
KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

NAIROBI HIGH SCHOOL
BIOLOGY
PAPER 1
MARKING SCHEME

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NAIROBI SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016

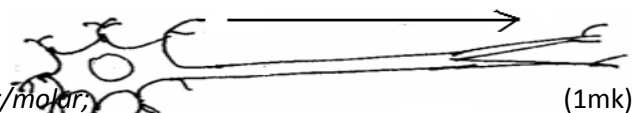
BIOLOGY PAPER / 231/1

MARKING SCHEME

1. (a) Development of ovary to a fruit without fertilization; (1mk)
(b) Auxins/IAA; Gibberellins/Giberellic acid; (1mk)
2. (i) Ribosomes; (1mk)
(ii) Endoplasmic reticulum; (1mk)
3. (a) Protoctista; (1mk)
(b) Pseudopodia (Rej. Pseudopodim) (1mk)
(c) Osmoregulation/get rid of excess water/Remove excess water. (1mk)
4. Ethanol/Alcohol any 2
Energy/ATP/heat (1mk)
5. -Sebum
-Kills micro-organisms (Rej. antiseptic
-Cools the body. (2mks)
-Getting rid of waste/excretion/removal of lactic acid/removal of excess salts/removal of excess water. any 2
6. (a) Number of body parts;
Number of appendages
Presence and number of antennae;
Presence and number of wings; any two (2mks)
(b) Insecta; (1mk)
7. Blood has no antigens and does not cause agglutination (with other types); (1mk)
8. (a) Osmosis; (1mk)
(b) Visking tubing will become turgid/increase in volume/bulge/swell/become big/expand/ become large/become distended; (1mk)
(c) 2M sucrose solution is hypertonic/1M sucrose solution is hypotonic; water molecules move from the 1M sucrose solution in the beaker into the 2M sucrose solution the visking tubing; by osmosis; (through the semi-permeable visking tubing). (2mks)
9. (a) (i) Inability of the pancreas to produce insulin;
(ii) Inability of the pituitary gland to produce Anti Diuretic Hormone (Rej. ADH alone); (1mk)
(b) Put the victim's urine in a test tube; Add equal volume of Benedict's solution and heat the contents; colour of Benedict's solution turns brown; This indicates the person is having glucose in the urine, which is a sign of diabetes mellitus. (3mks)
10. (a) Green plants → Grasshoppers → Lizards → Domestic cats. (1mk)
Green plants → Mice → Snakes → Wild cats (1mk) Any two (b)
Mice; (1mk)
(c) Green plants would dry/reduce; primary consumers such as mice and grasshoppers would die/reduce in population;
Secondary consumers such as lizards, domestic cats and snakes would all reduce in population/die/migrate;
Hawks would die/migrate; Any 3 (3mks)
11. (a) Parental phenotype blood A Blood group B
Parental genotype AO x BO;

Gametes;	A	O
B	AB;	BO
O	AO	OO;

(4mks)

- (b) $\frac{1}{4}$ / 0.25 / 25% (1mk)
12. (a) A – Antipodal cells. (1mk)
D – Synergids (1mk)
(b) To fuse with the other male nuclei to form the triploid endosperm. (1mk)
13. (a) Xylem; (1mk)
(b) Deposition of lignin on their walls; (Rej – Lignin alone) (1mk)
14. A – Zone of cell differentiation; (1mk)
B – Zone of cell elongation; (1mk)
C – Zone of cell division; (1mk)
(b) Protect the root tip; (1mk)
15. (a) Pepsinogen; (1mk)
Trypsinogen; (1mk)
(b) Not to digest the glands that secrete them and the lining of the alimentary canal; (1mk)
16. (a) (i) Gradual change of living organism from simple life forms to more complex forms over a long period of time; (1mk)
(ii) Structures which have different embryonic origin but perform the same function; (1mk)
(b) Comparative embryology is the study of embryo development in different animals; If embryo's of different animals have similar structures at one stage; then such animals are said to have a common origin; (3mks)
17. (a) Motor neurone; (1mk)
(b) A – Axon; (1mk)
B – Sensory dendrites/Receptor dendrites; (1mk)
- (c)  (1mk)
18. (a) Premolar/molar; (1mk)
(b) Has two roots/has cusps/ has broad surface; (1mk)
(c) Has cusps to increase surface area for grinding food.
Has a broad surface to increase surface area for chewing/grinding.
Has two roots for firm anchorage in the jaw. Any one (1mk)
19. (a) (i) Oxygen; (1mk)
(ii) Carbon (IV) oxide; (1mk)
(b) Oxyhaemoglobin; (1mk)
(c) The blood plasma except blood cells and proteins, that has filtered out of the capillaries into the intercellular space; (1mk)
20. (a) Spermatozoa; (1mk)
(b) To fertilize the ovum; (1mk)
(c) K – Head; (2mks)
L – Middle-piece; (1mk)
M – Tail; (1mk)
21. (a) Lumbar; (1mk)
Prominent Centrum to provide support; (1mk)
Prominent transverse processes.
Prominent facets. Any one
(b) A – Neural spine; (1mk)
D – Neural canal; (1mk)
(c) Provide support for the back; (1mk)
22. Nitrogen;
Strengthens plant cell walls/Formation of the middle lamellae during cell division/protein synthesis;
Stunted growth;
Magnesium; (4mks)