NAME ..... **INDEX NO** .....

SCHOOL ..... **SIGNATURE** ....

DATE .....

231/3
BIOLOGY
PAPER 3
(PRACTICAL)
$1^{3}/_{4}$ HOURS

END OF TERM 1 EXAMINATION 2020

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

231/3
BIOLOGY
PAPER 3
(PRACTICAL)
$1^{3}/_{4}$ HOURS

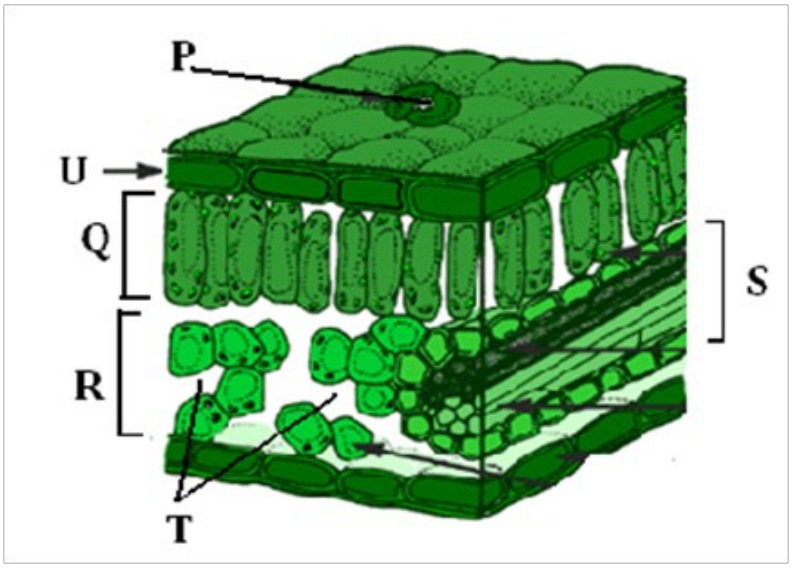
INSTRUCTIONS TO CANDIDATES

- 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 $1^{3}/_{4}$ 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.
- This paper consists of 6 Printed pages. Candidates should check the question paper to ensure that all the papers are printed as indicated and no questions are missing

For Examiners use only.

Question	Maximum Score	Candidates Score
1	12	
2	15	
3	13	
TOTAL SCORE	40	

1. The photograph below shows the arrangements of different type of cells and tissues in a certain living organism. Study it and answer the questions that follow.



a) i) From what part of the plant was the photograph obtained.
(1 mark)

.....

.....

ii) Name the parts labeled.
(3marks)
P

.....

.....

Q

.....

.....

R

.....

.....

S

.....

.....

T

.....

.....

b. i) State the function of the part labeled Q.
(1mark)

.....

.....

ii) State two adaptations of structure Q to its function.
(2 marks)

.....

.....

.....

c. State two environmental factors which regulate the function of the part labeled P.
(2 marks)

.....

.....

.....

d. Measure the length of one cell of region labeled Q on the photomicrograph whose magnification is X5000.What is the actual length of the cell in micrometer? Show your working. (3marks)

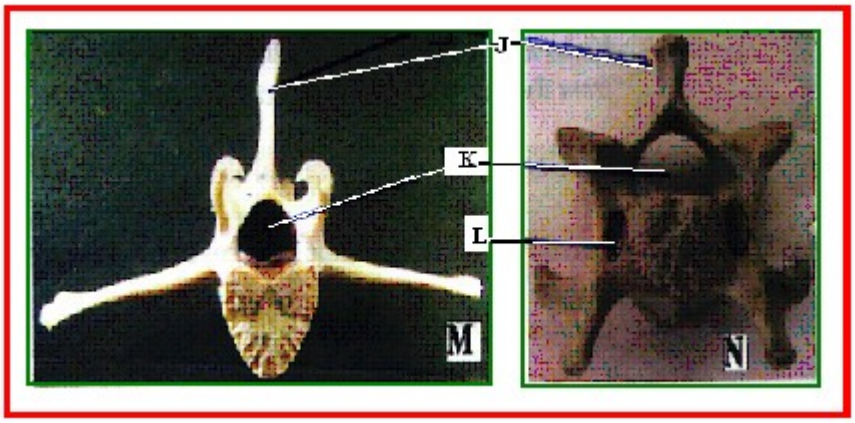
.....

.....

....

.....

2. You are provided with photographs of specimens labeled M and N. Examine them and answer the questions that follow.



a) i) Identify the specimens represented by the photographs.

M: .....

(1 mark)

N: .....

(1mark)

ii) label the parts labeled

J: .....

(1mark)

K: .....

(1 mark)

L: .....

(1mark)

b) i) State four observable differences between specimens M and N.

(4 marks)

.....

.....

....

.....

.....

.....

ii) Name the region of the body from which the specimens were obtained.

M: .....

N: .....

c) How is specimen N adapted to its function? (4 marks)

.....

.....

....

.....

.....

.....

3. You are provided with solution labeled L and K.

a) Use the reagents provided to determine their identity. Record your procedure, observation and conclusion in the table below.
(6 marks)

Food substance	procedure	observation	conclusion

b. Tie one end of the visking tubing provided tightly. Put solution K in the visking tubing and tie the open end. Imerse the visking tubing in the beaker containing solution L .Let the set up stand for about 30 minutes.

i) Test the contents in the visking tubing with iodine and benedict's solution. Record your procedure,observation and conclusion in the table below.
(3marks)

Test with	procedure	observation	conclusion
Iodine solution			
Benedict's solution			

ii) Test the contents in the beaker with iodine and Benedict's solution. Record your procedure, observation and conclusion in the table below.

Test with	procedure	observation	conclusion
Iodine solution			
Benedict's solution			

c. Account for your observation in b(i) and (ii) above

.....

.....

....

.....

……

…… ……

……

……