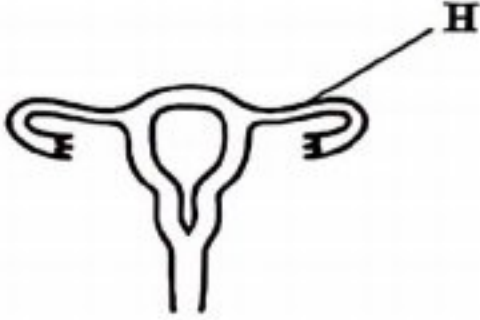



No.	Marking Scheme	Marks
1. (a)	Amoebic dysentery/ <i>Amoebiasis</i> ;	(1 mark)
(b)	Malaria;	(1 mark)
2. (a)	Kidney tubules/nephrons; Arc. <sup>correct parts of</sup> <del>Loc. of Henle, Filtr. canal</del> <sup>Distal conv. tubule</sup> ; Gills (of bonny fish); <sup>mark the first two</sup> Placenta;	(2 marks)
(b)	To maintain a steep concentration gradient; for efficient/faster/optimum/maximum exchange of materials; <sup>Roj. Bowman's capsule glomerulus</sup>	(2 marks)
3. (a)	F- cervix; Vagina;	(1 mark)
(b)	(Lined with) thick muscles/muscular; to allow expansion for accommodating foetus/to allow contraction during child birth; <sup>Acc. partition for child birth/constriction;</sup>	(2 marks)
(c)		(1 mark)
4. (a)	Carnivorous/flesh eating; <sup>Acc. Holozoic/Heterotrophism; Roj. tropism</sup>	(1 mark)
(b)	Long, pointed canines for grasping/tearing/ripping flesh; <del>Flat</del> molars and premolars with cusps for crushing bones; Sharp incisors for nipping/cutting flesh; <sup>Carnassial teeth with sharp edges to slice thru flesh crush bones;</sup>	(2 marks)
5. (a)	Diffusion	(1 mark)
(b)	Long pointed incisors for tearing flesh; Molars/premolars with flat cusps for crushing bones; <sup>CAN ELA D</sup>	(2 marks)
5. (a)	Diffusion;	(1 mark)

(b)	Temperature which increases the rate of diffusion from the decomposing carcass (where  ); <sup>Acc. the converse</sup>	(2 marks)									
6.	Thermoregulation/body temperature regulation; <sup>excess</sup> <del>Excretion/elimination of wastes/urea/water/salts;</del> <sup>osmosis</sup>	(2 marks)									
7.	- prokaryotic/lack membrane-bound organelles; nuclear membrane; - possess cell walls; <sup>They lack membrane-bound organelles/have few organelles;</sup> - they are unicellular;	(3 marks)									
8. (a)	Osmosis;	(1 mark)									
(b)	- The level of water in the beaker is dropped; - The visking tubing expanded/swelled more;	(2 marks)									
(c)	The water in the beaker is hypotonic to/less concentrated compared to the salt solution in the visking tubing; <sup>Acc. converse</sup> so water molecules moved (across the semi permeable membrane) <sup>into</sup> of the visking tubing; (making it to swell (does not burst)/reduction in the level of water in the beaker)	(2 marks)									
9. (a)	The gene for black color coat was dominant over the gene for white color coat; <sup>Acc. the black is dominant over white colour</sup>	(1 mark)									
(b)	$\begin{array}{cc} BB & \times & Bb \\ \begin{array}{c} B \\ B \end{array} & \times & \begin{array}{c} B \\ b \end{array} \\ \hline BB & Bb & BB & Bb \\ \hline \end{array}$ $1BB : 1Bb$ <sup>Acc. 2BB : 2Bb</sup> <sup>Roj. BB : Bb</sup> <sup>BB x Bb;</sup> <table border="1" data-bbox="1685 1661 1991 1850"> <tr> <td></td> <td>B</td> <td>B</td> </tr> <tr> <td>B</td> <td>BB</td> <td>Bb</td> </tr> <tr> <td>b</td> <td>Bb</td> <td>Bb</td> </tr> </table> $1BB : 1Bb$ <sup>Acc. x x on gametes &amp; phenotypes</sup> <sup>Acc. other letters but MUST be unit form</sup>		B	B	B	BB	Bb	b	Bb	Bb	(5 marks)
	B	B									
B	BB	Bb									
b	Bb	Bb									

10. (a)	- The pancreas secretes/produces both the insulin hormone (that plays a role in blood-sugar regulation) and the pancreatic juice (which is a digestive enzyme); - The insulin hormone diffuses directly into the blood circulation regulating sugar levels, hence blood sugar regulation is not affected (by blockage of pancreatic duct) but digestion is impaired because the pancreatic juice must pass through the pancreatic duct to reach the duodenum/digestive tract;	(2 marks)
(b)	The long loop of henle (in desert animals) increases surface area/provides for more time for (selective) reabsorption of water (from the kidney tubules); resulting in the release of less urine/more concentrated urine; this enables the animal to conserve water/desert environments have shortage of water;	(3 marks)
11 (a)	Divergent evolution;	(1 mark)
(b)	The beaks enable birds to exploit different niches; to avoid/reduce competition (for food); Acc. habitat environment for niches.	(2 marks)
12. (a)	Mitochondrion; Acc. Mitochondria	(1 mark)
(b) (i)	$RQ = \frac{\text{Volume of CO}_2 \text{ produced}}{\text{Volume of O}_2 \text{ used}}$ $= \frac{18}{26}$ $= 0.6923;$ Acc. Minimum upto 2 decimal places Rof- 0.7	(2 marks)
(ii)	Fats/Lipids/oil;	(1 mark)
(c)	(Optimum) temperature (favourable) for enzymatic action; Substrate concentration; - Surface area to volume ratio/size (Favourable) pH; - Hormones; Age/activity of the organism;	(2 marks)
13. (a) i	- Relay/intermediate neuron;	(1 mark)
(ii)	- Lacks cell body/myelin sheath;	(1 mark)

b (i)	Dendrites: Acc. Dendrite Acc. Synaptic Knobs Proximal Knobs Distal Knobs Tied	(1 mark)
(ii)	Makes contact/transmits impulses (to the next)	(1 mark)
4. (a)	- To demonstrate/investigate anaerobic respiration (alcoholic) fermentation;	(1 mark)
(b)	- The <del>tin</del> content had increased temperature; - Frothing/swelling of contents in the <del>tin</del> ; - Some bubbling/fizzing (sound) from the contents in the <del>tin</del> ; - (Alcoholic) smell/fermented contents; - Change in the colour of the <del>tin</del> contents;	Mark first two Any 3 points (3 marks)
5. (a)	- Shallow voice; - Less hairy chest/chin/armpit/body/pubic area; - Less muscular; - Smaller testes/smaller penis; - Failure to produce sperms/loss sperm production;	Any two points (3 marks) Mark first two
(b)	- Apical bud/shoot apex/apical meristem; - Root tip;	Mark first one (1 mark)
6. (a)	Entomology;	(1 mark)
(b)	Sweep net/specimen bottle/pitfall trap/bait trap/(a pair of forceps)/Aster;	(1 mark)
7 (a)	Magnification/ability of a microscope/hand lens to enlargement a smaller objects to the desired size for clarity/ ease of study; Resolution-ability to distinguish between finer details/small objects;	(1 mark)
(b) (i)	Staining- Enhancing clarity of the object/specimen details;	(1 mark)
(ii)	- Reducing the layers of cells /transparent/allow (maximum) penetration of light;	(1 mark)
18 (a)	Transpiration (stomatal/cuticular/lenticular); Guttation;	(2 marks)

(b)	The erector (Pilli) muscles contracts; to make the hair upright/erect; which traps (a thin layer of) air between the hairs; serving as an insulator; to minimize/reduce heat loss;	(3 marks) Mark MxH 3
19a(i)	Anaphase (stage); <i>Rej Anaphase I, Anaphase II</i>	(1 mark)
(ii)	Chromatids (of each chromosome) have separated/moving towards the poles;	<i>tied</i> (1 mark)
(b)	Provide spindle fibres (during cell division); <i>Acc. Formation of spindle fibres;</i>	(1 mark)
20. (a)	Enables organisms to seek favourable/escape unfavourable conditions (to survive);	(1 mark)
b)	Guarantees continuity of species/transmission/perpetuation of (desirable) qualities/traits to subsequent generations/offspring;	(1 mark)
22. (a)	- Has cusps; to facilitate crushing of food; - Has flat <i>broad</i> surface; to provide an area for grinding of food/ to increase the surface area for enzymatic action. <i>Has 2 roots; to hold the teeth firmly on the jaw;</i>	<i>Mark any two</i> (2 marks)
(b)	Cold water lowers the temperature of the gut; inactivating enzymes/ <i>Solidifies fats/ oils;</i> <del>action</del> ; which slows digestion;	<i>Mark two (2 marks)</i> <i>Award 2 marks.</i>
22.	- There will be competition for food; - The unfit individuals/those with weak characteristics will lack food/die/ <i>eliminated;</i> - The fit individuals/those with strong characteristics (that favor competition) will consume the available food and survive/progress to maturity to reproduce fit individuals;	(2 marks)
23. (a)	N: mirror;	(1 mark)
(b)	L: Move the body tube/rough <i>focusing/positioning</i> of the specimen;	(1 mark)
	M: concentrate light on the stage <i>on the stage/object/specimen;</i>	(1 mark)