**231/1**

**Biology theory**

**BIOLOGY PAPER 1**

**2 Hours**

**NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_INDEX No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MOCK EXAMINATION**

Answer all the questions in the spaces provided in this paper only.

Make sure all the pages are printed as direct.

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| Questions 1 to 40  | Maximum Score  | Candidate’s Score  |

This paper has 8 printed pages.

1. State **three** ways in which protein are important to plant. (3marks)

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1. Define **binominal nomenclature**. (1marks)

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1. Name any **two** problems that animal species overcome by their dispersion. (2marks)

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1. Explain why tropical forests do not have undergrowth (2marks)

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1. How is blood pressure generated and maintained in a vein? (2marks)

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1. What is the function of catalase? (2marks)

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1. (a) State the important of cross-pollination to flowering plants. (1mark)

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(b) How is self-pollination a disadvantage to flowering plants? (1mark)

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1. What is the role of light energy in autotrophic nutrition in spermatophyte? (2 marks)

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1. How is fur important to desert animal, other than in the regulation of their body temperature?

 (1mark)

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1. What are the functions of named product of white blood cells? (3 marks)

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1. Explain three adaptations of caridiac muscles to their function. (3 marks)

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1. (a) How does the placenta **maintain** pregnancy in human females? (1mark)

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(b) State one **other** function of the placenta. (1mark)

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1. What is **tidal volume** in ventilation in man? (1mark)

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1. Define peristalsis and state its importance in the nutrition of mammals. (2 marks)

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 (a) Name the structures on labeled on the diagram. (2 marks)

(b) State the importance of the length of the structure shown in the diagram. (1 mark)

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1. Why is the liver part of the digestive system? (2 marks)

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1. Explain why the pancreas is both an endocrine and an exocrine organ. (2 marks)

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1. How is a nerve impulse transmitted from one neurone to the next? (2 marks)

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1. State the importance of cytoplasmic filaments in sieve tube elements. (1 mark)

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1. State any two characteristics of populations. (2marks)

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1. Describe any **two** functions of mitosis? (2 marks)

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1. (a) What are alleles? (1 mark)

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(b) Name a trait, in man, that is controlled by multiple alleles. (1mark)

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1. What are the general causes of variations in species? (3 marks)

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1. What are the external conditions needed, by root hair cells, for the uptake of mineral salts ions from the soil? (2 marks)

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1. (a) what is the name of the structures present in the middle ear of man? (1mark)

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(b) What is the function of the structures in (a) above? (1mark)

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1. Suggest two reasons for the appearance of glucose in the urine of a man. (2 marks)

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1. (a) What is the main function of meristems in shoot apices (1mark)

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(b) How is the function you stated in (a) above influenced by auxins? (1mark)

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1. Name two vestigial structures in man. (2marks)

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1. (a) State the source Carbon (IV) oxide in aquatic ecosystems. (2 marks)

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(b) State the importance of Carbon (IV) oxide to aquatic ecosystems. (2 marks)

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1. Study the diagram of the structure below end use it to answer the question that follow
2. Name the class to which the specimen belongs. (1 mark)

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1. State any two distinguishing characteristic of the phylum from which the structure was obtained. (2 marks)

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1. What is the homeostatic importance of cuticles of leaves? (2marks)

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1. Explain why the wings of birds and those of insects are not homologous. (1mark)

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1. Outline two functions of parenchyma cells in herbaceous plants. (2 marks)

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1. Distinguish between incomplete and complete metamorphoses. (1 mark)

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1. What is the important of diffusion to red blood cells? (2 marks)

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1. Account for the thick wall and narrow lumen of an artery. (2marks)

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1. How do pathogens that enter the body through the respiratory tract in man prevented from causing diseases? (1mark)

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1. Where does the detoxification of ammonia take place in mammals? (1mark)

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1. The diagram below shows a cell of the Kingdom Protoctista use it to answer the questions that follow it.
2. Name the cell ……………………………………………………… (1 mark)
3. Explain how it maintains its osmotic pressure. (1mark)

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1. Name the processes that take place in the grana of chloroplast. (2marks)

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