

FORM FOUR CLUSTER KCSE MODEL 4
BIOLOGY PAPE 1 ANSWERS

<u>Monocotyledonous</u>	<u>Dicotyledonous</u>
- Presence of leaf sheath	-Presence of leaf petiole.
- Have broad leaves	-Leaves narrow and elongated.
- Have parallel veins.	-Have network veins.

2. Identity –Bait trap; 2mks

Use –attract and trap small animals; 2 marks

3. –Species (1mk)

4. –Smooth endoplasmic reticulum;

-Lysosomes; 2mks

5. –Role of osmosis:

-Osmoregulation absorption of water in the kidney tubule to blood; absorption of water in intestine; 2mks

6. –Radial symmetry –Body divided into two similar halves along several vertical planes;

-Bilateral symmetry-body is divided into similar halves along one vertical plane; 2mks

7. (a) Granum –contain chlorophyll that traps light and converts it into A.T.P ;

(b) Duodenum; 2mks

Arteries	Veins.
<ul style="list-style-type: none"> - Transport blood away from the heart To body tissues and organs. - Transport oxygenated blood except <u>pulmonary</u> artery that transports <u>deoxygenated</u> blood to lungs. - Blood flows at high pressure - Blood flows in pulses. 	<ul style="list-style-type: none"> -Transport blood from body tissues <u>and</u> organ to head. -Transport deoxygenated blood except pulmonary vein -Blood flow at low pressure. -Blood flows smoothly. <p>Any 2 =2 marks</p>

9. Nose: the nasal cavities have highly vascularized membrane that warm up the air and moisten it; has hair /produce mucus that trap dust particles and pathogens; 3 mks

10. (a) Lactic acid is toxic; when accumulated to high level it causes muscle cramps; 1mk

b) -Inner membrane is folded into cristae that provide large surface area for respiration

11. -Rats have high surface area to volume ratio; tend to loss a lot of heat to the environment; Presence of fur prevent much heat loss to the environment; 3 mks

(b)-Decreased sweat production;-Shivering contraction and relaxation of muscles;
-Constriction of arterioles;
-Relaxation of erector pilli muscles; any two 2 mks 12

12. (a) A-Capsule; B-Rhizoids; 2mks

(b) Scales; 1mks 13

13. Xylem; provide mechanical support; Transport water and mineral salts; 2 mks

14. In tomato-starch;

In monkey-glycogen; 2mks

15. (a) X-pepsin in stomach; X-found in stomach; 2mks

(b) Basic; Rj stated pH 1mk

16. (a) -Influence the rate of water loss from organism;.

- Important in rain formation.

-Sand dunes formation for desert animals;

-Influence dispersal of seeds/spores;

-Wafts scent of preys for hunting animals; any 2 =2 mks

(b) -No -pollution of the environment;

-Targets the specific pests/parasite

-Less expensive.

17. -Fertilization-structure C;

-Pollen grain -structure A; Rj Anther.

-Agent -Insect

Reason -conspicuous corolla; Rj structure D 4 mks

18. Binary fission.

Spore formation;

Budding; 3mks

19. Thunderstorm;

Nitrogen fixing organisms; 2mks

20. -Thicken and increase blood supply in wall of uterus;

-Inhibit release of Follicle stimulating hormone; Rj F.S.H. 2mks

21. Egg;

Nymph; 2mks

22. -Discontinuous-Blood group and earlobe Rj if only one is given.

-Continuous-finger prints/height and skin colour. 2mks

(a)



1mks

(b) Inversion; 1mk

24. (a) Adaptive radiation/divergent evolution;

(b) Organisms with beneficial variations in a population survive in a competition for resources; those without die and the gene is eliminated; 2mks

25. (i) -Eustachian tube;

(ii) -Ear ossicles; 2mks

26.

27. (a) -Emulsify fats; -Neutralize acid/provide Alkaline pH in duodenum; 2mks

(b) -Formation of haemoglobin in red blood cells; -Anaemia;