**FORM 4**

**BIOLOGY PAPER 1**

**PRE- MOCK I – MARCH 2016**

**TIME 2HRS**

**NAME…………………………………………………….. ADMIN NO…….. CLASS……..**

**INSTRUCTIONS**

* Answer all the questions in the spaces provided.

**Examiners use only**

**80**

1. State two features of each of the following taxa (4mks)
2. Insect

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1. Pteridophyta

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1. State three factors that cause seed dormancy? (3mks)

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1. How are red blood cells adapted to their function? (3mks)

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1. In what ways do muscle fibres of the biceps differ from those of the stomach? (4mks)

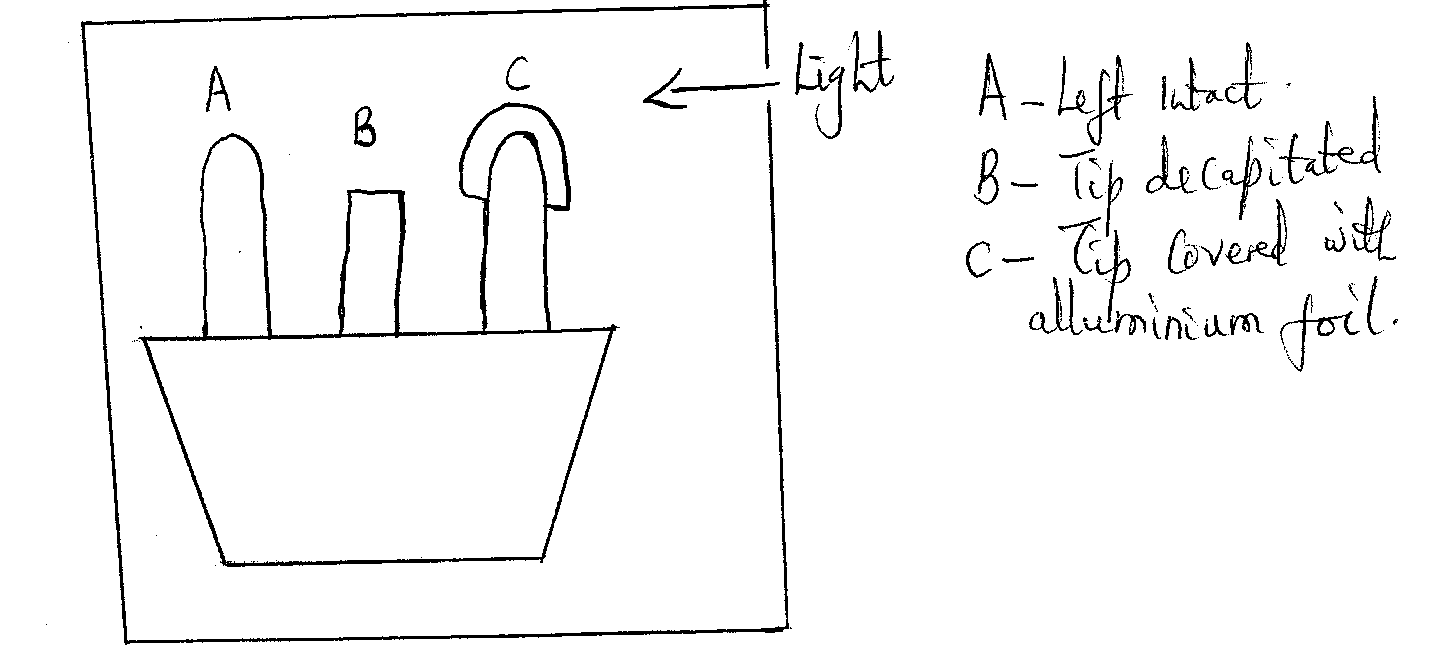
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1. What is adaptive radiation? Give two examples (3mks)

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1. An experiment was set up as shown using wheat seedlings



State the role of each of the following seedlings

1. Seedling A (1mk)

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(ii) Seedling B (1mk)

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1. Seedling C (1mk)

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1. Name the organelles in which the following process occur (3mks)
2. Synthesis of ribosomes

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1. Synthesis of lysosomes

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1. Packaging of secretions

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1. Define the following terms as used in evolution (2mks)
2. Vestigial structures

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1. Isolation

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1. i) Explain the importance of contraction of erector pili muscle of a mammal skin. (1mk)

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1. Give two functions of sebum (2mks)

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

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11. i) What is excretion (1mk)

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ii) State three nitrogenous wastes excreted by animals (3mks)

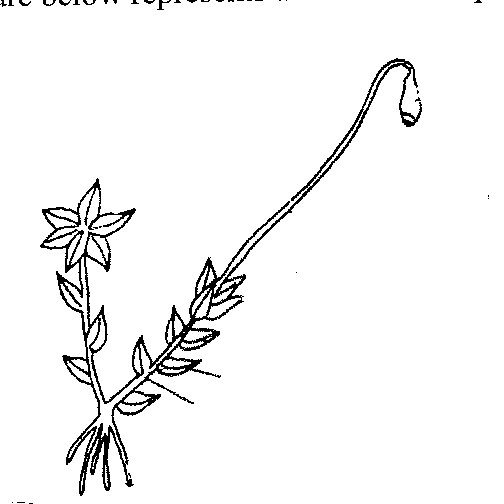
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12. The figure below represents a member of a plant kingdom.



1. Name the division (1mk)

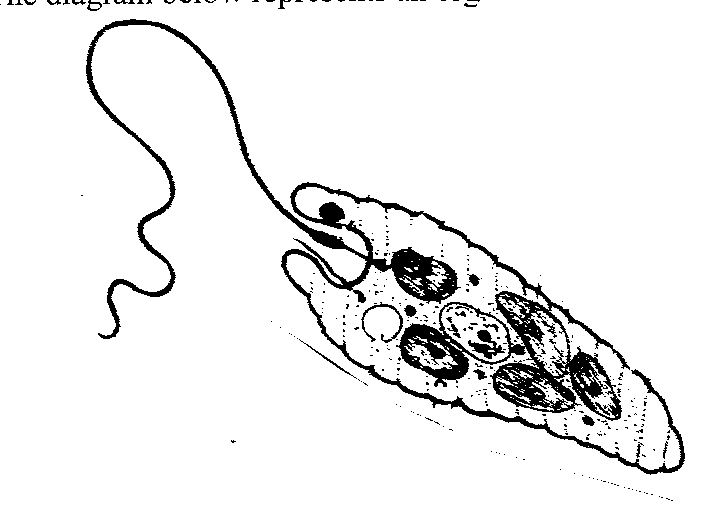
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1. State two characteristics of members of the division (2mks)

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13. The diagram below represents an organism



1. Name the kingdom to which the organism belongs (1mk)

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1. Suggest the habitat in which the organism lives (1mk)

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1. Give two reasons of your answer (2mks)

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14. State two factors that denature enzymes (2mks)

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15. State the importance of the following process that take place in the nephron of a human

Kidney

1. Ultrafiltration (1mk)

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1. Selective reabsorption (1mk)

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16. State three factors that affect the rate of active transport (2mks)

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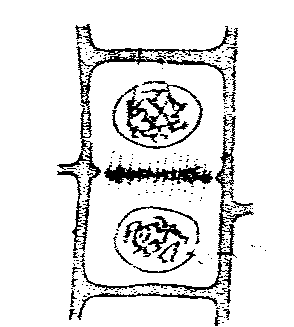
17. a) What is a chromosal mutation? (1mk)

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b) State two causes of chromosal mutations (2mks)

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18. The diagram below shows a state of cell division in a plant structure.



1. Name the stage of cell division (1mk)

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1. Name the part of the plant in which this cell division takes place. (1mk)

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19. State two functions of the pituitary glands (2mks)

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20. Explain why a person suffering from malaria easily gets muscle cramps. (2mks)

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22. Account for the following phases of a sigmoid curve of growth of organisms.

a) Lag phase (2 mks)

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b) Exponential phase (2 mks)

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c) Plateau phase (1 mk)

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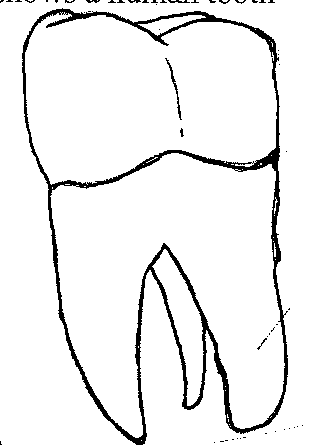
23. Describe the process of double fertilization in flowering plants (4mks)

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24. State the products of the light reaction stage of photosynthesis (2mks)

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25. The diagram below shows a human tooth



1. Identify the tooth (1mk)

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1. How is the tooth adapted to its function (2mks)

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26. Write a chemical equation summarizing the process of anaerobic respiration in plants. (1 mk)

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27. Name one animal cell that has no nucleus when fully development. (1 mk)

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28. Define heteroflyly. (1 mk)

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29. State two factors within the seed that would cause seed dormancy. (2 mks)

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30. What two ideas are proposed by Jean Baptiste Lamarck’s theory? (2 mks)

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31. Outline one reason why blood clotting does not occur inside blood vessels.

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