

NAME _____ SCHOOL _____

231/1

BIOLOGY PAPER 1

JAN/FEB 2013

2 HOURS

BUNYORE – MARANDA JOINT EXAMINATIONS

BIOLOGY PAPER 1

JAN/FEB 2013

TIME: 2 HOURS

INSTRUCTIONS

1. Answer all the questions in the spaces provided

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1. Define the following terms.

(a) Physiology

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.....

(b) Embryology

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.....

2. Name two arteries in the human body that carry deoxygenated blood. (2mks)

.....
.....

3. Name the part of the ovule that develops into the following parts of a seed after fertilization. (2mks)

(a) Testa

.....

(b) Endosperm

.....

4. (a) An animal is found to have large glomeruli and short loop of henles. Account for the presence of;

(i) Large glomeruli (1mk)

.....

(ii) Short loop of Henle (1mk)

.....

(b) State the possible habitat for this animal. (1mk)

.....

5. (a) Name the regions in plants where the following takes place. (2mks)

(i) Primary growth

.....

(ii) Secondary growth

.....

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6. (a) State **three** differences between deoxyribonucleic acid (DNA) and Ribonucleic acid (RNA)

DNA	RNA

- (b) In a garden, tall pea plants were 625 and short pea plants were 205 in the F₂ generation; work out the ratio of tall to short plants. (2mks)

7. Give **two** characteristics of a species (2mks)

.....

8. Name **three** polysaccharides (3mks)

.....

9. Why is glucose important in the process of active transport (2mks)

.....

10. Name the causative agent of the following diseases in humans (2mks)

(a) Syphilis

.....

(b) Herpes

.....

11. State the functions of the following structures (2mks)

(i) Fallopian tube

.....

(ii) Amniotic fluid

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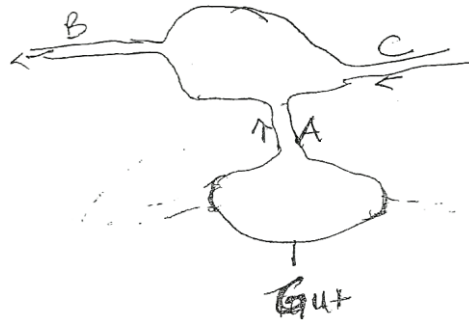
12. Give three adaptations of the proximal convoluted tubule to its function (3mks)

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



(a) Compare the glucose concentration of blood vessel A and B 2 hours after taking a heavy carbohydrate meal. (1mk)

.....

.....

(b) Give reason for your answer. (2mks)

.....

.....

18. Explain the following statements

(a) Mammals can survive in different habitats (1mk)

.....

.....

(b) Glucose is absent I urine of a normal person (1mk)

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19. Give three characteristics of a wind pollination flower (3mks)

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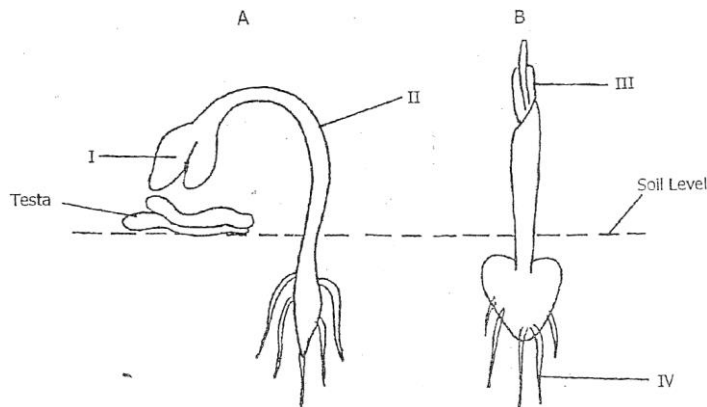
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20. State the organisms in which the following reactions occur (2mks)

(a) Glucose \longrightarrow Ethanol + carbon (IV) oxide + energy

(b) Glucose \longrightarrow lactic acid + energy

21. The diagram below represents a stage of growth in two different seedlings



(a) Identify the type of germination exhibited by B (1mk)

(b) State the function of parts labeled I and IV (2mks)

22. (a) Distinguish between taxon and taxonomy (2mks)

(b) Name two classes of the phylum Arthropoda that have a cephalothorax (2mks)

(c) Give **two** distinguishing features of the class chilopoda (2mks)

23. (a) State **two** ways in which floating leaves of aquatic plants are adapted to gaseous exchange (2mks)

(b) How is the trachea of Mammals adapted to function (2mks)

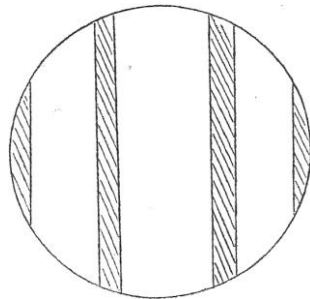
24. (a) What is the main source of energy in the ecosystem (1mk)

(b) In what form is energy transferred from one trophic level to another (1mk)

25. (a) Name the response in plants caused by the force of gravity (1mk)

(b) State **two** roles of the named response in plants (1mks)

26. A student observed the following shape of field of view while using a light microscope



(a) What is the “field of view” (1mk)

(b) If a student counted 20 cells across the field of view. Calculate the size of 1 cell in micrometers. (2mks)

27. What is the role of the liver in digestion (1mk)

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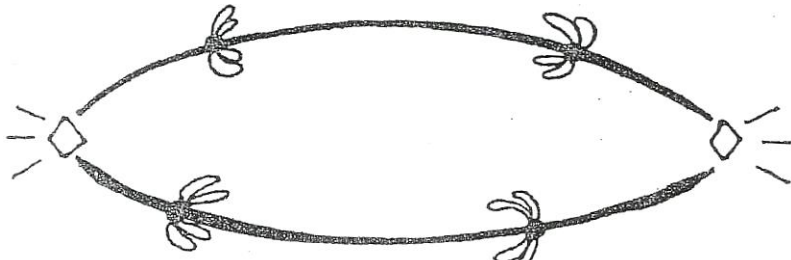
28. Differentiate between monoecious and dioecious plants (1mks)

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.....

.....

29. Below is a stage in cell division



(a) Identify the stage (1mk)

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

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.....

30. Other than sexual intercourse name three other ways by which HIV/AIDS is spread. (2mks)

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