KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

MOI GIRLS NAIROBI
BIOLOGY
PAPER 2
MARKING SCHEME

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MOI GIRLS NAIROBI KCSE TRIAL AND PRACTICE EXAM 2016

BIOLOGY PAPER 231/1
MARKING SCHEME

1. - Buccal cavity/ prank √
   - Lungs √
   - Skin √ 1st 2 correct answers)
2. - remove carbon (IV) oxide from the pond√
   - Provide breeding site for fish √
   - Provide oxygen for the fish/aquatic organism √ (1st 2 correct answers)
3. - Transpiration pull √ (1st 3 correct answers)
   - Capillarity √
   - Adhesion /cohesion√
   -Root pressure √
   - Diffusion√
   - Osmosis √
4. - Dorsal/Anal fins √
   - Pectoral/Pelvic fin√
   - Dorsal/ventral fins/caudal fins √
5. - Albinism √
   - Sickle cell anaemia √
   - Haemophilia √
   - Phenylketonuria √
   - colour blindness √
   - chondroplasia/chondrodystrophic

b) i) - Occurs when chromatid breaks and when rejoining rotates and joins in an inserted position √

ii) Translocation – Occurs when a section of a chromatid breaks off and becomes attacked to another chromatid of another chromosome. √

6. - Insufficient utilization of food resources/wastage √
   - Through respiration √
   - Through inhalation/urination/micturition √ Accept – defeacation √
7. a)- Fovea/ Yellow spot/fovea centralis √
   b) – Upside down/inverted√
   - Back to front/reversed√
   - Smaller than object/diminished√
   - Real√ (Mark 1st two)
8. - Collenchyma√
9. - Causes ovulation √
   - Induces grafian follicle to become corpus luteum √
   - Stimulates corpus luteum to release progesterone. √
10. - i) Condition in which the stamen/anthers of a flower mature before the carpels/stigma / pistil√

    Acc- Male parts mature before female parts of the flower √

    ii) Self sterility
    - Pollen grains from anthers of a flower fail to germinate on the stigma of the same flower√
11.

Ball and socket	Hinge joint
- Allow movement in all planes/ 360^0	-Allows movt only in one plane /180^0

b) - Shock absorber/distributes pressure √
- Lubricates joints
- Nourishes the cartilage/supplies oxygen√
(Any 1st 2 correct answers)

12. a) Diffusion √
b) – Visking tubing is semi-permeable √
- Iodine molecules Move from beaker into the visking tubing √
- Thus producing the blue-black colour with starch solution√
- Starch molecules are too large to pass through the walls of the visking tubing into solution in the beaker√
- therefore Iodine solution doesn't change colour √ (3first correct answers)

13. a) – Sieve tubes /sieve tube element/ sieve element√
- companion cell/cytoplasmic strand/filaments √
b) Amino acids √
- Hormones √
- Lipids/oils√
- Resins √ (mark 1st 2 correct answers)
- √itamins √

14. - Biconcave shaped to provide a large surface area for absorption of oxygen/carbon (IV) oxide √
- Absence of nucleus hence more haemoglibin to carry sufficient oxygen/carbon (IV) oxide√
- Alter shape to enable to pass through the narrow lumen of capillaries to supply oxygen/ remove carbon (IV) oxide √
- Have haemoglobin with high affinity for oxygen/carbon (IV) oxide/uptake of more oxygen/carbon (IV) oxide. √
- RBC are many/numerous to carry more oxygen/carbon (IV) oxide√
Rejct – answer if carbon iv oxide/carbon (iv) oxide

15. - The amount of oxygen required to convert (accumulated) lactic acid to water, carbon (IV) oxide and energy/amount of oxygen required to get rid of (accumulated) lactic acid (when supply of oxygen is less than demand)/anaerobic respiration. √

b)- Plant	Animal
- Ethyl alcohol/ethanol and carbon (IV) oxide	Lactic acid √
- Heat 210kg	150kg √

16. - light intensity
- wavelength/colour/quality of light √

17. a) - Hypermetropia/long sightedness;
b) - Use of convex lens; accept converging lens/biconvex lens lens
- To converge the rays so that image is focused on the retina/form a sharp image on the retina√ to form a sharp image in the retina)
- To refract light rays in order to focus rays sharply on to the retina, √

18. - current continents existed as one large land mass/Pangea/Eurasia / Gond wana Land
- The present continents drifted leading to isolation oforganism √
- Organism in each continent evolved along different lines √
- hence emergence of new species √

19. - ¿ O C O pm 3 m 3; √
3 1 3 3
b) - Herbivorous √ reject herbivore
c) – Lack of canines/incisors on the on the lower jaw/presence of canines / Incisors on the lower jaw only √

20. i) – has actively dividing cells that give rise to new epidermal cells √

- Epidermal cells contain Melanin that protects /prevents the skin against ultraviolet rays/UV light√

ii - Secrete sebum, an antiseptic/water repellent substance/prevent drying/cracking of skin/makes skin supple. √

21. a) (Rate of) transpiration √

b) i) – Cut shoot under water√

- Apply petroleum jelly to cork-glass/Bung-glass/Bung-shoot connection √

- Open reservoir tap√ *(mark any 1st 2 correct answers)*

ii) – To ensure no air enters leafy shoot/xylem √

- To ensure the apparatus is air tight √
- To remove air bubbles from tubes √

22. - Protein synthesis √

b) Secretion of substance/enzymes/polysaccharides/glycoprotein /synthesized proteins /synthesized / carbohydrates/synthesized materials√

- Packaging of carbohydrates/proteins/glycoproteins /synthesized material√
- modification of carbohydrates/protein/formation of glycoproteins√
- Transport of carbohydrates/proteins/glycoproteins/lipids/synthesized materials; √
- Production of lysosomes√

23.a) (Allele refers to) alternative form of a gene √ (which occupy the cell loci which control the same characteristic)

b) A cross made between a (homozygous) recessive parent and a parent of unknown genotype (to determine whether the unknown genotype in homozygous or heterozygous for dorminant gene√

24,

Larmarcician	**Darwinian**
-Inheritance of acquired characteristics - Environment induce production of favourable characteristics which are inherited	-Inheritance of genetically acquired characteristics ;√ -A characteristics appears spontaneously which is then transmitted to the offspring ;

25 .a) – Diastase enzyme breaks down/digests/hydrolyces starch to glucose√

- Some glucose used to make cellulose (which is incorporated into new cells)
- Some glucose oxidized to release energy used in chemical activities taking place) in the growing tips√

b) Ethylene √

26. (a scientific system of) naming organisms using the generic/genus and specific/species name √

27. – Sorus √ reject sori

b) – Pteridophyta ;√

ii) – Leaves divided into leaflets known as pinna

- Presence of sori/spore being structures √

28. i) **Candida** albicans √

ii) Vibris cholerae √

30. - ATP √

Accept – Adenosine triphosphate;

Reject – small letters i.e atp, Atp, etc.