

Name: Adm no
Class.....

231/3
BIOLOGY PP3
FORM THREE
OCT/NOV 2019
TIME: 1³/₄ HOURS

INSTRUCTIONS TO CANDIDATES:

- Answer **ALL** the questions
 - Answers should be written in the spaces provided
1. Take 2 clean test tubes and into each add 5cm³ of dilute hydrogen peroxide. Label the test tubes as **A** and **B**. Cut 2 cubes of irish potato measuring 1cm³ each. Boil one cube in a boiling tube with some water for about 5 minutes. Drop the boiled cube into test tube **A** and un-boiled cube in test tube **B**. State your observations

(a) Test tube **A**

(1mk)

.....
.....

Test tube **B**

(1mk)

.....
Account for your observations in:

Test tube **A**

(1mk)

.....
Test tube **B**

(2mks)

.....
(b) Take a small piece of substance **Z** provided and add to it 2cm³ of sodium hydrogen carbonate.

(i) State your observations

(1mk)

.....
.....

(ii) Which physiological process in the body is illustrated above
(1mk)

.....

(iii) State the part of the body where the process takes place.
(1mk)

.....

(iv) What is the significance of the process
(1mk)

.....

(c) Put 2cm^3 of liquid labelled as **C** into a test tube. Squeeze some juice from specimen **X** into a beaker. Draw some of the juice into a dropper. Add 3 drops of the juice into the test tube with solution **C**.

(i) State your observation.
(1mk)

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(ii) State the part of the human body where the physiological process demonstrated above occurs and the enzyme that carries out the process.
(2mks)

Part of
body.....
Enzyme.....
.....

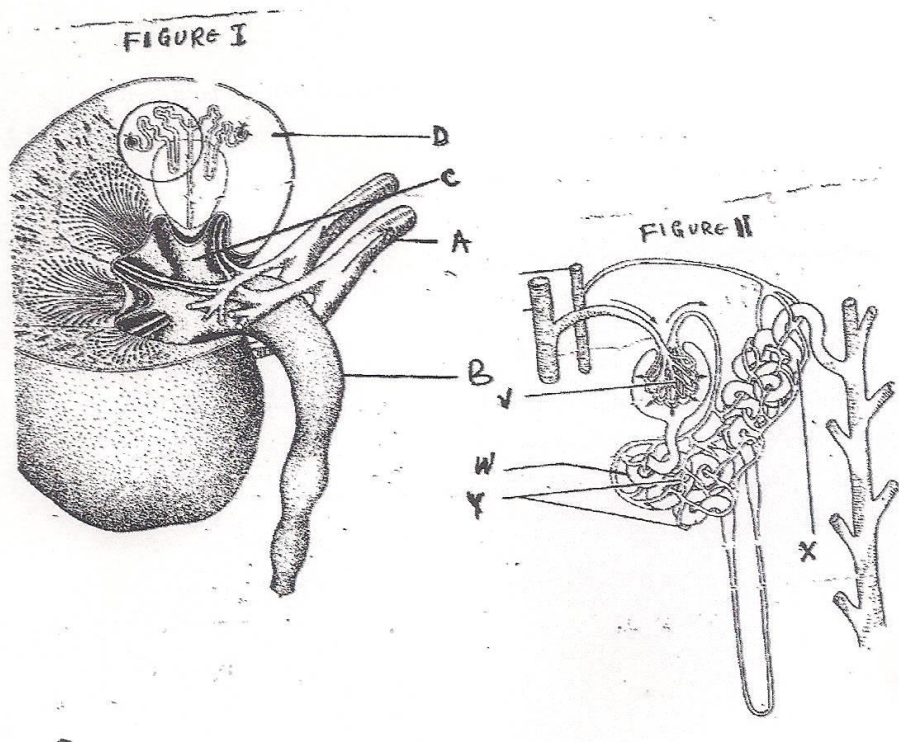
(iii) Which gland produces the enzyme stated in (ii) above.
(1mk)

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....

(iv) Which hormone stimulates the production of the enzyme stated in (ii) above.
(1mk)

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2. Study the kidney diagrams below



a) i) Name the parts labeled **A, B, C** and **D** in figure 1 (4mks)

- A.....
- B.....
- C.....
- D.....

ii) Name the processes that take place in the parts labeled
(2mks)

V.....

X.....

b) State three adaptations of the part labeled W
(3mks)

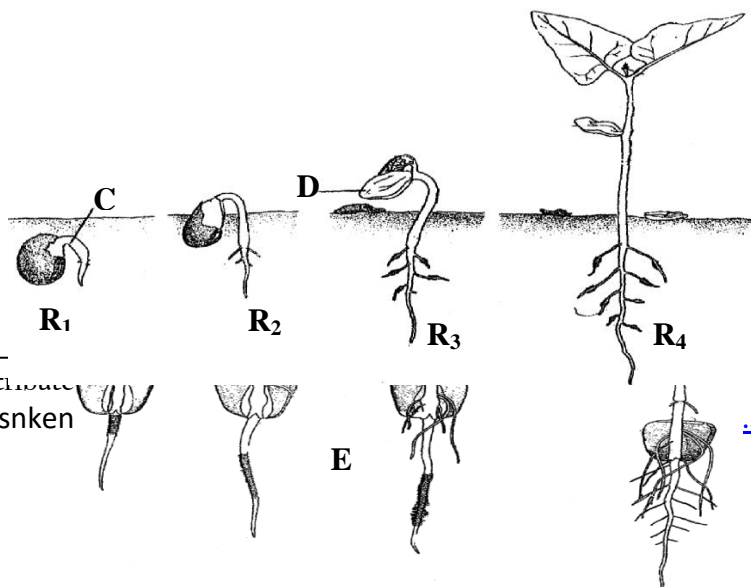
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c) On the diagram name the part where counter current flow occurs
(1mk)

d) State two homeostatic functions of the diagram above
(2mks)

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3. Examine the seedlings below and use them to answer the questions that follow:



(a) Name the parts labeled **C, D, E** and state their importance for the seedling.

C:..... (1mk)

Importance (1mk)

.....
.....

D.....

(1mk)

Importance

(2mks)

.....
.....

(ii) **E**.....

(1mk)

Importance.

(1mk)

.....
.....

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(b) The **R** series of seedlings on the roots later swell in its life:

(i) What is the name of the swelling:

(1mk)

.....
.....

.....

(ii) Name the organisms that would be found in the swellings

(1mk)

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.....

.....

(iii) Explain the relationship that exists between the named organisms and the plant.(1mks)

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(c) (i) State the type of germination exhibited by **R** series of the seedlings.
(1mk)

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.....
.....

(ii) Give a reason for your answer in (c) (i) above.
(1mk)

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

(d) State any **two** external factors necessary for germination.
(1mk)