**MWAKICAN JOINT EXAMINATION**

**MARKING SCHEME**

**FORM II BIOLOGY END TERM OF TERM II EXAM 2016**

1. Pooter
2. For sucking small animals from rock’s surface or barks of trees.
3. Mosquito netting;

To prevent dirt from entering the suction tube;

1. Entomology
2. Ecology
3. Genetics
4. Cell membrane
5. B- Protein layer
6. A- Phospholipids layer
7. Allows selective movement of substances in and out of the cell;
* Encloses cell contents;
1. i. Plant cell

ii. Presence of cell wall;

iii. Large vacuole which is centrally located.

1. **[A –** Cell wall **B-** Cell membrane **C**- Nucleus **D-** Chloroplasts **E**- Sap Vacuole **F-** Cytoplasm] **6/2 mks**
2. D- They form sites for photosynthesis

E- store sugars and salts

 -Osmoregulation/contribute to the osmotic properties of the cell.

C- controls all activities of a cell.

1. Contractile vacuoles
2. Golgi apparatus/bodies
3. Centriloes
4. Stem; of the dicotyledonous plant.
5. A- phloem B- Cambium C- Xylem
6. Offers support

-transport water; and dissolved mineral salts up the plant;

1.
2. It is the process by which water in form of water vapour is lost to atmosphere.
3. -It helps in replacing water lost through leaves,

-Through transpiration mineral salts and water are transported up the plant

-Brings about cooling effect to plants

1. Stomata; lenticels and cuticles (**any 2)**
2. Potometer
3. A)
4. lignin
5. Phloem
6.
7. pulmonary vein
8. hepatic artery
9. Ileum /small intestines
10. B- Aorta

D- Hepatic portal vein

F- vena cava

E- hepatic vein

E D

-more urea -less urea

-Less glucose -more glucose

-less amino acids – more amino acids

-less oxygen – more oxygen

-more carbon(iv)oxide –less carbon(iv)oxide

 **Any 3 comparison at 3mks**

1. – common bile juice which emulsifies/break down fats into(small)droplets; decreasing their surface for action by lipase enzymes

-neutralizes acidic chime; (from stomach)

-Provides a suitable alkaline medium for pancreatic enzyme (**Any two correct)**

1. a.
2. Process by which **green plants** manufacture their own food in presence of **sunlight** as a source of

energy. **(1mk)**

1. **A-** Light stage **(1mk)**

 **B-** dark stage **(1mk)**

1. **Q-** Oxygen**(1mk)**

**W –**carbon(iv) oxide**(1mk)**

 b. A- Granum **(1mk)**

 B - stroma **(1mk)**

 c. Condensation **(1mk)**

 d. Photolysis

1. -Temperature

-Carbon(iv) oxide

-Light intensity

-Water availability **(Any correct)**

1. a)
* There was formation of a white precipitate **(1mk)**
* glucose/ yeast mixture- there was a rise in temperature **(1mk)**
* effervescence occurred **(1mk)**

 B -An **anaerobic respiration/ fermentation occurred** leading to production of energy and carbon(iv) oxide. **(1mk)**

 - Fermentation led to rise in temperature, **(1mk)**

 - carbon(iv)oxide turned limewater into a precipitate. **(1mk)**

 C Aerobic respiration/fermentation

 D To prevent entry of air into the mixture

 E use of same **apparatus** but in place of glucose/yeast mixture, one could use **glucose alone**, or yeast alone,

 or boiled yeast with glucose **(2mks)**

 F to expel any air, and cooled to avoid destroying the yeast cells **(1mk)**

1. Heterodont dentition is the one where there are **different types of teeth** while homodont dentition refers to a situation where all teeth are of same size and shape. **(2mk)**
2. It provides space for the tongue to turn and move food during chewing. **(1mk)**
3. Modified smooth sides and sharp edges to slice through flesh and crush bones **(1mk)**

 i

i

C

M

1. I). 1 0 3 4 8 **2 = 30 (1mk)**

**P**

1. 0 2 4 6

ii. Herbivorous ; **(1mk)**

 -Because they lack canines **(1mk)**

e. prescence of diastema for manipulation of food during chewing

1. **Absorption of water from soil by root hair**; Root hair cells of a plant absorb water from the soil by osmosis. Osmosis also helps in distribution of water from cell to cell. **(2mks)**
2. **Support**

-plant cells gain water by osmosis; become firm and rigid giving support to seedlings and herbaceous plants.

  **(2mks)**

1. **Opening and closing of stomata ;**

-the guard cells synthesize glucose by photosynthesis; accumulation of glucose increases their osmotic pressure thus enables them to draw water from adjacent cells by osmosis. **(2mks)**

1. **Facilitates feeding insectivorous plants;**

-plants trap insects; this changes the turgor pressure **(2mks)**

1. Osmoregulation
* Re-absorption of water from the kidney tubules occur by osmosis **(2mks)**

 **(5×2= 10mks)**

1. – **Physical activities-** vigorous activities increase the breathing rate.
* **Age** – young people have higher metabolic rate and therefore breath faster than old people.
* **Health** – the rate of breathing increases during sickness to remove toxins from the body
* **Altitude –** the rate of breathing is higher at high altitudes than low altitudes because there is lower oxygen in higher altitudes.
* **Emotions –** body emotions affect the production of hormone adrenaline which increases the general metabolisms and hence increased breathing.
* **Temperature –** high temperature cause the breathing rate to increase.
* **Age –**young people have higher demand for oxygen . they therefore have higher breathing rate

**(Any 5×2= 10mks)**