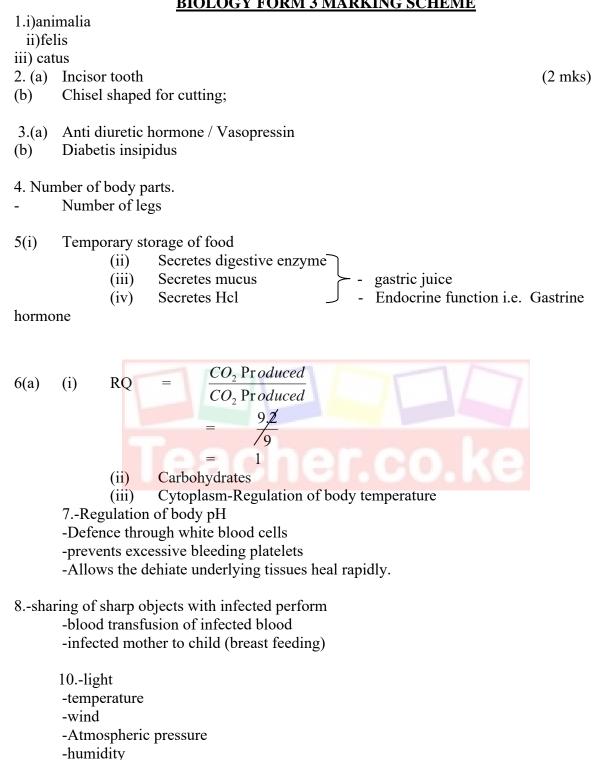


## **BIOLOGY FORM 3 MARKING SCHEME**



- (a) Provides energy
- (b) RQ -Helps determine the type of substrate -Helps determine the type of respiration

## 11(a) Xylem;

22.



(b) Cross walls between successive vessel elements are performed, giving free passage of water from cell to cell;

-There is dissolution of cross walls within the vessel elements thus forming an open tube along the axis of the organ;

-Thick (cellulose ) / lignified wall / rings prevents collaps (under tention;

-Lack of long contents / hollow / empty allows free flow

Wide lumen / cavity to ease flow / large volume;

Stacked end to end / elongated forming a continuous tube. -

12.Small intestines (in absorption of digested food)

Kidney (in selective re - absorption

13a)Manufacture of ribosomes;

b) encloses cell contents; regulate movement of materials in and out of the cell;

14. Transpiration is the loss of water vapour, while gutation is loss or exudation of liquid water through hydathodes

15.- Magnify the object further;

- Concentrates light onto the object;

- Controls amount of light illuminating the object;

16.a) Involuntary movement of food along the alimentary canal b) Rhythmic contraction and relaxation of the circular and longitudinal muscles along the gut; 17 a)

	Arteries	Veins
	- Thick muscular	- Thin muscular walls
	- No valves (except pulmonary artery	- valves present;
	and aorta	
b)	at the base	- Wide lumen (large) lumen;
0)	- Narrow (small) lumen	

Arteriosclerosis; reject Artheroma

18. Transpiration pull;

Capillarity;

Cohesion and adhesive forces; Root pressure; -

19 Not every soluble/not readily soluble therefore not easily transported to the site of respiration;

- A lot of oxygen is required to oxidize one gram of fat/liquid than one gram of glucose;

20a)Deamination;

b)-Removal of excess amino acids;

-Availing of energy in the body;

-Formation of glycogen /fats for storage; (award any one)

21Is a diet that consists of all classes of food / carbohydrates, protein, lipids, water, mineral salts and vitamins; taken in their right proportions for a healthy body; (2marks)



- (b) Roughage add bulk to the food hence facilitating peristalsis / offer grip to prevent constipation; (i)
- 22The larger the surface area to volume ratio, the faster the rate of diffusion; (*Imark acc. Reverse*)(ii) Diffusion gradient; the higher the diffusion gradient (between two points) the faster the rate of diffusion;

## (1mark)

Temperature- increase in temperature increases the rate of diffusion; (*1mark*)

23 Root hair cell	-Palisade cell	- Parenchyma cell
Epidermal cell	-Guard cell - C	ompanion cell

24. – Stomata

- Lenticels

- Cuticles

25.Kingdom: Animalia. *Rej: Animal or if first letter is small letter* Phylum: Arthropoda *rej. Anthropoda / Athropoda / Arthropod if first letter is small letter* Class: Insecta *rej Insect or if first letter is small letter* 

26. (a) Counter flow is a flow system in which blood and water (a fluid) flow in opposite directions

within respiratory surfaces while parallel flow is a system in which blood and water (fluid) flow in the same direction within respiratory surfaces;

(b) Counter current flow; it increases efficiency in oxygenation of blood and maintains a steep concentration gradient;

27.i) prothrombin

ii) K

iii) calcium ion

## 28.i)

- Makes the skin and hair surface water proof.
- To protect the skin against infection by bacteria and viruses (it's a mild antiseptic)
- Makes the skin and hair soft and supple

ii)The structure (blood vessel) constricts // contracts (vasoconstricts) and lies deeper in the skin so as to reduce heat loss from the body through radiation

• 29Living things will show characteristics like feeding, excretion, reproduction, gaseous exchange, movement, respiration; irritability; growth and development. (*Any two*)





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