

Name: Index No:.....

School: Date:

NAMBALE DIOCESE JOINT EXAMINATION
BIOLOGY PAPER 3 (PRACTICALS)
231/3
1 $\frac{3}{4}$ HOURS

INSTRUCTIONS TO STUDENTS

- a) Write your **Name**, **Admissionnumber**, **School** and **Date** in the spaces provided above.
- b) Answer **ALL** questions in the spaces provided.
- c) You are required to spend the first **15** minutes of **1 $\frac{3}{4}$** hours allowed reading through the paper carefully before commencing your work.
- d) Additional pages must not be inserted.
- e) This paper consists of **4** printed pages
- f) Candidates should answer questions in English.

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	11	
2	14	
3	15	
TOTAL SCORE	40	

1. You are provided with two potato cylinders and solutions labeled **X** and **Y** of different concentrations.

- Place one potato cylinder in solution **X** and another in solution **Y**.
- Leave the set - up for 30 minutes.
- Remove each of the cylinders from solutions **X** and **Y**.
- Press each of the cylinders gently between your fingers and note the texture in each case.

(a)(i) Record the texture of each cylinder in solutions **X** and **Y**.

Solution **X**:..... (1mk)

Solution **Y**: (1mk)

(ii) Account for the observation made for the potato cylinder placed in solution **X**.

(3mks)

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.....
.....

(iii) State the nature of the cells of the cylinder placed in solution **Y**.

(1mk)

.....
(b)(i) What observation would be expected if the potato cylinder were boiled before being placed in the solutions?
(1mk)

.....
(ii) Give an explanation for your answer in b (i) above.
(2mks)

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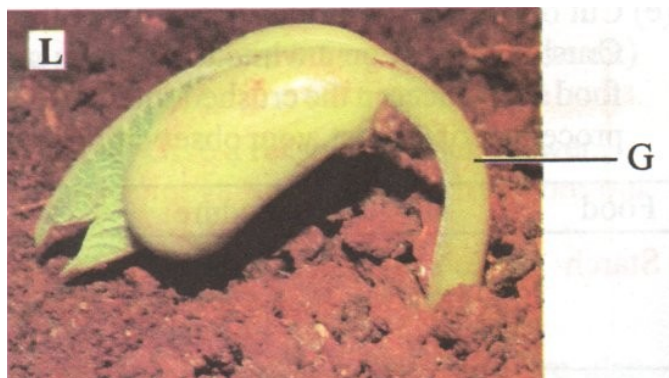
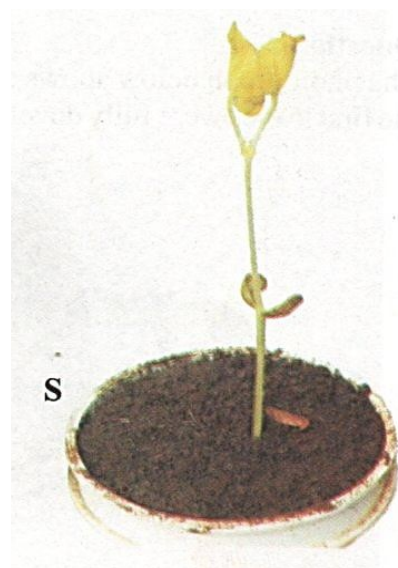
(c) Which potato cylinder is likely to increase in length? (1mk)

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(d) Explain what will happen to the red blood cell when placed in solution **X**.
(1mk)

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2. You are provided with photographs of specimens labeled **L** and **S**. Examine them.



(a) State the conditions under which each set was grown:

Set **L** (1mk)

Set **S** (1mk)

(b)(i) Name the part labeled **G** in specimen **L**. (1mk)

.....

(ii) What is the role of the part named in b(i) above.
(1mk)

.....

(iii) Explain how part **G** straightens to enable the seedling grow upright.
(2mks)

.....

(c) State two functions of the part labeled **M**.

(2mks)

.....

State three differences between seedlings in set **L** and **S**.

(3mks)

	Set L	Set S
(i)		
(ii)		
(iii)		

(d) State the role of the following in germination.

(i) Air

.....(1mk)

(ii) Water

.....

(2mks)

(e) State the biological significance of the phenomenon exhibited by the seedling in set - up **S**.

(1mk)

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3. You are provided with specimens labeled **K** and **L** obtained from the same mammal.

(a)(i) Identify specimens **K** and **L** (2mks)

Specimen **K**:

Specimen **L**:

(ii) State the functions of specimens **K** and **L**.
(2mks)

Specimen **K**:.....

Specimen **L**:

(iii) Give two adaptations of specimen **L** to its function.
(2mks)

.....
.....
.....

(b) Give three differences between specimens **K** and **L**. (3mks)

	Specimen K	Specimen L
(i)		
(ii)		
(iii)		

(c) Draw and label the parts of specimen **K**. (4mks)

(d) Explain how tooth decay occurs.

(2mks)

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