

HOMA-BAY SUB-COUNTY JOINT EVALUATION EXAM

JULY/AUGUST -2014

231/3

BIOLOGY PAPER 3

CONFIDENTIAL INSTRUCTION TO SCHOOL

- The information contained in this paper is to enable the head of school and teacher in charge of Biology to make adequate preparations for this year's Biology mock practical examination. NO ONE ELSE should have access to this paper or acquire knowledge of its contents. Great care must be taken to ensure that the information herein does not reach the candidates either directly or indirectly.
- The Biology teacher is NOT expected to perform the experiments
- The apparatus required by each candidate for the Biology mock practical examination are set out on the next page. It is expected that the ordinary apparatus of a Biology laboratory will be available.
- The Biology teacher should note that it is his/her responsibility to ensure that each apparatus acquired, for this examination agrees with specifications on the next page.

Each student will require the following:

- i. 10ml of 10% sucrose solution labeled K
- ii. Access to iodine solution
- iii. 2 mls of Benedict solution
- iv. Access to dilute HCL
- v. Sodium Hydrogen Carbonate solution
- vi. 2ml 10% Sodium Hydroxide
- vii. 2ml 1% freshly prepared Copper Sulphate
- viii. Source of heat

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MAKING SCHEME

1. a) A – scapula;
 B- Humerus;
 C – Ulna and radius **(3mks)**
 b) i) Hinge joint **(1mk)**
 ii) Ball and socket **(1mk)**
 c)
 - Glenoid cavity articulates with head of humerus.
 - Has spine for muscles attachment
 - Has flat and broad surface for muscle attachment
 - Has acromion for articulation with clavicle bone / collar bone , providing support
 - Has metacromion and acromion – muscle attachment **(4mks)**
 d) i) Olecranon process
 ii) - Prevent overstretching of the arm; 1mk
 - Muscles and ligament attachment; 2mk
2. a)

Food substance	Procedure	Observation	Conclusion
Starch	Put 1 ml of K add 2 drops of iodine	No observable change	Starch absent
Reducing sugar	To 1ml K add equal amount of Benedict solution and boil	No observable colour /change of Benedict retained	Reducing sugar absent
Non – reducing sugar	-To 1ml of K add 2 drops of diluted HCL and boil; -Cool and add NaHCO ₃ until fizzing stops; -Add equal volumes of Benedict solution and boil	Colour changes from blue to green to yellow /brown / orange	Non – reducing sugars present
Protein	To 1ml of K add 1ml of NaOH followed by 2 drops of copper sulphate then shake	Colour changes to purple/ violet	Protein present

(10mks)

- b) i) Sucrase **(1mk)**
 ii) Ileum; accept small intestine
 c) Accept any correct adaptation **(2mks)**
3. a)
 1. a) Body bilaterally symmetrical..... go to 2
 b) Body radially symmetricalsee anemone
 2. a) With limbsgo to 3
 b) Without limbsgo to 7
 3. a) With six legs go to 4
 b) With more than six legs go to 5
 4. a)With two pairs of wings Honey bee
 b) With one pair of wings House fly
 5. a)With eight legsspider
 b) With more than eight legs go to 6
 6. a)With two pairs of legs in each segmentMillipede
 b) With one pair of legs in each segmentCentipede
 7. a) Body segmented.....Earthworm
 b) Body not segmented..... Roundworm
(Allow 1mk for 13 correct steps – 13x1 = 13mks)
 b) i) Arthropoda; **(1mk)**
 Rej. Wrong spelling

ii) Body segmented
Jointed appendages;

(1mk)