 **PRE-MOCK 1 2021**

 **BIOLOGY PAPER 1**

**TIME: 2 HOURS**

**Name: …………………………………………………. Class: ………… Index. No. ……………**

**School: ………………..………………………………… Date……..………Sign:…………..**

**231/1**

**BIOLOGY**

**PAPER 1 (THEORY)**

**TIME: 2HOURS.**

**JULY/AUGUST2021**

**INSTRUCTIONS TO CANDIDATES**

* Write your name, school and index number in the space provided above.
* Sign and write the date of the examination in the space provided.
* Answer all the questions in the spaces provided.

**FOR EXAMINERS USE ONLY**

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| --- | --- | --- |
| QUESTION | MAXIMUMSCORE | CANDIDATESSCORE |
|  1-30 | 80 |  |

1. a. Name the external feature which is common in birds, fish and reptiles (1mk)

…………………………………………………………………………………………………

b. State two characteristics of fungi (2mks)

…………………………………………………………………………………………………………………………………………………………………………………………………….

1. State the functions of the following parts of a light microscope (2mks)
2. Objective lens ………………………………………………………………………………………………………………………………………………………………………………………………
3. Diaphragm ………………………………………………………………………………………………………………………………………………………………………………………………
4. a. Define the term seed dormancy

…………………………………………………………………………………………………………………………………………………………………………………..

b.The diagram below represents a stage during germination of a seed



1. a. State two causes of chromosomal mutations (2mks)

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b.Distinguish between continuous variation and discontinuous variations (2mks)

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1. The diagram below shows a section through a plant organ



1. i. Name the class of the plant which the section was obtained (1mk)

…………………………………………………………………………………………………………………………………………………………………………………..

ii. Give a reason for your answer in (a) (i) above (1mk)

…………………………………………………………………………………………………………………………………………………………………………

1. State the functions of the part labeled F (1mk)
2. State the function of the following cell organelles \
3. Ribosome (1mk)

……………………………………………………………………………………………..

1. Lysosomes (1mk)

…………………………………………………………………………………………….

1. a. Pregnancies continues if the ovary of an expectant mother is removed after 4 months explain (2mks)

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b.What is the role of the testes in the mammalian reproductive systems (2mks)

……………………………………………………………………………………………………………………………………………………………………………………………………

1. In an experiment the shoot tip of a young tomato plant was decapitated as shown in the diagram below



1. State the expected results after 2 weeks (1mk)

……………………………………………………………………………………………………….

1. Give a reason for your answer in (a) above (2mks)

……………………………………………………………………………………………………….

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

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 b.State one role that is played by osmosis in (2mks)

i.Plants …………………………………………………………………………………………….

ii. Animals .…………………………………………………………………………………

1. a. Name the gaseous exchange surface in insects (1mk)

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b.How is the surface named in (a) above suited to its function (2mks)

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1. Explain why plants do not require specialized excretory organs (2mks)

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1. Explain how the following factors affect the rate of photosynthesis
2. Concentration of carbon (iv) oxide (1mk)

………………………………………………………………………………………………

1. Light intensity (1mk)

………………………………………………………………………………………………

1. Explain what happens in human when concentration of glucose in the blood decreases below the normal level (4mks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

1. Explain how the carnassial teeth of a dog are adapted to their function (2mks)

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1. a. State three structural differences between arteries and veins in mammals (2mks)

……………………………………………………………………………………………………………………………………………………………………………………………………

b.Name a disease that causes thickening and hardening of arteries (1mk)

………………………………………………………………………………………………..

1. from the equation given below, calculate the respiratory quotient (RQ)

2C51H98O6+145O2 102CO2 + 98H2O +Energy

Show your working (2mks)

 b.Identify the substrate respired in the above equation (1mk)

1. a. What is fertilization (1mk)

…………………………………………………………………………………………………………………………………………………………………………………………………….

b.Explain how double fertilization takes place in plants (2mks)

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1. In an experiment, the pituitary gland of a rat was removed
2. state the effect this will have on the quantity of urine produced by the rat (1mk)

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1. The diagram below show part of a food relationship in an ecosystem



1. Name the food relationship shown in the diagram (1mk)

 …………………………………………………………………………………

1. Name the trophic level occupied by organism A (1mk)

 ………………………………………………………………………………………

1. What is the main source of energy in the ecosystem shown in the diagram above (1mk)

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1. Other than transport. State two other function of mammalian blood (2mks)
2. Below is a nucleic acid stand

 A G U C A C G

1. name the nucleic acid (1mk)

……………………………………………………………………………………………

1. give a reason for your answer in (a) above (1mk)

………………………………………………………………………………………………

1. Name two structures of gaseous exchange in aquatic plants (2mks)

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1. What is the significance of chiasma formation during meiotic cell division (1mk)\

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1. Define the term evolution (1mk)

…………………………………………………………………………………………

b.Give two evidence of organic evolution (2mks)

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1. Identify the stage of cell division below (1mk)



1. State two characteristics of cells found at the apical meristems (2mks)

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1. The diagram below represents a mature fruit of a certain plant



1. State the agent dispersal for the fruit ……………………………………………………… .(1mk)
2. Give a reason for your answer in (a) above ………………………………………………… (1mk)
3. State two other characteristics of fruit and seed dispersal by the agent named in (a) above (2mks)

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1. Explain how the following adaptations will reduce the rate of transpiration (2mks)
	* 1. Sunken stomata
		2. Leaf folding
2. Name the disease caused by each of the following microorganism (2mks)
3. Plasmodium falciparum ……………………………………………………………….
4. Entamoeba histolytica ………………………………………………………
5. State two properties of monosaccharaides (2mks)

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