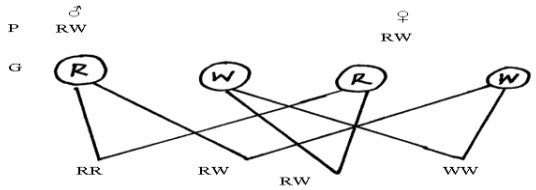
KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

PRECIOUS BLOOD HIGH SCHOOL
BIOLOGY THEORY
PAPER 1
MARKING SCHEME

SCHOOLS NET KENYA
Osiligi House, Opposite KCB, Ground Floor
Off Magadi Road, Ongata Rongai | Tel: 0711 88 22 27
E-mail:infosnkenya@gmail.com | Website: www.schoolsnetkenya.com

PRECIOUS BLOOD KCSE TRIAL AND PRACTICE EXAM 2016
BIOLOGY
PAPER 1 / 231/1
MARKING SCHEME

1. Glucose/ ADP;
2. (i) To remove waste products of metabolism/ carbon (IV) oxide/ excess water/ nitrogenous waste;
   (ii) To supply cells with nutrients/ glucose/ amino acids/ water; because they have mall S.A/ vol ratio
3. (a) When environmental temperatures are low, water loss through sweating is reduced leading to increase in urine output; In high temperature water is lost through sweating hence low urine output;
   (b) Ammonia;
4. Dry mass gives accurate/ consistent mass of matter in an organism;
   Wet mass gives inaccurate/ inconsistent mass due to fluctuation of amount of water in an organism.
5. (i) Explosive mechanism/ self dispersal;
   (ii) Wind;
6. Lenticels; stomata; root hairs/ pneumatophores;
7. Lack of bile salts; which emulsify fats;
8. (a) Mitochondrion;
   (b) X – matrix;
   Y – cristae;
9.
   - Lignified to prevent collapsing of its walls;
   - Pits to allow movement of water/ mineral salts from one cell to another;
   - Are narrow to allow capillarity;
   - Lack cross walls for faster movement/ conduction of water (and mineral salts);
10. (i) All RW
    (ii)



1 Red :	2 Roan :	1 White
Haired	haired	haired;

11. (i) Exchange of materials between the maternal circulation and foetal circulation/ elimination of waste products from foetus/ supply of nutrients and oxygen to foetus/ production of progesterone;
    (ii) Produces lytic enzymes for penetration of the sperm into ovum/ through the vitelline membrane of the ovum;
    (iii) Stimulates development of graafian follicle and stimulates ovary to secrete oestrogen;
12. Fossil records; comparative anatomy, comparative embryology; geographical distribution; cell biology;
13. Oxyhaemoglobin;
14. (a) Positive phototropism;

(b) Auxins are sensitive to light intensity; they migrate/ diffuse to the darker side/ non-illuminated side; enhancing faster growth on that side than on lit side;

15. High auxin concentration produced by terminal bud/ apical meristem, inhibits lateral buds growing into branches; removal of terminal bud/ apical bud lowers the concentration of auxins/ lowers the inhibition effect (hence sprouting of lateral buds;
16. Temperature; surface area to volume ration; size of the molecules; Thinness/ Thickness of membranes/ tissues; concentration gradient;
17. When biceps contract it pulls the fore arm and the arm bends; the triceps relaxes to bring about balanced movement; when triceps contract the biceps relaxes and the fore arm stretches/ extends;
18. Protandry/ protagyny/ self sterility/ incompatibility/ separate sexes;
19.
    - Numerous to increase surface area over which gaseous exchange occurs;
    - Highly vascularised to bring blood to carry away oxygen and bring carbon (IV) oxide;
    - Are thin – walled to increase rate of diffusion of gases;
20. Translocation of manufactured food from leaves to rest of plant/ storage sites;
21. (a) (i) Negative phototaxis;
    (ii) To avoid predation;
    (b) Cerebrum
22. (a) Is the amount of oxygen required to oxidise lactic acid which accumulates in the body tissues of animals; during anaerobic respiration; when oxygen supply is less than demand;
    (b) Sex; Age; body size; health; activity / occupation; hormones;
23. Insulin hormone produced by pancrease; stimulates liver cells to convert glucose to glycogen for storage; surplus converted to fats for storage
24. (a) Exoskeleton;
    (b)
    - Protection of inner parts;
    - Movement/ attachment of muscles;
    - Reduces water loss;
    - Supports body tissues and organs;

    (c) Body segmented/ jointed appendages/ Bilateral symmetry/ sexual reproduction system/ Exoskeleton of chitin/ paired appendages/ open circulatory system/ tubular dorsal heart
25. Colour blindness/ Haemophilia/ premature baldness/ Growth of hairs from nose/ ear;
26. (a)
    - Zebras adapted to environment;
    - More zebras reproducing/ sexually mature;
    - Resources are plentiful/ adequate pasture;
    - Fewer predators;
    - Birth rate higher than mortality rate; (Any 3)

    (b) Total countings;
27. Convergent – Organisms from different embryonic origin develops structures which perform same function e.g wing of insect and bird; while divergent is where organisms from same embryonic origin have structures modified to perform different functions e.g the vertebrate pentadactyl limb;
28. Photosynthesis is controlled by enzymes; low temperatures inactivate enzymes hence low rate of photosynthesis; high temperature above optimum denature enzymes and photosynthesis ceases;
29. Collenchyma; sclerenchyma; xylem vessels; tracheids;
30.
    - Provides acidic medium for enzyme pepsin;
    - Activates pepsinogen (inactive) to pepsin active);
    - Kills micro – organism swallowed in food/ antiseptic;
31. Absorbs water through osmosis; swells bulges; and bursts;