

NAME ..... INDEX NO .....  
SCHOOL ..... SIGNATURE .....  
DATE .....

231/3  
BIOLOGY  
PAPER 3  
(PRACTICAL)  
1<sup>3</sup>/<sub>4</sub> HOURS

## GOLDEN ELITE EXAMINTIONS 2020

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

231/3  
BIOLOGY  
PAPER 3  
(PRACTICAL)  
1<sup>3</sup>/<sub>4</sub> HOURS

### INSTRUCTIONS TO CANDIDATES

- Write your name and Index Number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided in the question paper.
- You are **NOT** allowed to start working with the apparatus for the first 15 minutes of the 1<sup>3</sup>/<sub>4</sub> hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.
- All workings **MUST** be clearly shown where necessary.
- Mathematical tables and silent electronic calculators may be used.

**For Examiners use only.**

Question	Maximum Score	Candidates Score
1	12	
2	14	
3	14	
<b>TOTAL SCORE</b>	<b>40</b>	

*This paper consists of 5 Printed pages.*

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Candidates should check the question paper to ensure that all the papers are printed as indicated and no questions are missing

1. (a) You are provided with a solution L. Using the reagents provided; determine the food compounds in L. Fill in the table below.

FOOD COMPOUND	PROCEDURE	OBSERVATION	CONCLUSION

(b) Place 10mls of solution L in a visking tubing. Tie both ends and place it in 50mls of distilled water contained in a beaker. Leave the set up for 20 minutes and make observations.

- (i) Observations. (1mark)

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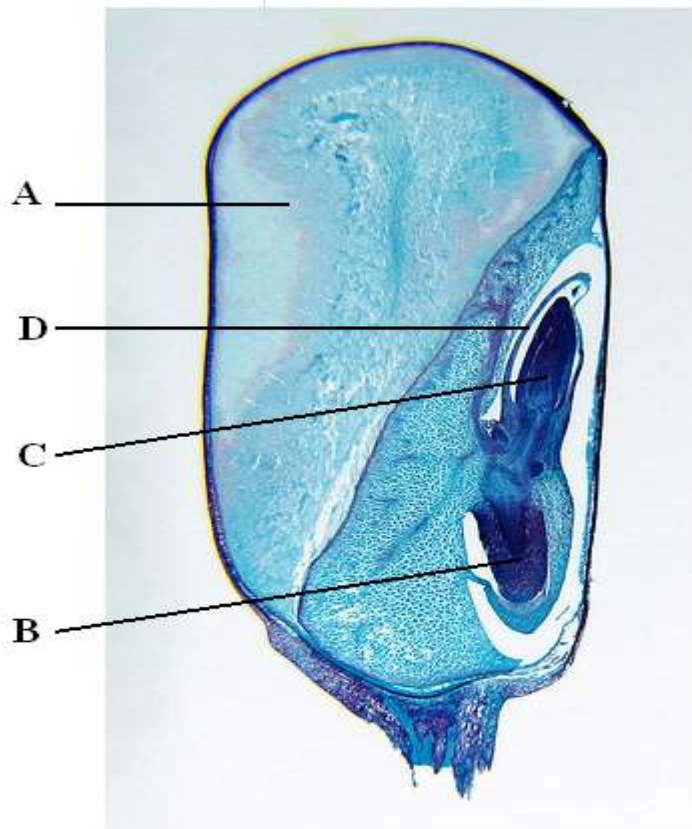
(ii) Account for the observation in b (i) above. (2marks)

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(iii) Give the equivalent of a visking in the bodies of living organisms. (1mark)

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2. Study the photomicrograph of the longitudinal section of a maize fruit below and answer the questions that follow.



(a) (i) Name the parts labelled A, B, C and D. (4marks)

A  
.....

B  
.....

C

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D

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(ii) Give the role played by A and D. (2 mark)

A

.....

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D

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(b) (i) Name the type of germination exhibited by maize grain. (1 mark)

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(ii) Place the organisms from where the photomicrograph was obtained into its

Kingdom

Division

Class

(3marks)

(iii) State three characteristics of members of the class identified in b (ii) above (3marks)

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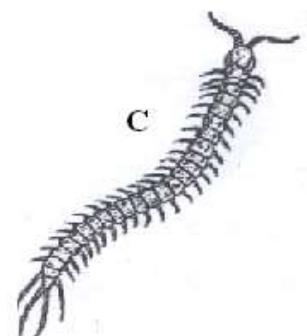
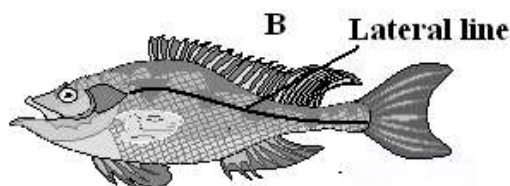
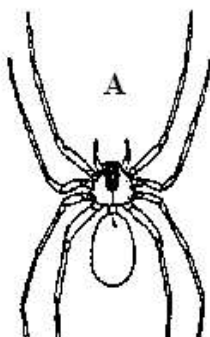
(c) Give one reason why the maize grain is classified as a fruit. (1mark)

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3. Study the organisms drawn below and answer the questions that follow.



- (a) Use the dichotomous key below to identify the class the organisms belong to. (12 marks)
1. (a) Phylum Chordata ..... go to 2  
(b) Phylum arthropoda ..... go to 3
  2. (a) Has scales on the body ..... go to 4  
(b) Has no scales on the body ..... Mammalia
  3. (a) Has cephalothorax ..... Arachnida  
(b) Has no cephalothorax ..... go to 5
  4. (a) Has fins ..... Pisces  
(b) Has no fins ..... go to 7
  5. (a) Has three pairs of legs ..... Insecta  
(b) Has more than three pairs of legs ..... go to 6
  6. (a) Two pairs of legs per segment ..... Diplopoda  
(b) One pairs of legs per segment ..... Chilopoda
  7. (a) Has feathers ..... Aves  
(b) Has no feathers ..... go to 8
  8. (a) Has a tail ..... Reptilia  
(b) Has no tail ..... Amphibia

Specimen	Step followed	Identity
A		
B		
C		
D		
E		
F		

(b) If the actual length from the tip of the mouth to the tip of the tail of the specimen B is 100mm, calculate the magnification. (2marks)

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