NAME _____ **CLASS**_____**ADM. NO.** _____

231/3
BIOLOGY
PAPER 3
JULY 2019

BIOLOGY
PAPER 3

INSTRUCTIONS TO CANDIDATES

- *Write your **name** and **index number** in the spaces provided above.*
- ***Sign** and write the **date** of examination in the spaces provided above.*
- *You are required to spend the first 15 minutes of the 1 ¾ hours allowed for this paper reading the whole paper carefully before commencing your work.*
- *Answers must be written in the spaces provided in the question paper.*

For Examiner's Use only:-

Question	Maximum Score	Candidate's Score
1	12	
2	14	
3	14	
TOTAL	40	

This paper consists of 4 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

1. You are provided with a specimen labeled T which is a fruit. Use it to answer the questions that follow.

a) Make a transverse section of the specimen T. Draw and label at least 3 parts. (Save the specimen for use in question 2) 5mks

b) With reasons, state the identity of fruit T.

Type of fruit……..1mk

Reason ……1mk

c) Suggest the possible agent of dispersal and give **two** reasons

Agent ……1mk

Reason …….

…….

……2mk

d) What is the placentation of T? …….1mk

e) Specimen T was green in colour before it was treated with a plant hormone.

Suggest the plant hormone.

……1mk

2. (a) Crush a piece of the specimen T in a test tube using a stirring rod, add some water and shake. Decant into another test tube. Use the reagents available to establish the food substances present in specimen T extract by filling in the table below.. 9mks

FOOD	PROCEDURE	OBSERVATIONS	CONCLUSION

(b) Identify one type of organic substance absent in T. ……..1mk

(c) Based on the tests you have carried out above, give one reasons why consuming a lot of T may be unsuitable to a diabetic person.

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……2mks

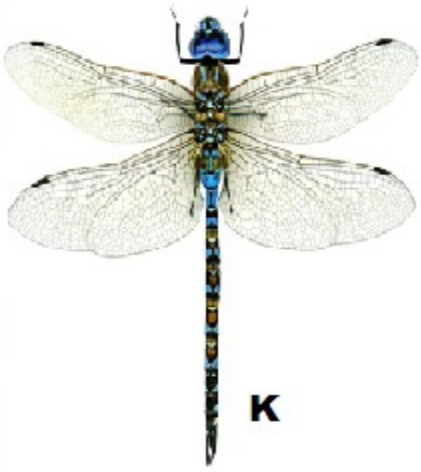
(d) How can you show that somebody is diabetic in the school laboratory? 2mks

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3. Below are photographs of two specimens, J and K. Both of them belong to the same phylum and class. Observe them carefully before you answer the questions that follow.





a) Name the class to which J and K belong and support your answer with two reasons.

Class ……1mk

Reasons 2mks

i) ……

ii) ……

b) Suggest why the circulatory fluid in J and K has no haemoglobin. 2mks

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c) Observe their wings and suggest the type of evolution that could have taken place to give rise to J and K, and then give a reason for your answer.

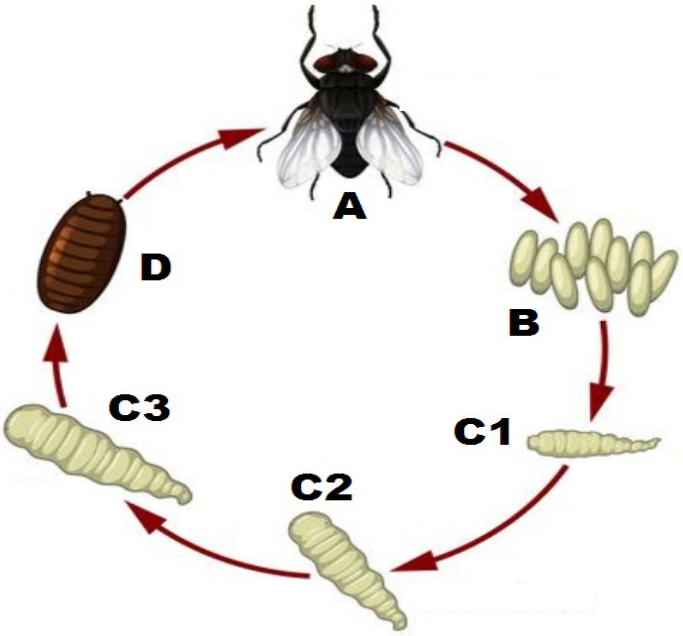
Type of evolution ……1mk

Reason ……

……

……..2mks

d) Below is a diagram showing the life cycle of specimen J.



i) Identify the stage labeled D. ……..1mk

ii) Name the hormone responsible for the change from D to A. 1mk

…… …….

iii) Explain the differences in the change from C2 to C3 and from C3 to D. 4mks

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