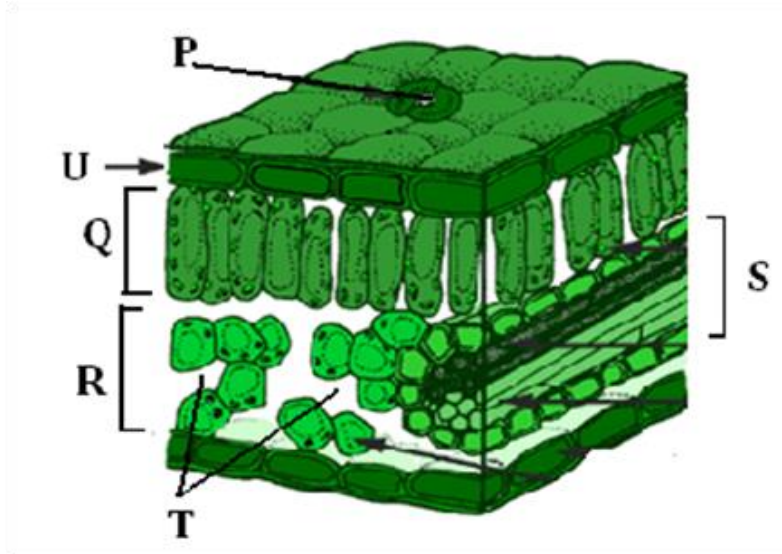


KCSE PREDICTIONS 2020

BIOLOGY PAPER 3

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)

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ii) Name the parts labeled. (3marks)

- P
- Q
- R
- S
- T

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

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

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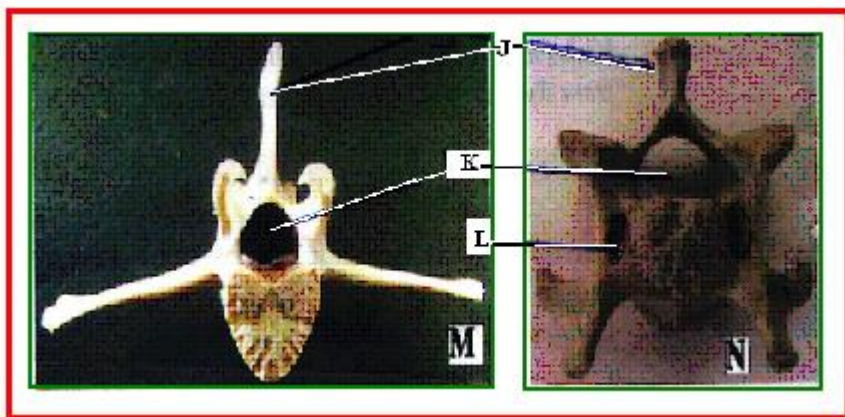
c. State two environmental factors which regulate the function of the part labeled P. (2 marks)

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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)

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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: (1 mark)

ii) label the parts labeled

J: (1 mark)

K: (1 mark)

L: (1 mark)

b) i) State four observable differences between specimens M and N. (4 marks)

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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)

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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. Immerse 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

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