1. You are provided with a visking tubing, a solution labeled **L**, Iodine solution labeled solution **E**, Benedict's solution labeled solution **F** and a piece of thread.

Tie one end of the visking tubing tightly using the thread provided. With the help of a syringe, put 10ml of the solution labeled **L** into the visking tubing. Tie the other end of the visking tubing tightly.

Ensure that there is no leakage at both ends of the visking tubing.

Wash the outside of the visking tubing with water. Place the visking tubing upright in a 100ml beaker. Add distilled water into the beaker to reach the level of the liquid in the visking tubing. Allow the set up to stand for 30 minutes or more.

(a) Using 2ml in a test – tube in each case, test for the food substance in the liquid outside the visking tubing using: **(6 marks)**

TEST	Procedure	Observations	Conclusion
(i) iodine solution (Solution **E**)			
(ii) Benedict's solution (solution **F**)			

(b) Using 2ml in a test-tube in each case, test for the food substance in the contents of the visking tubing using:

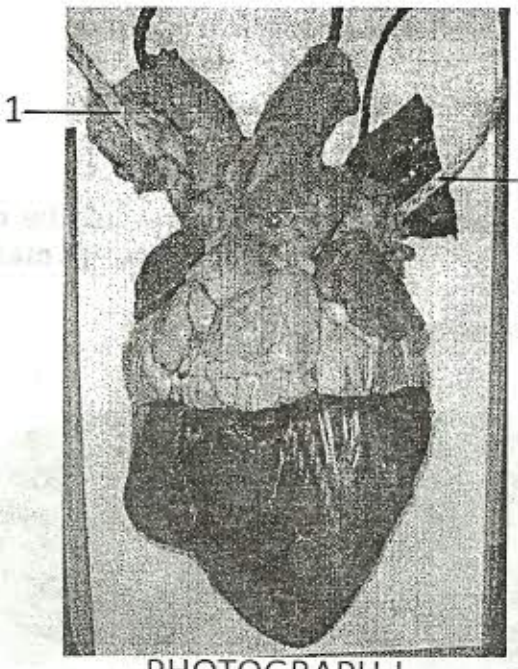
TEST	Procedure	Observations	Conclusion
(i) iodine solution (Solution **E**)			
(ii) Benedict's solution (solution **F**)			

(c) Account for your results in (a) and (b) above. **(3 marks)**

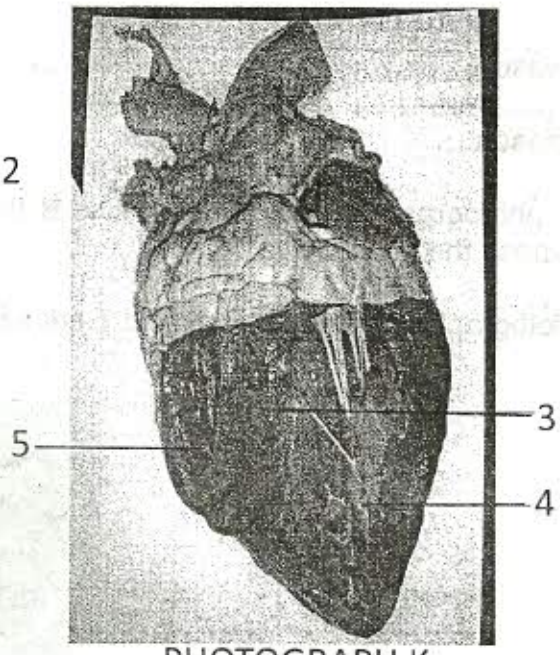
(a) .....

(b) .....

2. The photographs labeled **J**, **K**, $\mathbf{M_1}$ and $\mathbf{M_2}$ are sections of a mammalian heart. Examine them.

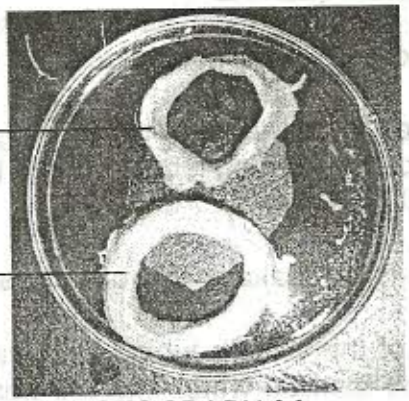


PHOTOGRAPH J



PHOTOGRAPH K

PHOTOGRAPH M_1



PHOTOGRAPH M_2

(a) The blue, green and cream strings go through various blood vessels and end up at various chambers of the heart. For each string, name the chamber where the string ends and the blood vessel through which the string goes. **(8 marks)**

String	Chamber	Blood vessel
Blue	.....	.....
Green	.....	.....
Cream 1	.....	.....
Cream 2	.....	.....

(b) Name the part labeled 3 in photograph **K**. **(1 mark)**

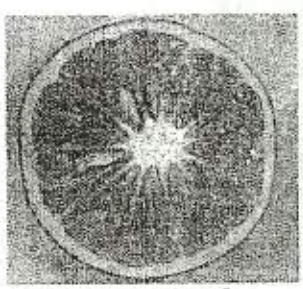
(c) The parts labeled 4 and 5 are walls of two chambers of the heart. Account for the difference in the thickness of the walls. **(1 marks)**

(d) Photograph M_1 shows two blood vessels labeled **X** and **Y** while M_2 shows transverse sections of the same blood vessels.
With a reason, identify the type of each of the blood vessels. **(4 marks)**
X .....

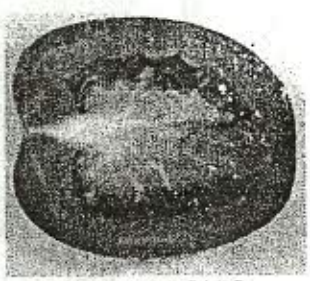
Reason .....
Y .....
Reason .....

(e) In photograph **K**, indicate by letter **B** the part of the heart which would be cut to expose the bicuspid valve. **(1 mark)**

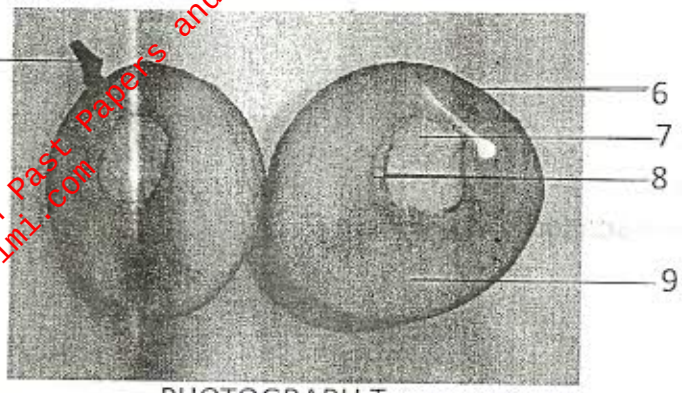
3. The photographs labeled **Q**, **R**, **S** and **T** are sections of some parts of plants.



PHOTOGRAPH R



PHOTOGRAPH S



PHOTOGRAPH T

(a) Name the type of placentation in the specimens shown in photographs Q, R and S. **(3 marks)**

Q .....
R .....
S .....

(b) Label a seed in photographs **R** and **S**. **(2 marks)**

(c) Name the parts labeled 6, 7, 8, 9 and 10 in photograph **T**. **(5 marks)**

6 .....
7 .....
8 .....
9 .....
10 .....

(d) Giving a reason in each case, name the mode of dispersal of each of the specimens in photographs **Q** and **T**.

Q .....
Reason .....
T .....
Reason.....