

ANESTAR SCHOOLS
END OF TERM 2 EXAMS 2018
FORM 2 BIOLOGY MARKING SCHEME

1. (a) (i) The break down of glucose /food nutrient in the cells to release energy;
(ii) Produce energy for cell division;
 - Produce energy for transmission of nerve impulse;
 - Produce energy for maintenance of body temperature;
 - Produce energy for active transport/secretion;

2. a) (i) Coronary artery;
(ii) Coronary thrombosis;
(b) Generate higher/sufficient pressure with which blood is pumped to the body tissues;

3. (a) (i) Tracheole;
(ii) Moist to dissolve diffusing gases;
 - Highly branched to increase S.A for diffusion of diffusing gases;
 - One – cell thick/thin wall to shorten distance covered by diffusing gases;
(b) Rapid transport of diffusing gases; to maintain a steep diffusion gradient for efficient gaseous exchange;

4. (a) (i) Production of large amount of urine/diuresis;
(ii) Diabetes insipidus;
(b) Osmoregulation;
5. (a) Alcohol ,Carbon (IV) Oxide and energy;
(b) Brewing;
Baking;

6. (a) X – sieve pore;
Y – Cytoplasmic strands /filaments;

(b) Has (numerous) mitochondria that provides energy for translocation;
Provides food nutrient to the sieve element;

7. Glucose and fructose;
Glucose and galactose;

Glucose and glucose

8.

9. (a) Is the ratio of carbon dioxide produced to Oxygen used during respiration;

$$(b) RQ = \frac{CO_2 \text{ produced}}{Oxygen \text{ used}} = \frac{6}{6} = 1.0$$

10. (i) Help plants conserve water during the day allowing maximum gaseous exchange at night;

(ii) Reduce amount of water loss;

(iii) Windy conditions blow away water from leaf surface increasing transpiration rate;

11. (a) T – Xylem vessel;

S – Endodermis;

(b) Root hair cell;

- Narrow and elongated to increase surface area for absorption of water and mineral salts.

- Thin to reduce diffusion distance.

12. (a) A – Concentration of salt was isotonic; to that of the cytoplasm of the Red blood cells hence no change;

(b) B – most cells haemolysed; due to hypotonic salt solution;

13. (i) $(3 + 3 + 3 + 1 + 2 + 3) \times 2$

$$= 15 \times 2 = 30; \text{ teeth}$$

$$\text{Or } (I^{0/3}, C^{0/1}, PM^{3/2}, M^{3/3}) \times 2; 30$$

(ii) Herbivore

(iii) Heterotrophic;

14. (a) Its actively reabsorbed back to blood system within the proximal convoluted tubule;

(b) - Anti-diuretic hormone (ADH)

- Aldosterone

15. (a) - Regulation of body temperature.

- Regulation of pH of fluids;

- Defence against disease-causing micro-organism / pathogens; rej. diseases;

- Prevent bleeding / enhancing clotting;

(b) Coronary thrombosis / varicose veins / arteriosclerosis / Antheroma / cerebral thrombosis;

16. (a) Presence of antibodies; and white blood cells in blood that kill / destroy pathogens;

(b) Higher concentration of oxygen in pulmonary vein / higher concentration of carbon (IV) oxide in pulmonary artery;

17. Haemocoel → Trachea → Ostia → Spiracles
√Naming
√For the arrows direction

18. (a) Osmosis;

(b) The visking tubing will become turgid / increase in volume / bulge / become big / expand;

(c) Water moves from beaker into visking tubing; by osmosis; the semi-permeable tubing; making tubing turgid, big, expand / bulge, increase in volume

19. Different structures absorb stain differently hence become more distinct/clearer, visible.

20. Rate of water absorption is more than water loss/transpiration and plant droops

21. a) Hydrolyse (breaks down disaccharide/Non reducing sugar to monosaccharide/reducing sugar

b) Neutralize the dilute hydrochloric acid

22. a) (i) Sebum

(ii) – antiseptic -kill pathogens

Makes skin hair be soft/oily

Makes hair flexible/waterproof

b) – actively dividing cells giving rise to the granular layer

- contain melanocyte cells that produce melanin that gives the skin its colour/protects skin against ultra violet rays.

23. – absorption of water

- Packaging of indigestible food material to form faeces
- Secretion of mucus
- Absorption of mineral salts

24. Helps to solve environmental problems, enable one to into certain careers, enables one to develop scientific skills, facilitate international cooperation.
25. Study of body functions