**MOKASA EXAMINATION**

**231/1/BIOLOGY**

**MARKING SCHEME**

1. Drought;

Conservation of resources;

Pollution;

Food shortage;

Poor health;

Any 2 X 1 mark

2. (i) Crustacea; must begin with capital letter-(1 mark)

(ii) Two pairs of antennae;

(iii) Presence of carapace;

Any 2 X 1 mark

3. In aerobic respiration glucose is completely oxidized; releasing large amount of energy; while in anaerobic respiration, glucose is partially oxidized; releasing less energy.(3 marks)

4. (a) hydrophyte; (1 mark)

(b) Broad leaves provide large surface area for loss of excess water;

Flowers are raised above the water to allow pollination;

Leaves have chloroplasts that photosynthesize under low light intensity;3 x 1mark;

5. A-stores salt and sugars/maintains shape of cell;

B-enclose cell contents/entry of substances;

C-site for chemical reactions;

6. (a) suffocation;

(b) Vaseline blocks the spiracles; no inhalation;

7. (a) (i) B-Nitrification (ii) C-Denitrification

(b) Root nodules;

(c) Removes nitrates that are useful to plants from the soil;

8. (i) formation of ATP;

(ii) Production of hydrogen atoms;

9. (a) blood entering lungs;

(b) Blood entering the lungs has released oxygen to tissues and carbon (iv) oxide formed is added; blood leaving lungs has received oxygen and released carbon (iv) oxide;

10. (i) specimen bottle;

(ii) Attract and trap rodents;

11. (a) *Vibrio chlolerae;*

(b) Plasmodium species;

12. Cells are large;

Cells are actively dividing;

13(a) to demonstrate that heat is produced during anaerobic respiration;

(b) Rise in temperature; anaerobic respiration releases energy;

14.(a) capture recapture method;

(b) P=FM X SC

MR ; 35 X 2

7 200;

(c) Beetles may migrate;

Released beetles may not mix freely due to mark;

Beetles may move in;

Released beetles may not have enough time to mix; any 2

15(i) hot water killed the fish;

Organic matter in sewage is decomposed; oxygen is depleted causing suffocation and death;

16.(i) lowers the body tube through longer distances to bring the image into focus;

(ii) concentrates light onto the stage;

17.(i) parietal;

(ii) Marginal;

18.(a) negative;

(b) Glucagon;

19. (i) Petals are free:

(ii) Male flower;

20.(a) (i) mRNA;

(ii) Presence of uracil;

(iii) Single stranded; any 1

(b).Gene mutation/insertion;

21. Starch/carbohydrates/glucose; fatty acids; amino acids; vitamins; any 3

22. Co-dominance;

23.(i) position that an organism occupies in a habitat and its role;

(ii) Dry weight of a living organisms at a particular trophic level;

24.(a) i 0/3 c 0/1 pm 3/3 m3/3;

(b) Herbivorous;

(c) Absence of upper incisors;

Absence of upper canines;

25.(a) umbilical vein;

(b) Exchange of substances;

Secrete oestrogen and progesterone;

26.(i) carnassial tooth;

(ii) Slice through flesh and crush bones;

27. Secrete lytic enzymes that digest the vitelline membrane;

Forms fine filament that penetrates the egg any two; any 2

28.(i) cytology is the study of cells while entomology is the study of insects;

(ii) Botany is the study of plants while zoology is the study of animals;

29(i) stimulates synthesis of sperms;

(ii) stimulates the interstitial cells to release male hormones;

30. Period between conception and birth;

31.(i) allows light to pass through making cell components to be visible;

(ii) Enable the section to be smooth preventing distortion of cells;

32. Has green pigment chlorophyll; that traps light energy;

33. (a) Animal;

(b) Hook like structures that stick onto fur/hair of animals;