MARKING SCHEME

FORM II BIOLOGY END TERM OF TERM II

1.
   a. Pooter
   b. For sucking small animals from rock's surface or barks of trees.
   c. Mosquito netting;
      To prevent dirt from entering the suction tube;

2.
   i. Entomology
   ii. Ecology
   iii. Genetics

3.
   a. Cell membrane
   b. B- Protein layer
   c. A- Phospholipids layer
   d. Allows selective movement of substances in and out of the cell;
      - Encloses cell contents;

4.
a) i. Plant cell
   ii. Presence of cell wall;
   iii. Large vacuole which is centrally located.

b) **[A –** Cell wall **B-** Cell membrane **C**- Nucleus **D-** Chloroplasts **E**- Sap Vacuole **F-** Cytoplasm] **6/2 mks**

c) 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.

5.
   i. Contractile vacuoles
   ii. Golgi apparatus/bodies
   iii. Centriloes

6.
   i. Stem; of the dicotyledonous plant.
   ii. A- phloem B- Cambium C- Xylem
   iii. Offers support
   -transport water; and dissolved mineral salts up the plant;

7.

i. It is the process by which water in form of water vapour is lost to atmosphere.

ii. -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

iii. Stomata; lenticels and cuticles (**any 2)**

iv. Potometer

8. A)
   a) lignin
   b) Phloem

9.
   a) pulmonary vein
   b) hepatic artery

10.
   a. Ileum /small intestines
   b. B- Aorta
      D- Hepatic portal vein
      F- vena cava
      E- hepatic vein
   c.

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

   d. – 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)**

11. a.
   i. Process by which **green plants** manufacture their own food in presence of **sunlight** as a source of energy. **(1mk)**
   ii. **A-** Light stage **(1mk)**
   B- dark stage **(1mk)**

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

W –carbon(iv) oxide**(1mk)**

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

c. Condensation **(1mk)**

d. Photolysis

e. -Temperature
-Carbon(iv) oxide
-Light intensity
-Water availability **(Any correct)**

12. 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)**

13.

a. 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)**

b. It provides space for the tongue to turn and move food during chewing. **(1mk)**

c. Modified smooth sides and sharp edges to slice through flesh and crush bones **(1mk)**

d. I¡ $\frac{1}{1}$ C $\frac{0}{0}$ **P** $\frac{3}{2}$ M $\frac{4}{4}$ $\frac{8}{6}$ **2 = 30** **(1mk)**

ii. Herbivorous ; **(1mk)**
-Because they lack canines **(1mk)**

e. prescence of diastema for manipulation of food during chewing

14.

i. **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)**

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

(2mks)

iii. **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)**

iv. **Facilitates feeding insectivorous plants;**
-plants trap insects; this changes the turgor pressure **(2mks)**

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

(5×2= 10mks)

15. – **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)