

**FORM FOUR CLUSTER KCSE MODEL4**  
**BIOLOGY PAPER 3 QUESTIONS**

1. You are provided with suspension S.

a) Using the materials provided, identify the food substances present in the suspension.

Record the procedures, observations and conclusions in the table below

FOOD SUBSTANCE	PROCEDURE	OBSERVATIONS	CONCLUSION

b) Using the deductions in (a) above state and explain ways in which a human body benefit from suspension S.

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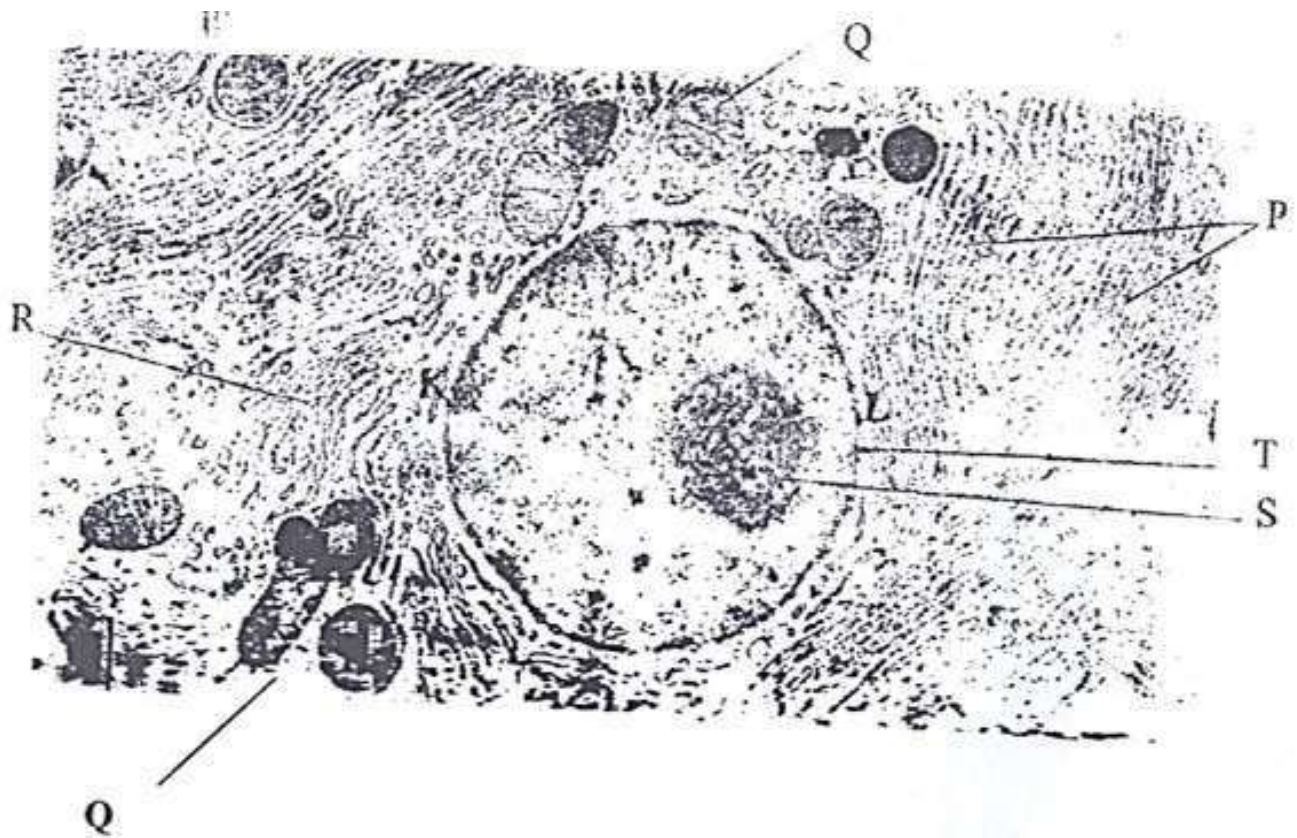
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2. The figure below is an electron micrograph showing parts of a cell.



a) In the table below, name the organelles labeled Q, R, S and T. For each organelle, state one function.

Organelle	Name	Function
Q		
R		
S		
T		

b) i) Measure the diameter of the nucleus in the micrograph between point K and point L in mm.

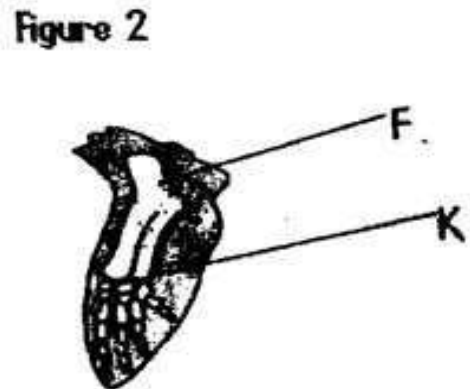
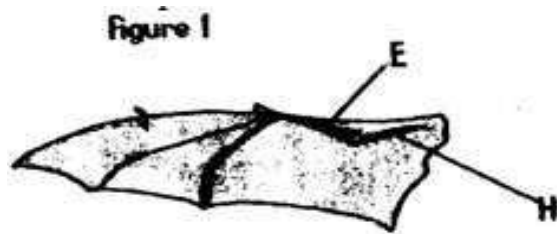
Diameter = mm (1mark)

ii) If the magnification of the parts of the cell in the micrograph is x5000, calculate the actual diameter of the nucleus in micrometers ( $\mu\text{m}$ ).

c) How is part Q adapted to its function?

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3. The following figures represent the forelimbs of certain animal species. Study them and answer the questions that follow.



a) Name the parts labeled E F and G. (3marks)

E.....

F.....

G.....

b) State the type of skeleton represented in figure 1.....

c) Name the type of joint at point K.....

d) Which figures represent:

i) Analogous structures.....

ii) Homologous structure.....

(1mark)

iii) Give a reason for d (i) above.....

e) i) What are vestigial organs.....

ii) Give two example of vestigial organ in man.....