
**KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS**

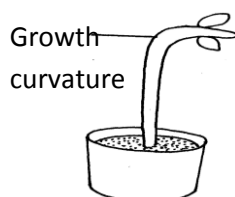
**STRATHMORE HIGH SCHOOL
BIOLOGY
PAPER 1
MARKING SCHEME**

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STRATHMORE SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016
PAPER 1
MARKING SCHEME

1. a) genus
b) – the genus name should be in capital letter and the species name with a small letter:
- should be printed in italic or when ad written should be underlined as separate words:
- 2 – should be Latinized i.e. made to sound like Latin words: (2 correct responses 1x 2mks)
a) Reflects light through the source through the condenser to the stage:
(1)
b) - Mitochondria
- Chloroplasts

3. (i)



- (ii) The shoot tip bends towards the direction of the light: auxins diffuse to the shaded side causing more growth than on the side receiving the light: size
4. - Air is cleaned cilia.
- Amount of air taken in is controlled. (2 marks)
- Any smell in the air is detected
5. - Magnesium
- Nitrogen:
- Iron. Acc. Magnesium ion/ iron rej symbols of elements
6. a) – absence
- Unsuitable temperature
- Lack of Oxygen
b) Hypocotyls
7. a) Digests starch to maltase
b) - Mouth
- Duodenum:
8. a) Rods; cones
b) Chemicals; acetylcholine/ noradrenalin
Mineral ions: Sodium; Potassium; chloride ions
9. - Screen or protects against ultra violet rays from the sun (1 mk)
10. - Decompose organic matter/ recycle organic materials: (1 mk)
11. Average length of one cell = field diameter/ no. of cells
5mm/8t: 0.625mm
0.625 x 1000 = 625 micrometers (2mk)
12. The floral part in monocots are in three or multiples of three.
In dicots they are in fours. Fives or their multiples: (*mark as a whole*) (1 mk)
13. a) i)Oestrogen hormone: ✓
ii) _____ Progesterone hormone:
b) The 14th day;
a) Fossils are past materials remains of ancestral forms of organisms that were accidentally preserved in natural occurring materials; (OWTTE)
b) - Only partial preservation was possible due to soft parts decayed;-

- Distortion during sedimentation;
- A subsequent geological activities(erosion, earthquakes, faulting) destroyed some fossils;
- Missing fossil records/ missing links

15. i) Exoskeleton
ii) Endoskeleton
16. a) nastic/ naptomasty / thigmonasty;
b) Chemotaxis;
c) Phototaxis
17. a) Haemophilia;/colour blindness;/ Eye colour in drosophila;
b) i) DNA
ii) Has nitrogenous base Thymine
iii)

T	T	C	A	G
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18. i) - Prophase 1;
ii) - It leads to genetic exchange that brings about variations;
19. - Respiration is the chemical breakdown of glucose to release energy
- Respiratory surface is the surface across which respiratory gases exchange
20. Moist for gases to dissolve efficient diffusion;
- Large to provide a large surface area over which gaseous exchange takes place;
- Highly vascularized for fast transport of gases in and out of the skin;
- Thin epithelium for fast diffusion of gases; (3 correct response 1 x 3)
(1 mk)
21. a) Diabetes mellitus
b) Regular injection with insulin
Diet – reduction in the amount of carbohydrates taken in; (1 x2 mks)
22. i) - Diplopoda;
ii) – Cylindrical body
- Three body parts;
- A pair of short antennae
- Two clumps of many simple eyes; (2 correct responses 1 x2) (2 mks)
23. a) -Pneumatophores
- Aerenchyma tissues
- Cuticle
b) - External intercostal muscles relax while internal intercostal muscles contract; moving the rib cage

Downwards and inwards: The diaphragm muscles relax making it dome shape;

- The volume of the thoracic cavity decreases while its pressure increases pushing air outside due to low atmospheric pressure; (4 mks)

24. a) A- Hepatic portal vein; B – Hepatic vein
b)

Hepatic portal veins	Hepatic artery
- Wide/ large lumen	-Narrow lumen
- Presence of valves	- Absence of valves
Thinner walls/ less muscular walls	- Thick walls/ muscular walls

25. a) To investigate the region of elongation in roots;
b) the distance between the marks just behind the root tip increased; this is the region cell elongation there cells expand and increase in length (2 mks)

- few glomeruli;

26. a) Acquire Immuno – deficiency Syndrome/ AIDS
b) It destroys the immune system virus replicates rapidly
Virus is obligate intracellular

c) - Screen blood for HIV before transfusions;

- Avoid multiple sexual partner
- Sterilize surgical implements before use
- HIV positive mothers should avoid breast feeding

mark one

27. -Encourages cross pollination and fertilization/ Hinders self pollination and fertilization;

28. – Insulation against fire;

- Protects against infection by fungi;
- Prevents damage by insects
- Prevents loss of water;

(3 correct responses (3 mks))

29. i) Radius; ✓1 (ii) Olewanon process; ✓1 (iii) Humerus; ✓1 *rej.* Humorous

30. a) Diffusion (1 mark)

b) Iodine molecules from the beaker moved into the visking tubing by diffusion since they were small in size; (iodine reacted with starch to form blue- black colour). Colour of iodine solution outside remain brown as starch molecule were too large to pass through the visking tubing.
(2marks)

31. - Aquatic plants absorb the metallic ions through their roots and are incorporated in there tissues: when eaten by fish the pollutants become incorporate in fish tissues; such fish when eaten by humans, accumulate in the tissues (3 marks)

32. (i) Fats/ lipids – accumulated ions

(ii) Release large amount of energy per molecule on complete oxidation; ✓ produces a lot of water on oxidation; ✓ (use for other metabolic activities)