

NANDI NORTH SUB-COUNTY JOINT EVALUATION 2015
231/3 – BIOLOGY PAPER 3

CONFIDENTIAL

Provide each candidate with:-

- Solution L (Milk)
- Filter Paper
- Funnel
- 100ml Beaker
- 2 Test Tubes
- Bench solutions
- Iodine solution
- Copper (II) Sulphate
- Sodium Hydroxide

NANDI NORTH SUB-COUNTY JOINT PRE-MOCK EXAMINATIONS 2015

Kenya Certificate of Secondary Education (K.C.S.E.)

BIOLOGY

PAPER 3

(PRACTICAL)

MARCH / APRIL 2015

TIME: 1¼ HOURS

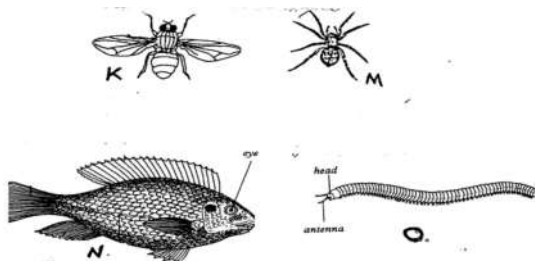
SECTION A (40 MARKS)

Answer all questions in this section in the spaces provided.

1. You are provided with a food sample labelled D in solution form. Using the reagents provided, carry out tests to identify the food substances in the food sample. (12mks)

| FOOD SUBSTANCE | PROCEDURE | OBSERVATION | CONCLUSION |
|--------------------|-----------|-------------|------------|
| Proteins | | | |
| Non-Reducing Sugar | | | |
| Starch | | | |

2. You are provided with the specimen labelled E. Examine it carefully and answer the questions that follow.
- (i) Name the class of the plant from which the specimen E was obtained. (1mk)
 - (ii) Using observable features only, name **three** reasons for your answer in (i) above. (3mks)
 - (iii) Name the agent of pollination for the flowers of specimen E. (1mk)
 - (iv) State **four** observations on the specimen E that support the answer in (iii) above. (4mks)
 - (v) Draw and label the pistil of specimen E. (4mks)
3. The photographs below represent different types of animals. Study them carefully and answer the questions that follow.



- (b) State **two** observable differences between K and M. (2mks)
- (c) Classify specimen M into the following taxa giving reasons for each case.
 - (i) Phylum (1mk)
Reasons (3mks)
 - (ii) Class (1mk)
Reasons (3mks)
- (d) Name the type of skeleton found in the specimen O. (1mk)
- (e)
 - (i) Name the class to which the specimen N belongs. (1mk)
 - (ii) Give **three** reasons for your answer in (d) (i) above. (3mks)

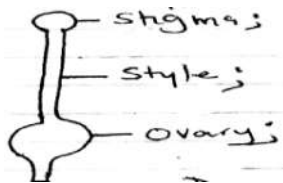
NANDI NORTH SUB-COUNTY JOINT EVALUATION 2015
231/3 – BIOLOGY PAPER 3 - MARKING SCHEME

1.

| FOOD SUBSTANCE | PROCEDURE | OBSERVATION | CONCLUSION |
|--------------------|---|--|--|
| Proteins | <ul style="list-style-type: none"> Put 2cm³ of food sample D into a test tube. Add sodium hydroxide solution Add copper sulphate solution and shake; | No colour change / blue colour of copper sulphate persists / retains / maintains; | Proteins / absent / Absence of proteins; |
| Non-reducing Sugar | <ul style="list-style-type: none"> Put 2cm³ of food sample D into a test tube. Add dil. Hydrochloric acid, boil and cool; Add sodium hydrogen carbonate until the fizzing stops; Add Benedict's solution and boil; | Colour changes from Blue to green / yellow orange and brown. Acc Redbrown / if only one colour is mentioned. | Non-reducing sugar(s) present; Rej. Reducing sugar(s); present after hydrolysis. |
| Starch | <ul style="list-style-type: none"> Put 2cm³ of food sample D into a test tube. Add iodine solution and shake | Coour changes to blue black / blue-black / blue / black; | Starch present |

2. (i) (a) Dicotyledonae;
(ii) - Network venation / net veined leaves;
- Presence of leaf petiole / leaf stalk;
- Broad leaf;
(iii) Insect;
(iv) - Brightly coloured petals to attract insects;
- Large and conspicuous;
- Scented;
- Has landing platform for insects;
- Anthers are firmly attached to the filament;

(v)



3. (a)

| K | M |
|--|--|
| <ul style="list-style-type: none"> - Has 3 pairs of legs - Has 3 body parts - Has wings - Has antennae | <ul style="list-style-type: none"> - Has 4 pairs of legs; - Has 2 body parts; - Lack wings; - Lack antennae; |

- (b) (i) Phylum - Arthropoda;
Reasons: - Jointed appendages;
- Segmented body;
- Presence of exoskeleton;
- Bilaterally symmetrical;
(ii) Class - Arachnida
Reasons: - has 4 pairs of legs;
- body divided into two parts;
- lack antennae;
(c) exoskeleton;
(d) (i) Pisces;
(ii) - Presence of fins;
- Presence of scales;
- Presence of lateral line;