SET 6
FORM 3
BIOLOGY 231/1
MARKING SCHEME

1. (a) (i) Sunken stomata creates pits/ sinks which accumulate water vapour creating a zone of high humidityhence reducing the rate of transpiration.
   Acc Hairs within the pit trap and prevent rapid loss of water vapour; and diffusion gradient of water vapour between airspace in the leaf and outside decreased hence less loss of water.
   (ii) Leaf drooping reduces the surfaces area of the leaf exposed to agents of transpiration hence lowers the rate of transpiration.
2. (i) Large glomeruli
   Increase the surface area for ultra-filtration process.
   (ii) Short loop of henle
   Reduce the surface area for reabsorption of water.
   (iii) Fresh water habitat.
3. Petals are brightly coloured to attract insects; large and conspicuous to attract insects; Petals are tubular or funnel shaped creating landing platforms which increases chances of pollination; petals are sweet scented;
   Any two
4. Have root cells which concentrate a lot of salts in them to enable them take in water by osmotic; some plants have salt glands that secrete excess salts. Have storage tissues for storage of water;
5. (i) Glucagon;
   (ii) Antidiuretic hormone/ vasopressin; ***acc*** ADH
6. (a) Diabetes insipidus
   (b) Anti-diuretic hormone (ADH) / vasopressin
   (c) Pituitary gland;
7. (i) Mitochondrion – site for cell respiration;
   (ii) Ribosomes – site for protein synthesis/ site for assimilation of amino acids;
   (iii) Lysosomes – Destroy worn out cell organelles. Their enzymes participate in intra-cellular digestion;
8. (i) **M** – Metaphase;
   (ii) **N** – Anaphase;
   (b) Prophase I;
   (c) Leads to exchange of genetic materials hence brings about variation;
9. (i) Have thin walls / membrane for easy diffusion of gases;
   Store a lot of air / large air spaces for increased buoyancy;
   (ii) Pneumatophores
   Rej breathing roots
10. (i) Nitrification is conversion of ammonium compounds/ nitrites to nitrates;
    Denitrification is conversion of nitrates to free nitrogen of air.
    (ii) Rhizobium;
    Azotobacter;
    Clostridium; ***Any first two.***
11. (i) Melanin; Absorbs ultra rays from the sun;

(ii) Adipose fat deposit; for insulation;
(iii) Sebum; Keep skin soft/ supple;
Protect skin against infection/ Antiseptic ***Any first one***

12. Blood groups **A**; and **AB**;
13. (a) (i) Turgor pressure;
(ii) **A** – cell wall;
B – cell membrane / plasma membrane;
(iii) Hypotonic solution
(b) Cellulose;
14. Vasocontriction;
Reduced sweating;
Contraction of erector pili muscles;
15. (a) Vitamin D;
(b) (i) Metabolism of calcium phosphate in bones / strengthening of bones; facilitates absorption of calcium in the small intestines;
(ii) Rickets;
16. (i) Provides an alkaline medium for proper functioning of enzymes in the duodenum;
(ii) Neutralizes the acidity of chyme from the stomach;
(b) Absorption of fatty acids and glycerol;

17.

Disease	Causative agent
(i) Malaria	Plasmodium parasite ***Acc named species***
(ii) Amoebic dysentry	*Entamoeba histolytica* ***Rules of Binomial nomenclature must be observed.***

18. (a) Bryophyta; ***Rej Bryophyte***
(b) A capsule;
B - Rhizoid ***rej plural***
19. (i) Treatment of leather/manufacture of shoe polish/decoration of pots ;
(ii) Used in cancer therapy
Used in animal and plant breeding research; ***Any first one***
20. (a) Give enough time for the embryo to mature;
Provide the seed with enough time for dispersal;
Enables the seed to survive adverse environmental conditions without depleting the food reserves.
(b) Hydrolysis stored food;
Medium for transport of dissolved food substances;
Activates the enzymes ; ***Any first two***
Medium for enzymes action as breakdown of stored food;
21. - Objective less not clicked into position;
Mirror not placed into position to reflect- light to diaphragm and condenser;

Diaphragm closed;

Any first two.

22. Causes epidermic or water borne diseases;
Breakdown of materials by saprophytic bacteria and fungi leads to depletion of dissolved oxygen which affects aquatic organisms;
Causes entrophication which causes death of aquatic life and excessive growth of weeds e.g water hyacinth;

23. Blood clothing;
Mucus secretion;
Sebum secretion in the skin ; ***Any first three*.**
Hydrochloric acid secretion in the stomach;
Sweat secretion in the skin;

24. Underlining the two names separately ;
Genus name starting with a capital letter;
Species name starting with a small letter/ written in small letters;

25. (i) Pooter – For sucking small animals from rock surface or barks of trees
(ii) Pit fall trap – For catching/traping crawling animals
(iii) Sweep net – Used for catching flying insects;

26. (a) (i) Fermentation / Anaerobic respiration
(ii) It is a respiratory substrate;
(iii) Prevent entry of oxygen;

(b) Formation of white precipitate; with lime water due to the formation of carbon (iv) oxide in
test tube A ;