

BIOLOGY

P553/1

2 ½ Hours

END OF YEAR EXAMS S2.

PAPER 553/1 (THEORY)

Time 2 ½ hours

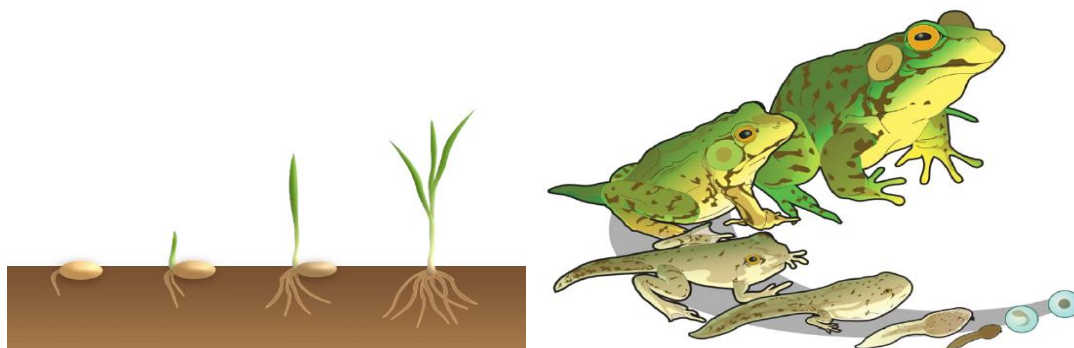
Instructions.

This paper consists of two sections A and B, section A is compulsory

*Select only **two** questions in section B*

SECTION A (60 MARKS)

1. The pictures below show a particular life process in plants and animals. Use them to answer questions that follow.



- a) Which life process is illustrated in the pictures above? (01 mark)

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- b)(i) Give two ways how the life process above is useful to living organisms (02 marks)

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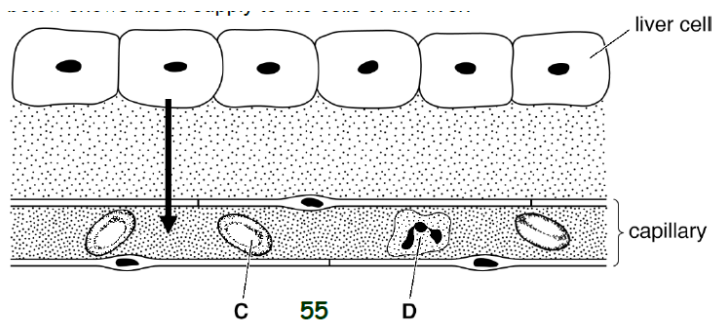
- c) state one way in which the above organisms differ in

- (i) their mode of feeding (01 mark)

(ii) their mode of response to stimuli

(01 mark)

2. When the S1 students obtained the liver of a rabbit to observe the different cells that are found in it, they obtained a section from the microscope as shown below. Use it to answer the questions that follow.



a) (i) Name the cells labeled C and D

(01 mark each)

C.....

D.....

(ii). State how the cell in (i) above are adapted to their functions

(04 marks)

Cell C

Cell D

(iii) Name the organ system to which the cells C and D belong and the tissue through which they move

(02 mark)

Organ system	Tissue
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b) Name one organ as seen from the diagram above (01 mark)




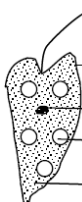
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c) Identify one tissue in plants that serves the same function as the tissue named in a)(iii) above (01 mark)

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3. a) Identify the kingdom to which the following organisms belong with a reason in each case

(08 marks)

Organism	Kingdom	Reason
		
		
		
 <div style="display: inline-block; vertical-align: top; margin-left: 10px;"> <p>Flagellum</p> <p>Cell membrane</p> <p>Nucleus</p> <p>Chloroplast</p> <p>Cytoplasm</p> </div>		

b) state the importance of giving organisms scientific names (02 marks)

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.....

4. State whether the stamen given is **true** or **false** (10 marks)

3 merry chritmass and happy new year ..take care.

i.	Plants have three parts: the root, the stem, and the carbon dioxide	
ii.	Plants can live without water.	
iii.	Roots hold a plant in the ground.	
iv.	Plants and animals produce their own food.	
v.	Stems carry water from the roots to the leaves.	
vi.	Food is made in the leaves of green plants.	
vii.	All leaves look alike.	
viii.	All plants have chlorophyll.	
ix.	Seeds store food.	
x.	Flowering plants produce fruit.	

5. The table below shows characteristic features of insects. Study and answer the questions below

INSECT	WINGS	Head	LEGS	ABDOMEN
P	No wings	Has mandibles Short antennae	Short	Short abdomen
Q	Two wings Transparent membranous	Long antennae Hairy antennae Has a long proboscis	Long legs Slender legs	Long Narrow
R	Four wings Scaly wings	Long antennae Club shaped antennae Has a proboscis that is coiled	Glandular pads Has claws	Long Slightly narrow Covered by hair
S	Two wings Membranous wings	One pair Short antennae Has a blunt proboscis	Has claws Has glandular pads	Has broad abdomen
T	Four wings Thick fore wings	A pair of Long antennae Has mandibles	Posses claws Has an arolium Has spines	<ul style="list-style-type: none"> • Has circi • Flattened abdomen • Broad abdomen

a) Use the information above to draw a flow chart

(04 marks)

b) Construct a dichotomous key of the insects using the above features (06 marks)

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6. state **two useful aspects** and **two harmful aspects** of the following insects and **one** way in which we can control them (05 marks)

Insects	Useful aspects	Harmful aspects	Control
House flies			
Butterflies			

7. In an experiment, two glass tubes were filled with different soil samples **A** and **B**. The glass tubes were placed in a basin of water and left to stand for 5 days. The rise of water column in each soil sample was measured and recorded each day for 5 days as shown in the table below.

Rise if water column in soil samples **A** and **B**

days	Rise of water in column (cm)	
	Soil sample A	Soil sample B
1	12	20
2	16	24
3	32	26
4	37	27
5	38	27

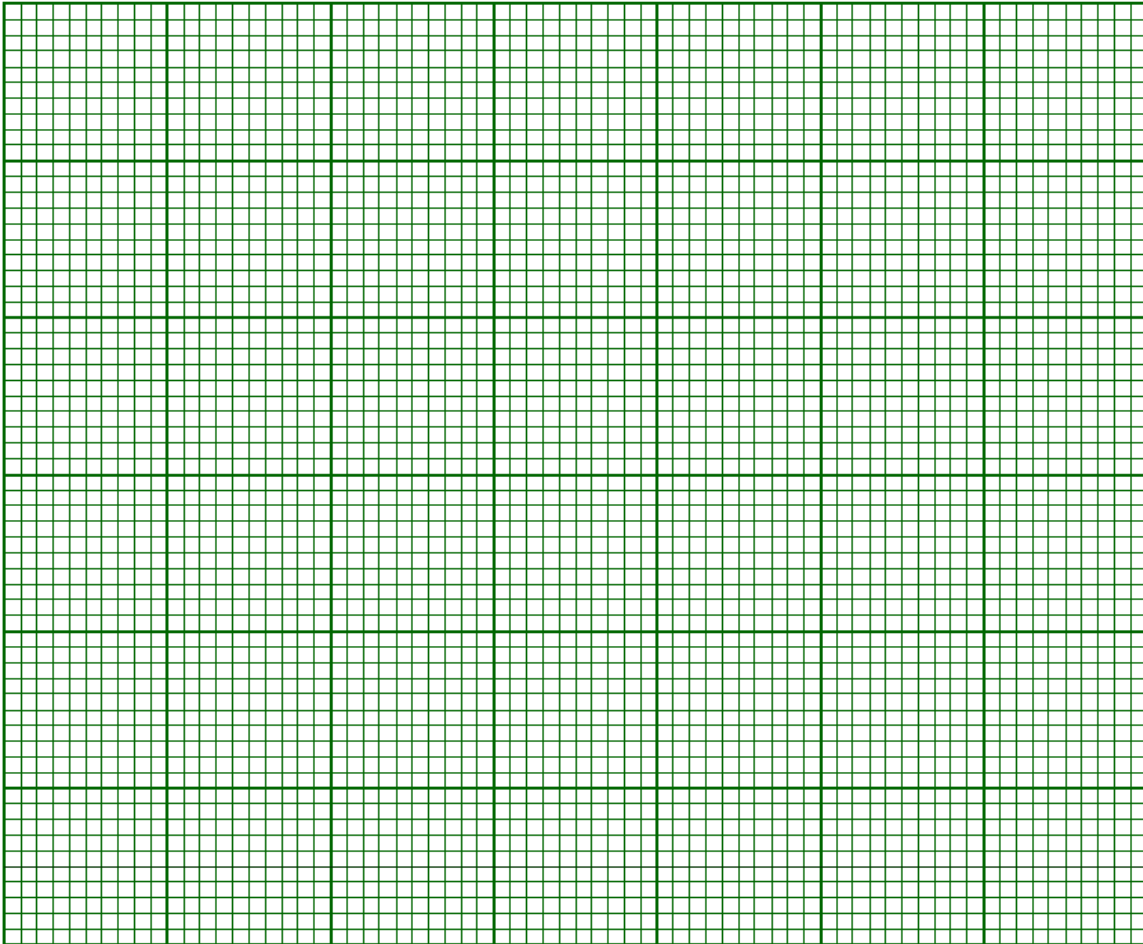
a). what soil factor is being investigated?

(01 mark)

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b) Using the results in the table above, plot a graph showing the rise of water in the two soil samples **A** and **B** against time in days

(06 marks)



c) using the rise of water column on the graph for day 1, suggest with a reason the type of soil samples **A** and **B**. (03 marks)

Soil sample A.

.....

Reason.....

Soil sample B.

.....

Reason.

SECTION B (30 MARKS)

8. a) State **two** primary functions of leaves (02 marks)
b) state how the following plant parts are adapted to their functions
(i) bryophyllum leaf (02 marks)
(ii) irish potato tuber (02 marks)
(iii) roots of mangrove tree. (02 marks)
c). state **three** differences between the following
(i) fern and moss (03 marks)
(ii) Pine and a bean plant (03 marks)
d) Give one reason why pteridophytes are regarded as amphibians of the plant kingdom (01 mark)
9. .a)Mention four indicators of a fertile soil . (04marks)
b) Briefly explain how the following conditions are likely to affect the rate of soil erosion
i) Area with light soils (02 marks)
ii) Hilly areas (02marks)
iii) Soil with much vegetation (02 marks)
c) State five ways how soil fertility can be restored in farmers' soils in Uganda. (05marks)

END