KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

KENYA HIGH SCHOOL
BIOLOGY
PAPER 1
MARKING SCHEME

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KENYA HIGH SCHOOL KCSE TRIAL AND PRACTICE EXAM
BIOLOGY 231/1
MARKING SCHEME

1. Open circulatory system 1mk
2. Growing areas of roots, stem/shoot, meristems
   Storage organs – Fruits, seeds, stems, roots, leaves 1mk
3. Roughage 1mk
   (b) Water, vitamins, minerals salt
4. (a) Catalase; 1mk
   (b) Liver; 1mk
   (c) Detoxify hydrogen peroxide; 1mk
5. Study of internal and external parts of the body of an organism 1mk
   Study of living organisms and their chemical composition 1mk
6. (a) Synthesis of proteins
   (b) Site for photosynthesis 2mks
7. Water proof – Prevent water from reaching their inner cells
   Has Karatin – For protection against mechanical injury 2mks
8. Coronary artery 1mk
9. (a) Haelomopjilia; sickle-cell anaemia Albinism; 2mks
   (b) Early maturity;
10. (a) Amount of oxygen required to get rid of lactic acid that accumulates in the body tissues when oxygen available is lower than the demand 1mk
    (b) Energy/A.T.P/Lactic acid 2mks
11. (a) Cypsela
    (b) Animal 2mks
12. (i) Production of the hormones and oestrogen continues;
    (ii) This hormones inhibits the production of Follicles Stimulating Hormone (FLH) and Luteinising hormone (LH);
    (iii) This inhibits the maturation of more follicles; 3mks
13. (a) It brings about useful variations which make the offsprings better adapted for survival 1mk
    (b) (i) 33;

    (ii) 11;
14. (a) Sweat produced does not evaporate due to high humidity;
    (b) Body does not cool hence more sweat is produced leading to accumulation;
    2mks
15. (a) (i) Hypogeal; 1mk
    (ii) Cotyledon remain underground; 1mk
    (b) A -coleoptile – protects the plumule; 1mk
    B – Stores food for germination 1mk
16. (i) Provides pH for enzyme activities; kills micro-organisms in food; 2mks
    (ii) - Emulsification of fats;
    - Neutralize acid chime;
    - Provides optimum pH (alkaline medium) 2mks any 2 points
17. (i) Kills animals reducing their numbers 1mk
    (ii) Better adapted organisms survive and reproduce increasing in number/ poorly adapted organisms die hence reduce in number; 1mk
18. - Maintain shape of the body

- Protects delicate organs of the body eg heart, brain 3mks
- Place/area of attachment for other organs of the body

19. - Reduce competition between the young ones (larvae)
- Avoid predation of the young ones as they are different
- The pupa stage can withstand harsh environment by being inactive 2mks

20. (i) Equalise the pressure between the outer ear and the middle ear
(ii) Transmits and amplifies vibrations from the ear drum to oval window 2mks

21. (a) Father X^HY
Mother X^HX^h
(b) Genes found in the same chromosome; and usually transmitted together; 2mks

22. Thin membrane for easy diffusion of gases;
Highly vascularised to maximize transport of gases;
Moist surface to dissolve gases; 2mks

23. (a) Structure with different embryonic origin but have evolved to perform similar functions (due to exploitation of similar niche)
(b) Tail in man; appendix in man;

24. (a) 3.0 + 3.1 + 3.2 = 9.3g
Average = $\frac{9.3}{3}$ = 3.1g
(b) The cell sap had a higher concentration of solutes than distilled water, water therefore moves from the environment to the cell by osmosis 2mks

25. (a) Oxyhaemoglobin 1mk
(b) Use oxygen released from photosynthesis process 1mk

26. (a) – Conditioned reflex requires repeated stimulus to bring about response while simple reflex requires single stimulus to bring about response
- Conditioned reflex requires behavior modification hence experience while simple reflex involves direct action and is independent of experience 2mks
(b) It has a long axon to transmit nerve impulse myelin sheath and rod of ranvier for faster impulse transmission 2mks

27. - Protandry/protogyny;
- Self-sterility;
- Heterostyly/incompatibility;
- Dioeciousness; 2mks

28. (a) Ball and socket joint

(b) Fixed joint;

29. (i) Gibberellins
- Stimulates cell elongation
- Increase cell division
- Initiate germination
- Promotes development

(ii) Abscisic acid
- Inhibits growth in plants
- Promotes falling of leaves and fruits
- Causes dormancy in some seeds
- Inhibits the development of lateral buds to side branches
- Induces closing of stomata

30. (i) Collenchyma;
(ii) Scerenchyma; xylem; tracheids;

31. -Expose leaves in position for maximum absorption of light;
-Enables roots to seek water/ search for water;
-Enables plants to seek mechanical support especially those without woody stems;

-Roots grow deep for anchorage;
-Pollen tubes grow towards embryo sac to facilitate fertilization;