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NAME: INDEX NO:

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STUDENT'S SIGNATURE:.....

231/3

BIOLOGY

PAPER 3

(Practical)

TIME: 1 ¼ Hours

Instructions to Candidates

1. Write your name and admission number and school in the spaces provided above.
2. Answer ALL questions in the spaces provided.
3. You are required to spend the first **15 minutes** of the 1 ¼ hours allowed for this paper reading the **whole paper** carefully before commencing your work.
4. Additional pages must not be inserted.

For Examiner's Use Only

Question	Max. Score	Candidate's Score
1	14	
2	17	
3	9	
Total Score	40	

1. You are provided with suspension labeled M.

a) Using the reagents provided, carry out food test on the suspension. Record your procedure, observation and conclusion on the table below.

(14 Marks)

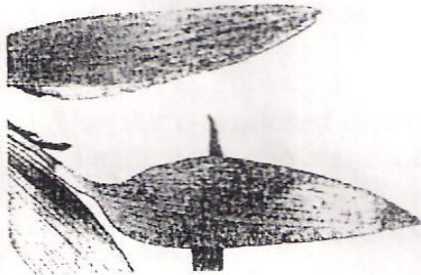
Food Substance	Procedure	Observation	Conclusion

2. Below are photographs labelled P, Q, R, S, T, U and V of twigs obtained from plants. Examine them.

Below are photographs labelled P, Q, R, S, T, U and V of twigs obtained from plants. Examine them.



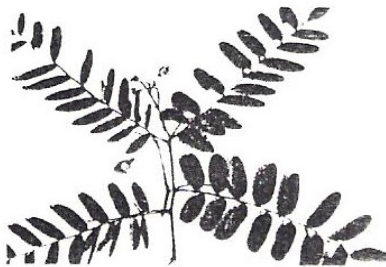
P



R



S



T



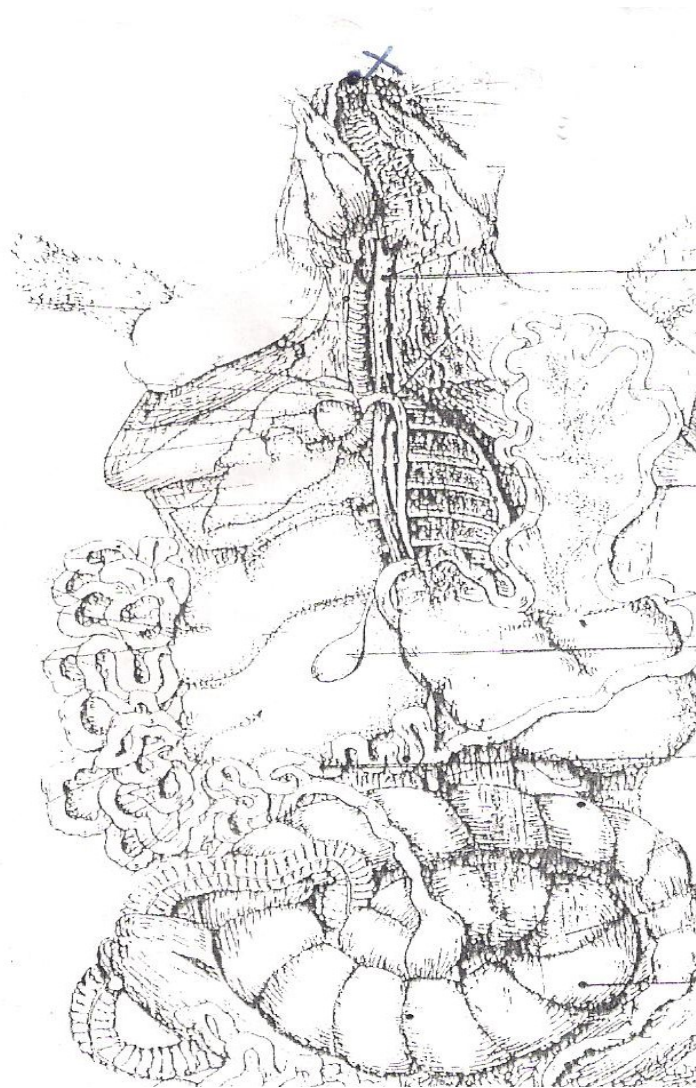
a) Using observable features in the photographs, complete the dichotomous key given below. (3 Marks)

- | | | | |
|---|---|-------------------------------|---------------|
| 1 | a | Simple leaves | go to 2 |
| | b | Compound leaves | go to 5 |
| 2 | a | Leaves net-veined | go to 3 |
| | b | Leaves parallel-veined | Commelinaceae |
| 3 | a | | go to 4 |
| | b | Leaves with smooth margin | Nyctaginaceae |
| 4 | a | Leaves alternate | Malvaceae |
| | b | | Verbenaceae |
| 5 | a | | go to 6 |
| | b | Leaves bipinnate | Bignoniaceae |
| 6 | a | Leaflets with serrated margin | Compositae |
| | b | Leaflets with smooth margin | Papilionaceae |

b) Use the completed dichotomous key to identify the family to which each plant belongs. In each case show the steps you followed to arrive at the identity. (12 Marks)

	Identity	Steps followed
P
Q
R
S
T
U
V

3. Below is a diagram representing a dissection of a mammal. Study it and then answer the questions below.



- a) Name the parts labeled P, Q, R and S. (4 Marks)

P:.....

Q:.....

R:.....

S:.....

- b) State the function of the part labeled Q. (1 Mark)

c) Give two observable adaptations of part labeled R, to its functions. (2 Marks)

d) i) Using a ruler, measure the length of the mammal from the tip of the nose marked point X to the point Y on the tail.

Length X to Y = _____ cm. (1 Mark)

ii) Given that the magnification of drawing is $\times \frac{1}{2}$, calculate the actual length of the mammal from point X to Y. (2 Marks)