i) Give the genotype of the parents (1mark)
- ii) State the phenotypic ratio of the calves obtained from four successful mating
 (1 mark)

15. a) What is eye accommodation (1mark)

(b). Name **two** structures which enable eye accommodation
 (2marks)

16. State the role played by each of the following structures in meiosis (2marks)

a) Chiasmata

b). Centromere

17. Below is a dental formula of an organism

$$i - \frac{0}{3} C \frac{0}{1} P m \frac{3}{2} M \frac{3}{3}$$
 (a) Work out the total number of teeth in the organism (1mark)

(b) Giving a reason, state the diet of the organism (2marks)

18. The table below shows the appropriate amount of red blood cells in the blood of a person living in different places for different periods of time.

Duration	Altitude	Millions of red blood cells mm ³
2 years	Sea level	5.0
2years	5000m	7.3
1 week	5000m	5.9