



Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Departement van Onderwys
Porafensie Ya Kapa Botjhabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 11

JUNE 2025

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LIFE SCIENCES

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MARKS: 150

TIME: 2½ hours

This question paper consists of 18 pages.

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. Answer ALL the questions.
2. Write ALL the answers in the ANSWER BOOK.
3. **Start the answers to EACH question at the top of a NEW page.**
4. Number the answers correctly according to the numbering system used in this question paper.
5. Present your answers according to the instructions of each question.
6. Do ALL drawings in pencil and label them in blue or black ink.
7. Draw diagrams, tables or flow charts only when asked to do so.
8. The diagrams in this question paper are NOT necessarily drawn to scale.
9. Do NOT use graph paper.
10. You must use a non-programmable calculator, protractor and a compass, where necessary.
11. Write neatly and legibly

SECTION A**QUESTION 1**

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A- D) next to the question number (1.1.1 to 1.1.10) in your ANSWER SHEET, for example 1.1.11 D.

1.1.1 The products of photosynthesis are ...

- A carbon dioxide and water.
- B water and glucose.
- C glucose and oxygen.
- D oxygen and carbon dioxide.

1.1.2 Mutualistic nitrogen fixing bacteria ...

- A occur in the colon of humans.
- B occur in the nodules of legumes (peas and beans)
- C bring about immunity to disease
- D convert nitrates into nitrogen

1.1.3 What are some positive contributions of invertebrates to farming and the environment?

- A They damage crops, food and clothes, and may poison us if they bite us.
- B They do not have a backbone.
- C They pollinate flowers, make burrows in the soil, turn over soil and fertilize it and help decompose dead plant or animal matter.
- D They prey on species that facilitate growth of agricultural crops.

1.1.4 The reproductive organ in the angiosperms is the ...

- A root.
- B stem.
- C leaf.
- D flower

1.1.5 Photosynthesis in green leaves takes place ...

- A continuously.
- B only during the day.
- C only during the night.
- D only in tissue containing chloroplasts.



1.1.6

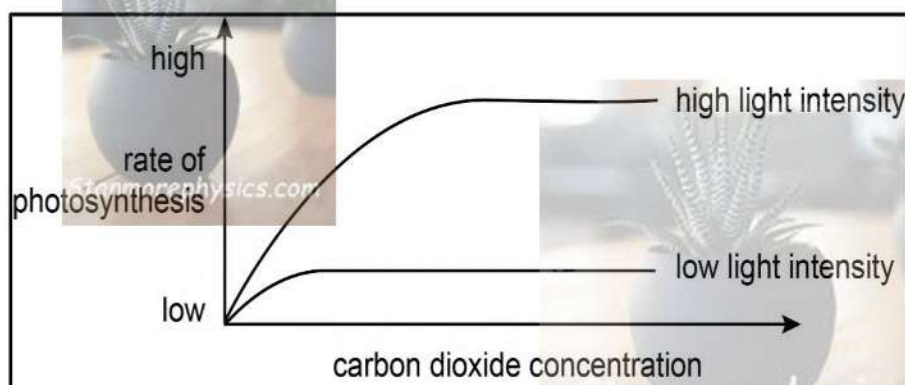
The list below refers to the biological importance of fungi.

- (i) Act as decomposers to return nutrients to the soil
- (ii) Used in breweries to produce alcohol
- (iii) Used in bakeries to make bread
- (iv) Mushroom acts as a food source

Which ONE of the following combinations represents economic importance of the fungi for the country?

- A (i), (ii), (iii) and (iv)
- B (i), (iii) and (iv) only
- C (ii), (iii) and (iv) only
- D (i), (ii) and (iii) only

1.1.7



The graph shows the interaction of two factors that affect the rate of photosynthesis.

Read the following statements:

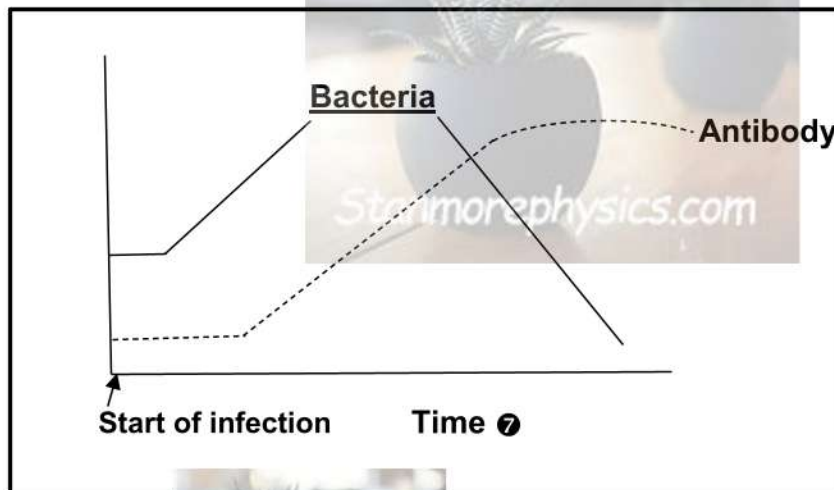
- **Statement 1:** At low light intensity an increase in carbon dioxide concentration will cause an initial increase in the rate of photosynthesis.
- **Statement 2:** An increase in carbon dioxide concentration will result in a higher rate of photosynthesis at a higher light intensity
- **Statement 3:** At high carbon dioxide concentration an increase in light intensity does not change the rate of photosynthesis.

Which combination of the statements correctly describe(s) the relationships shown in the graph?

- A 1, 2 and 3
- B Only 2 and 3
- C Only 1
- D Only 1 and 2



QUESTION 1.1.8 REFERS TO THE GRAPH BELOW SHOWING THE IMMUNE RESPONSE AFTER AN INFECTION BY A BACTERIA.

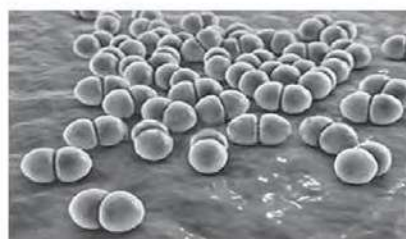


1.1.8 Which ONE of the following is the conclusion that can be made from the graph above?

- A A decrease in bacteria leads to an increase in antibodies
- B When antibodies increase bacteria remains the same
- C An increase in bacteria leads to an increase in antibodies, which then leads to the decrease in bacteria
- D An increase in antibodies leads to an increase in bacteria

1.1.9 Streptococcus bacteria are not motile (they cannot move).

The image below shows a colony of Streptococcus bacterium.



Which ONE of the following is the reason why the Streptococcus bacterium is not capable of movement on its own?

- A It does not have flagella
- B It does not have nucleic acids
- C It does not have ribosomes
- D It does not have cell wall

1.1.10

Learners did an investigation to determine the number of people suffering from tuberculosis in the community. Below is the procedure (not in order) used for the investigation.

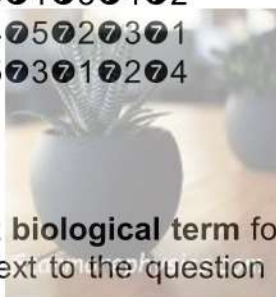


They:

1. Went to the clinic to get information on the number of people treated for tuberculosis per month
2. Made a conclusion based on their results
3. Drew up a table to record their results
4. Analysed the results and represented the information in graphs
5. Planned how they were going to carry out the investigation

Which ONE of the following is the correct sequence of the steps of the procedure done during the investigation?

- A 1 2 3 4 5
 B 5 1 3 4 2
 C 4 5 2 3 1
 D 5 3 1 2 4



(10 x 2)
(20)

1.2

Give the correct **biological term** for each of the following descriptions. Write only the term next to the question number (1.2.1 to 1.2.8) in your ANSWER SHEET.

- 1.2.1 The collective name for disease-causing micro-organisms
- 1.2.2 The type of reproduction in bacteria where the organism splits into two
- 1.2.3 A plant body with no true roots, stem or leaves
- 1.2.4 The presence of a definite head that contains sense organs in animals
- 1.2.5 The kingdom to which bacteria belong
- 1.2.6 The removal of undigested waste from the body
- 1.2.7 The organelle in which the process of cellular respiration takes place
- 1.2.8 The flap-like structure which prevents food from entering the trachea in the pharynx

(8 x 1) (8)

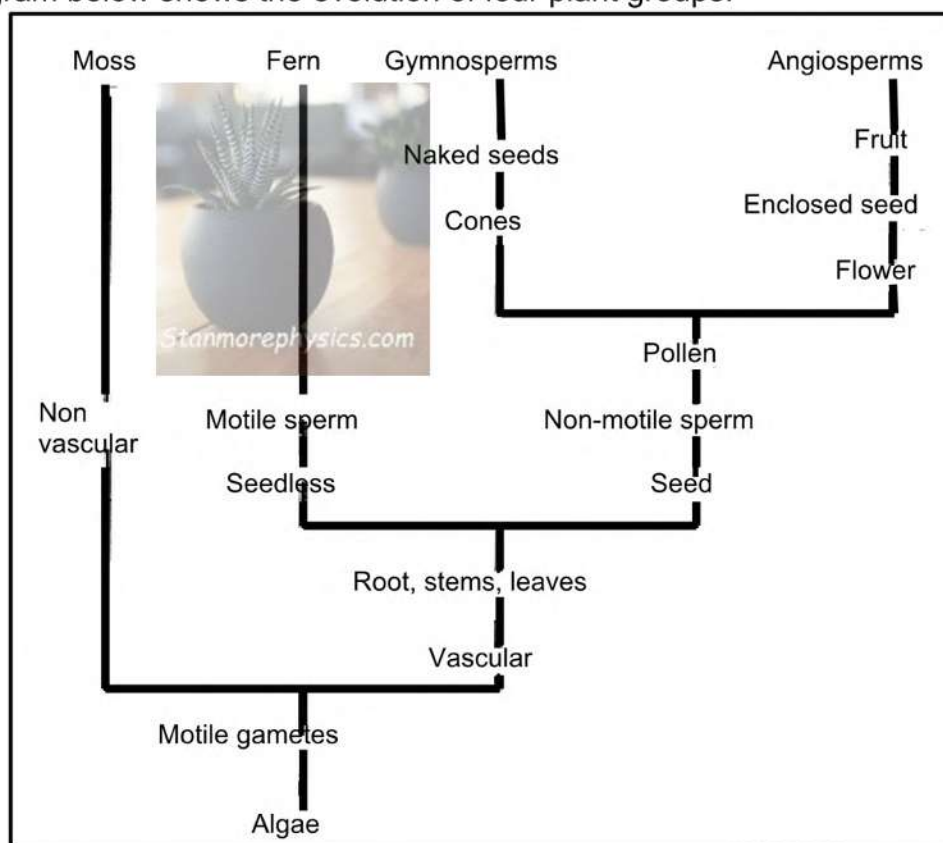
- 1.3 Indicate whether each of the statements in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A AND B** or **NONE** of the items in COLUMN II. Write **A only**, **B only**, **both A and B**, or **none**, next to the question number (1.3.1 to 1.3.3) in the ANSWER SHEET.

	COLUMN I		COLUMN II
1.3.1	An organism containing cells that have a membrane-bound nucleus	A:	Prokaryote
		B:	Eukaryote
1.3.2	The conditions needed for the optimum growth of fungi	A:	Moist
		B:	Dark
1.3.3	The body has jointed appendages and an exoskeleton.	A:	Arthropoda
		B:	Chordata

(3 x 2)

(6)

- 1.4 The diagram below shows the evolution of four plant groups.

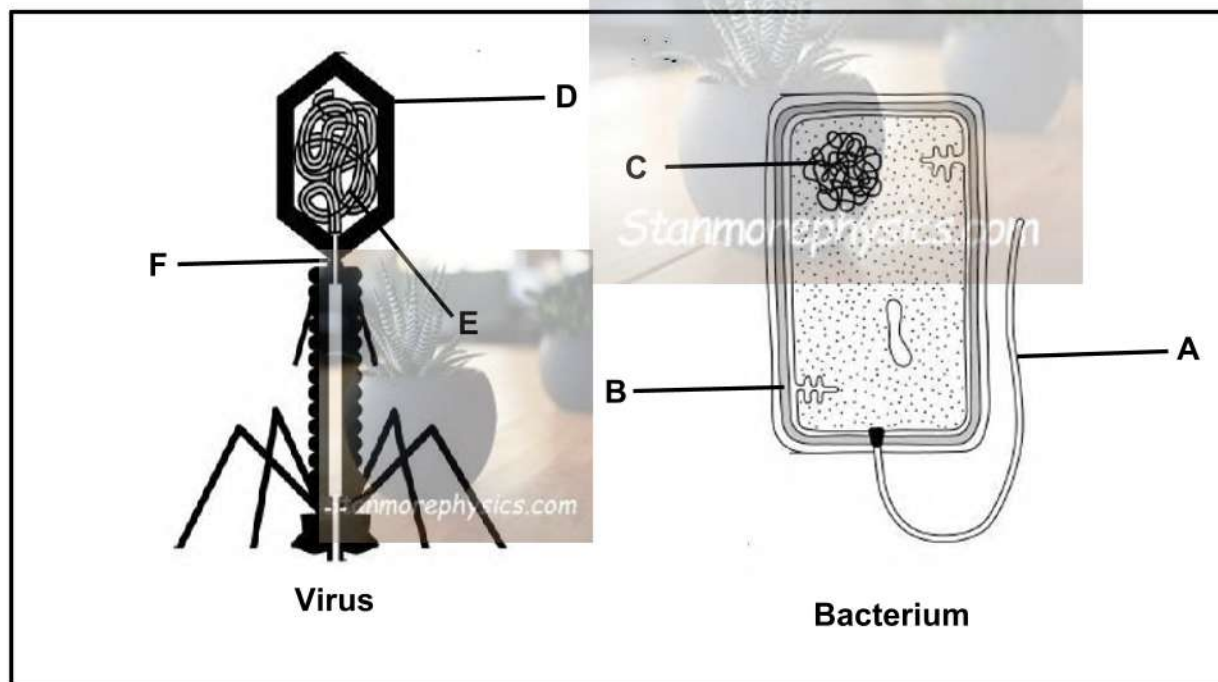


- 1.4.1 Name the type of diagram shown above. (1)
- 1.4.2 Identify the common ancestor for all four plant groups. (1)
- 1.4.3 Which TWO plant groups: (2)
- (a) Produce pollen (2)
 - (b) Have sperm that are non-motile (2)
- 1.4.4 Which group of plants cannot survive outside water? (1)



- 1.4.5 Give ONE characteristic from the diagram that support your answer in QUESTION 1.4.4. (1)
- 1.4.6 Which plant group is more closely related to the gymnosperms? (1)
- 1.4.7 In which plant group does the ferns belong to? (1)
- (10)**

1.5 The diagrams below show the structure of a virus and a bacterium.



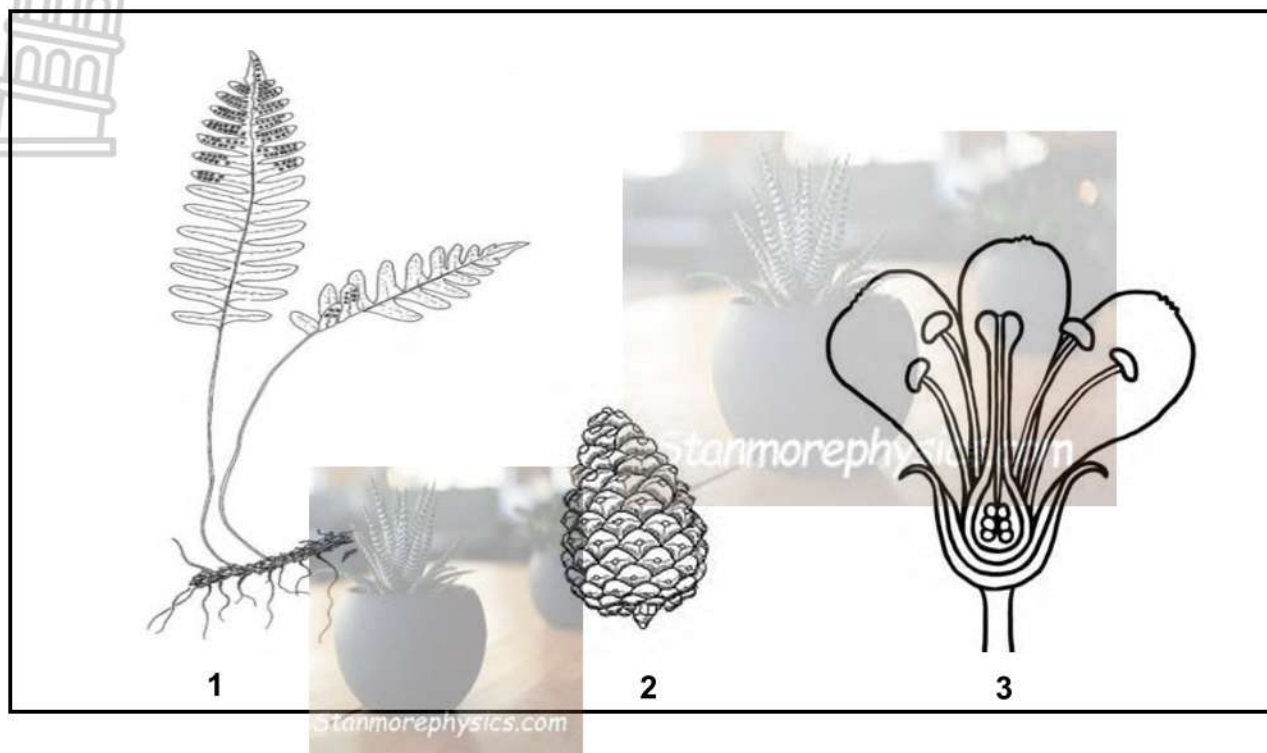
- 1.5.1 Identify part:
- (a) **A** (1)
- (b) **D** (1)
- (c) **E** (1)
- 1.5.2 Give LETTERS of the parts that contain genetic information. (2)
- 1.5.3 Give the name of the virus represented in the diagram. (1)
- (6)**

TOTAL SECTION A: 50

SECTION B

QUESTION 2

2.1 The diagrams below show the structures of different plant groups/divisions.



2.1.1 Give the scientific name of the plant group represented by diagram:

(a) 1 (1)

(b) 3 (1)

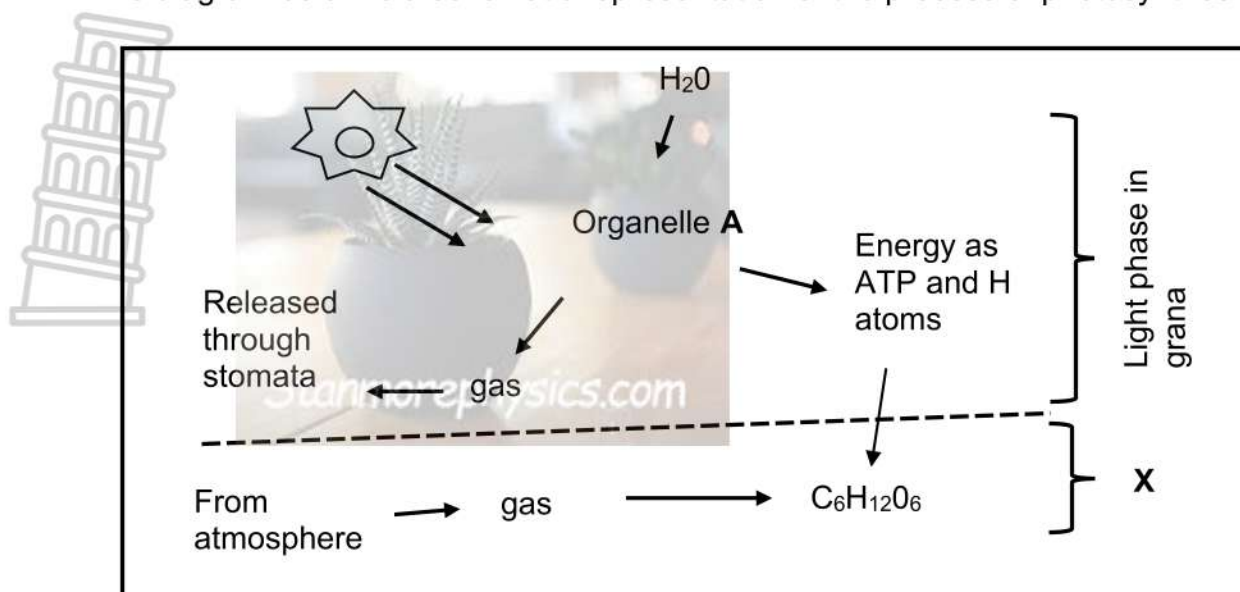
2.1.2. Name the reproductive structure in the diagram representing plant group 2. (1)

2.1.3 Explain why plant group 3 are more dominant on earth than plant group 2. (2)

2.1.4 Explain ONE way in which plant group 1 is structurally suited to survive on land. (2)

(7)

2.2 The diagram below is a schematic representation of the process of photosynthesis.



2.2.1 Identify organelle A:

(1)

2.2.2 Name:

(a) The phase represented by X

(1)

(b) The part of organelle A in which the phase in QUESTION

2.2.3.(a) takes place

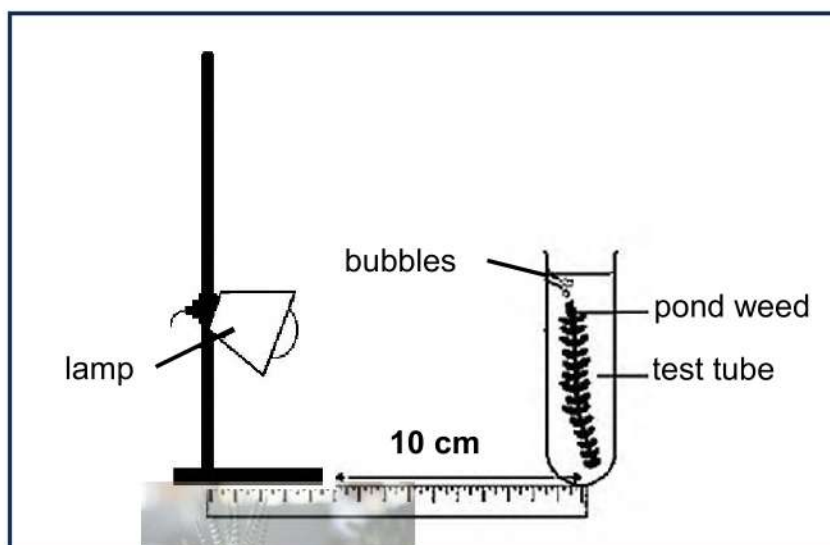
(1)

2.2.4 Explain THREE effects on living organisms if photosynthesis does not occur.

(6)

(9)

2.3 A student investigated the effect of light intensity on the rate of photosynthesis.



The procedure was as follows:

- Set up the apparatus as shown in the diagram above
- Placed the lamp 10cm from the test tube
- Counted and recorded the number of bubbles produced in five minutes
- Repeated the procedure with the lamp at a distance of 20cm and 30cm away from the test tube
- Repeated the investigation three times at each distance
- Calculated the average number of bubbles produced at each distance The results of the investigation are shown in the table below.

Distance (cm)	Number of bubbles			
	Test 1	Test 2	Test 3	Average
10	42	37	44	41
20	23	24	22	X
30	10	11	12	11

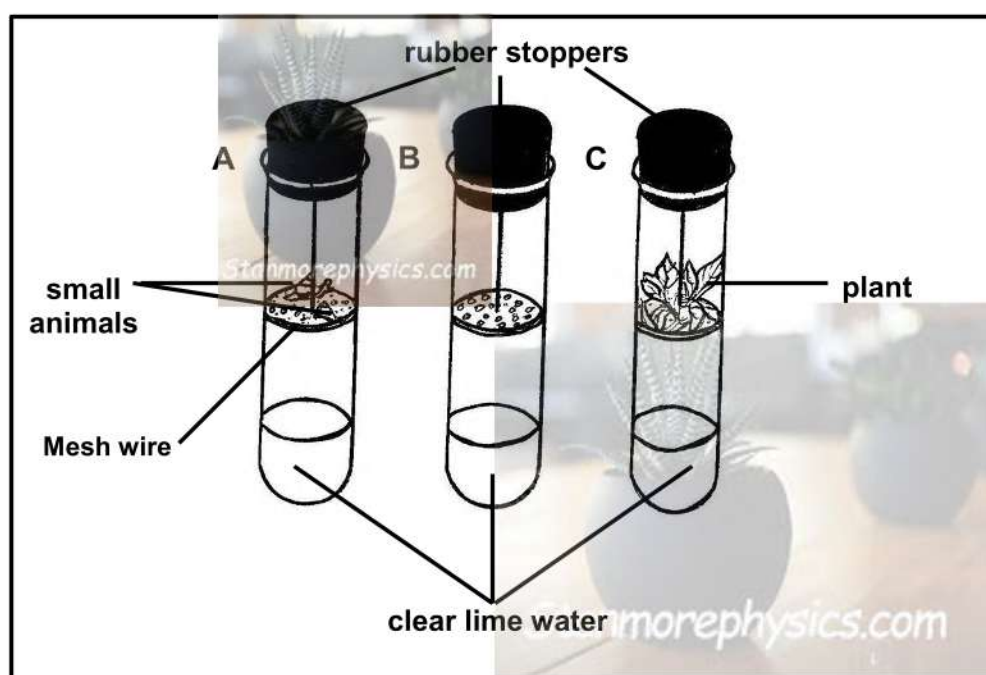
- 2.3.1 Name the gas represented by the bubbles produced during this investigation. (1)
- 2.3.2 Identify the dependent variable in this investigation. (1)
- 2.3.3 Describe how was the dependent variable measured in this investigation. (1)
- 2.3.4 State THREE variables that should be kept constant to improve the results. (3)

- 2.3.5 Calculate the average number of bubbles at X. (2)
- 2.3.6 Give a conclusion about the effect of light intensity on the rate of photosynthesis. (2)
- 2.3.7 Draw a bar graph to show the average number of bubbles formed at each distance. (6)

(16)

2.4 The diagram below represents the apparatus used in an investigation to determine if carbon dioxide is released during respiration. The lime water was used to test for the presence of carbon dioxide. If it remains clear, there is no carbon dioxide present. If the lime water turns milky, this indicates the presence of carbon dioxide. A mesh wire (solid wire which has very small holes) was placed above the lime water.

All the apparatus was kept in the dark.



2.4.1 Name the stage during normal respiration when carbon dioxide is released. (1)

2.4.2 State the aim of the investigation. (2)

2.4.3 In this investigation, state:

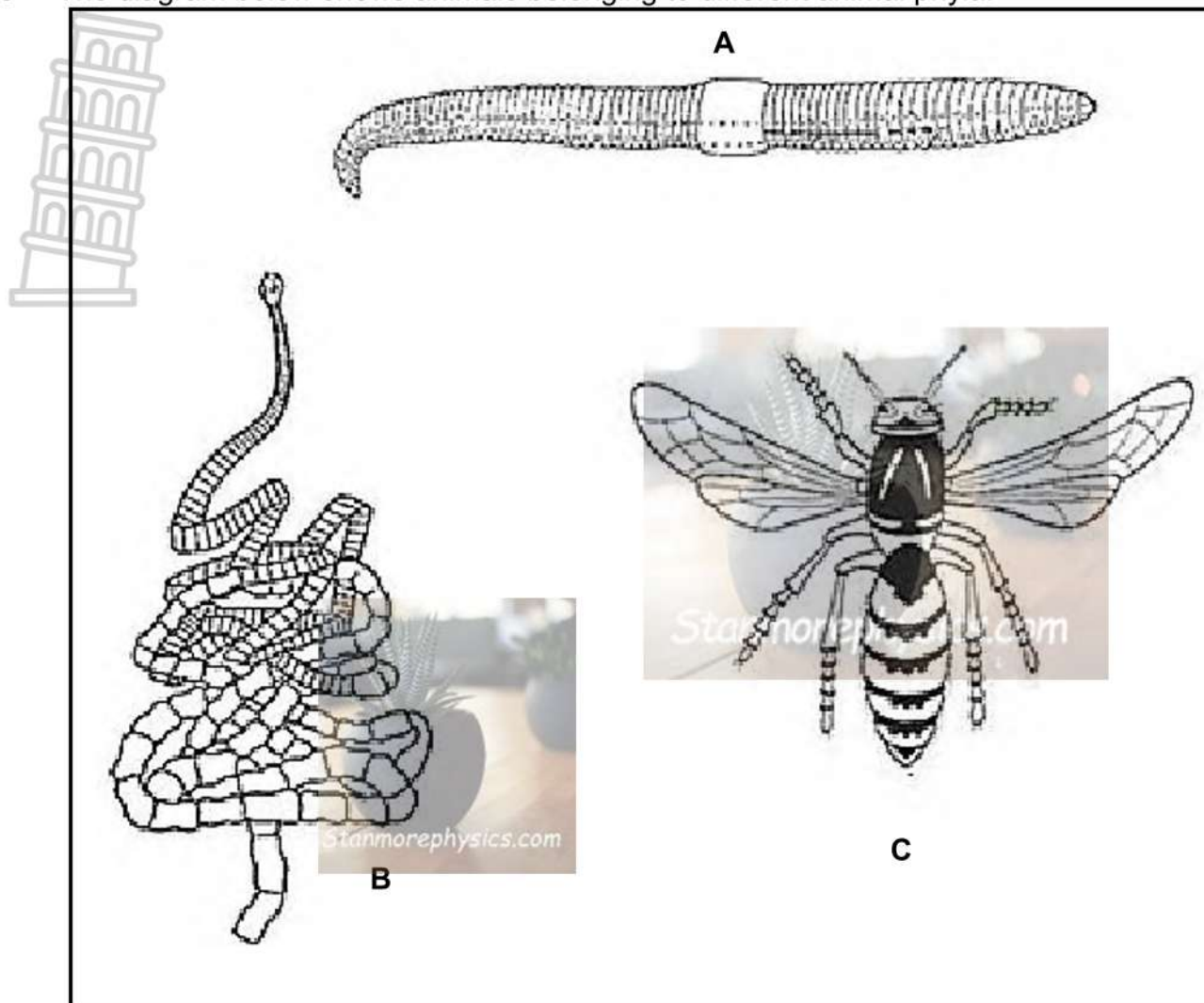
(a) The purpose of the clear lime water (1)

(b) TWO reasons for using a mesh wire (2)

2.4.4 Tabulate the expected results for the investigation. (4)

(10)

2.5 The diagram below shows animals belonging to different animal phyla.



2.5.1 Give the LETTER and NAME of an organism that is classified under Platyhelminthes in the diagram. (2)

2.5.2 Explain:

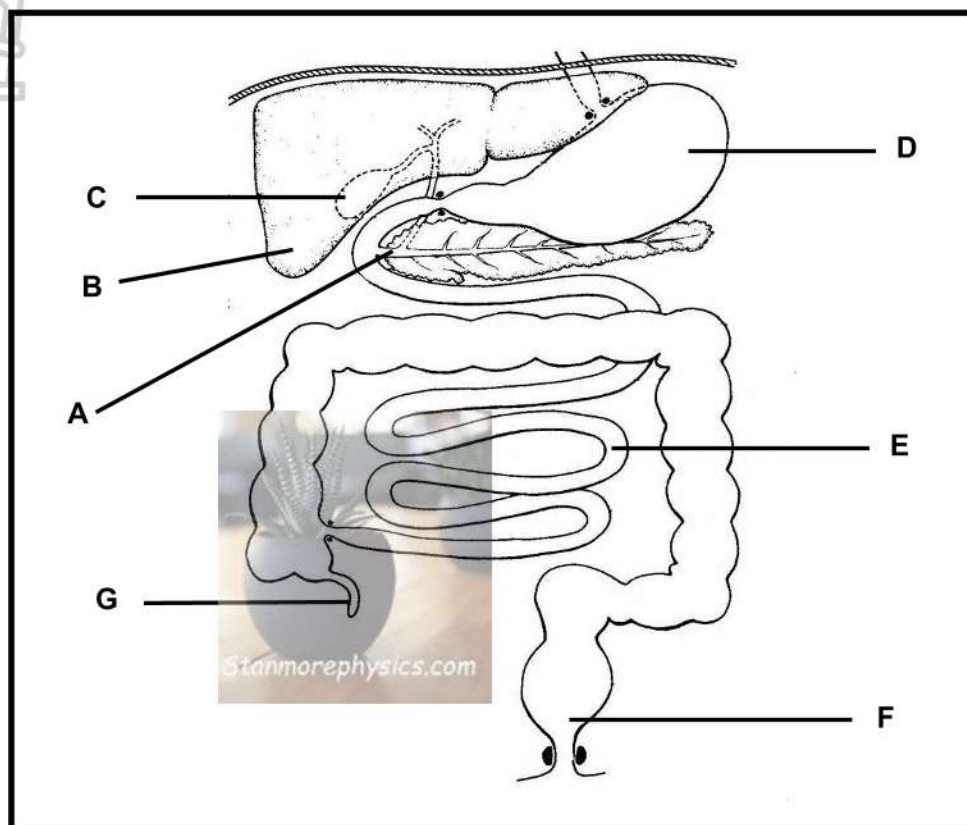
(a) ONE way in which animal **A** is important in agriculture (3)

(b) How animal **C** is important in an ecosystem (3)

(8)
[50]

QUESTION 3

3.1 The diagram below represents a part of a human digestive system.



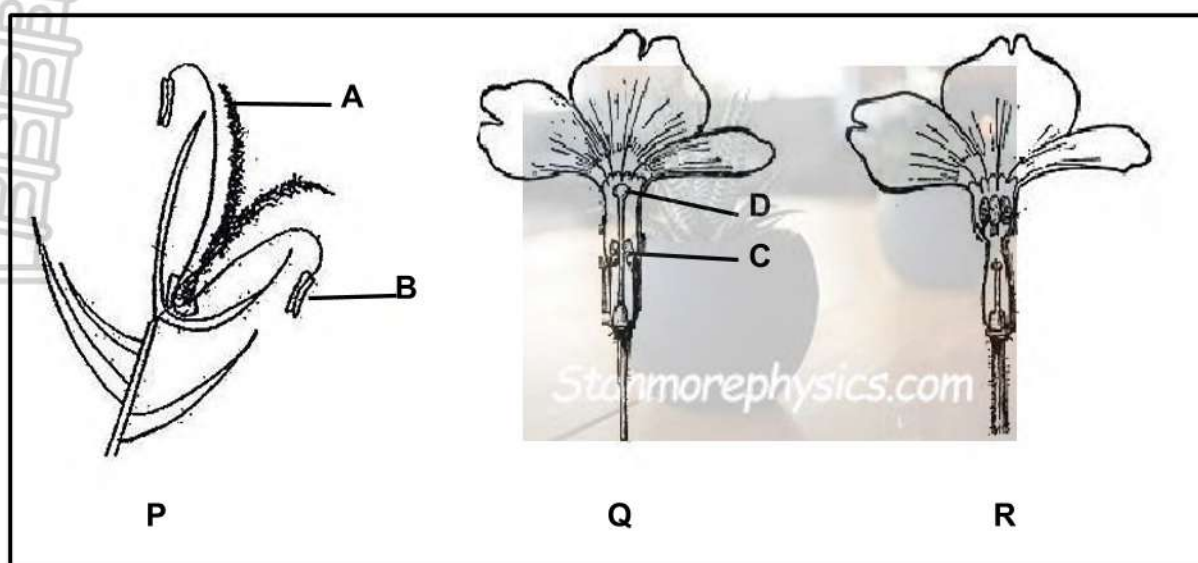
3.1.1 Identify part:

- (a) **B** (1)
- (b) **F** (1)
- (c) **A** (1)

3.1.2 State ONE function of part **C**. (1)

3.1.3 Explain TWO ways in which part **E** is structurally suited for its function. (4)
(8)

3.2 The diagrams below represent flowers adapted to different pollinators.



3.2.1 State ONE function of part **D**. (1)

3.2.2 Identify part: (1)

(a) **A** (1)

(b) **D** (1)

3.2.3 Which flower **P**, **Q** or **R**, is pollinated by wind? (1)

3.2.4 Give TWO visible reasons for your answer in QUESTION 3.2.3. (2)

3.2.5 Explain the significance of the arrangement of the anthers (part **C**) and part **D**. (3)
(9)

3.3 Read the extract below.

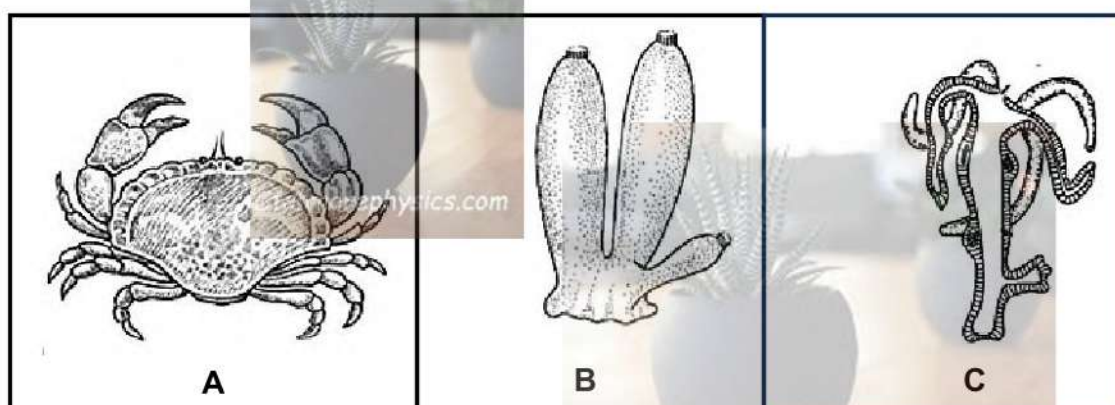
Malaria is a disease caused by a protozoon called *Plasmodium*. It lives in the blood and liver of an infected person. Malaria can kill but more often it causes the victim to suffer from high fever, vomiting and severe headaches.

3.3.1 Give ONE symptom of malaria. (1)

3.3.2 Explain why a disease like malaria has influence on the economy of the country. (3)

3.3.3 Suggest THREE control measures that can prevent people been bitten by mosquitoes and contracting malaria. (3)
(7)

3.4 The diagrams below show three different types of animals that belong to three different phyla.



3.4.1 Identify the phylum to which animal **A**, **B** and **C** belong. (3)

3.4.2 Arrange the animals in the correct order from the most primitive to the most developed. (2)

3.4.3 Which animal(s) has/have the following characteristics?

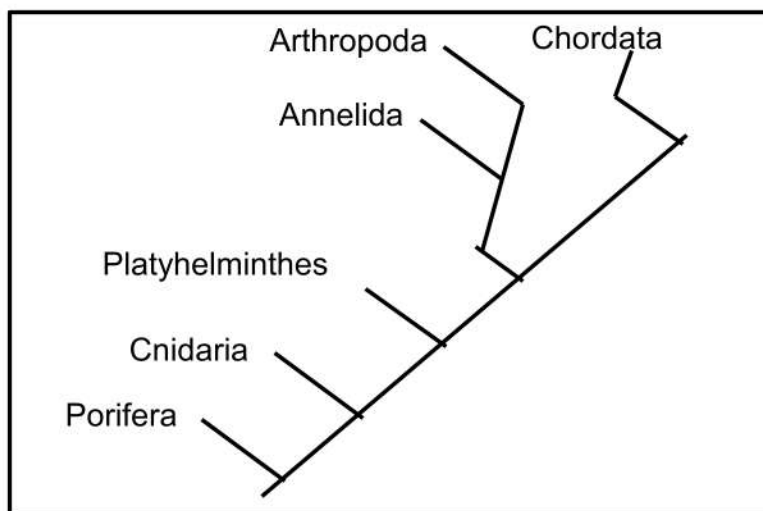
(a) No gut (1)

(b) Cephalisation (1)

(c) Radially symmetrical (1)

(8)

3.5 The diagram below shows the relationships between different animal phyla.



3.5.1 Which animal phylum shares the most recent common ancestor with the Annelida?

(1)

3.5.2 Name the animal phyla possess the following characteristics with respect to their body plan:

(a) Coelom

(1)

(b) Segmentation

(1)

(c) Vertebral column

(1)

3.5.3 Explain ONE importance of the coelom

(2)

3.5.4 Describe ONE way in which the coelom of the Annelida is different to Arthropoda

(2)

3.5.5 Which class of Arthropoda is mainly involved in the pollination process?

(1)

3.5.6 What role does this group play in the pollination process?

(2)

(11)

3.6 A learner ran for fourteen minutes around a sport field.

The table below shows data about the concentration of lactic acid in his blood.

Time from start of exercise (min)	Concentration of lactic acid in blood (mg/100 cm ³)
0	4
2	15
4	29
6	44
8	42
10	22

3.6.1 Calculate the percentage increase of lactic acid concentration from 0 to 6 minutes. (3)

3.6.2 Explain why there is an increase in lactic acid concentration during the exercise. (3)

3.6.3 The same type of respiration occurs in yeast cells. Name the ONE product of this type of respiration in yeast cells. (1)

(7)

[50]

TOTAL SECTION B: 100

GRAND TOTAL: 150



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GRADE 11

JUNE 2025

LIFE SCIENCES

AMMENDED MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 11 pages.

PRINCIPLES RELATED TO MARKING LIFE SCIENCES

1. **If more information than marks allocated is given**
Stop marking when the maximum mark is reached and put a wavy line and 'max' in the right-hand margin.
2. **If, for example, three reasons are required and five are given**
Mark the first three irrespective of whether all or some are correct/incorrect.
3. **If the whole process is given when only part of it is required**
Read all and credit relevant part.
4. **If comparisons are asked for and descriptions are given**
Accept if differences/similarities are clear.
5. **If tabulation is required but paragraphs are given**
Candidates will lose marks for not tabulating.
6. **If diagrams are given with annotations when descriptions are required**
Candidates will lose marks.
7. **If flow charts are given instead of descriptions**
Candidates will lose marks.
8. **If sequence is muddled and links do not make sense**
Where sequence and links are correct, credit. Where sequence and links are incorrect, do not credit. If sequence and links become correct again, resume credit.
9. **Non-recognized abbreviations**
Accept if first defined in answer. If not defined, do not credit the unrecognized abbreviation but credit the rest of answer if correct.
10. **Wrong numbering**
If the answer fits into the correct sequence of questions but the wrong number is given, it is acceptable. Indicate that the candidate's numbering is wrong.
11. **If language used changes the intended meaning**
Do not accept.
12. **Spelling errors**
If recognizable accept provided it does not mean something else in Life Sciences or if it is out of context.
13. **If common names are given in terminology**
Accept, provided it was accepted at the Provincial Marking Guideline Discussion Meeting Constitution.

14. **If only a letter is asked for and only name is given (and vice versa)**
No credit.
15. **If units are not given in measurements**
The marking guideline will allocate marks for units separately, except where it is already given in the question.
16. Be sensitive to the **sense of an answer, which may be stated in a different way.**
17. **Caption**
Credits will be given for captions to all illustrations (diagrams, graphs, tables, etc.) except where it is already given in the question.
18. **Code-switching of official languages (terms and concepts)**
A single word or two that appears in any official language other than the learners' assessment language used to the greatest extent in his/her answers should be credited, if it is correct. A marker that is proficient in the relevant official language should be consulted. This is applicable to all official language

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SECTION A

QUESTION 1

- | | | | | |
|-----|--------|-----------------------------|----------|-------------|
| 1.1 | 1.1.1 | C✓✓ | | |
| | 1.1.2 | B✓✓ | | |
| | 1.1.3 | C✓✓ | | |
| | 1.1.4 | D✓✓ | | |
| | 1.1.5 | B✓✓/D | | |
| | 1.1.6 | C✓✓ | | |
| | 1.1.7 | D✓✓ | | |
| | 1.1.8 | C✓✓ | | |
| | 1.1.9 | A✓✓ | | |
| | 1.1.10 | B✓✓/D | (10 x 2) | (20) |
| 1.2 | 1.2.1 | Pathogens✓ | | |
| | 1.2.2 | Binary fission✓ | | |
| | 1.2.3 | Thallus✓ | | |
| | 1.2.4 | Cephalisation✓ | | |
| | 1.2.5 | Monera✓ | | |
| | 1.2.6 | Egestion✓/defaecation | | |
| | 1.2.7 | Mitochondrion✓/mitochondria | | |
| | 1.2.8 | Epiglottis✓ | (8 x 1) | (8) |
| | 1.3.1 | B only✓✓ | | |
| | 1.3.2 | Both A and B✓✓ | | |
| | 1.3.3 | A only✓✓ | (3 x 2) | (6) |

1.4	1.4.1	(a) Flagellum✓	(1)
		(b) Protein coat✓/capsid/ Head	(1)
		(c) Nucleic acid✓/DNA/ RNA	(1)
	1.4.2	C ✓ E✓	(2)
	1.4.3	Bacteriophage✓	(1)
			(6)
1.5	1.5.1	Phylogenetic tree✓/cladogram.	(1)
	1.5.2	Algae✓.	(1)
	1.5.3	(a) - Gymnosperms✓ - Angiosperms✓ (Mark first TWO only)	(2)
		(b) - Gymnosperms✓ - Angiosperms✓	(2)
	1.5.4	Moss✓/Bryophytes	(1)
	1.5.5	Non-vascular✓.	(1)
	1.5.6	Angiosperms✓	(1)
	1.5.7	Pteridophytes✓	(1)
			(10)

TOTAL SECTION A: 50

SECTION B
QUESTION 2

- 2.1 2.1.1 (a) Pteridophytes✓ (1)
 (b) Angiosperms✓ (1)

2.1.2 Cone✓ (1)

- 2.1.3 - Angiosperm seeds are enclosed in fruits✓
 which provides better protection and variety of dispersal
 methods✓
 (Gymnosperms have naked seeds, usually on cones which are
 more vulnerable to environmental stress and less efficient
 dispersal.)
 - Flowers attract pollinators✓
 which leads to more efficient pollination✓ compared to wind
 pollination in gymnosperms
 - Double fertilisation results in the formation of both an embryo✓/and
 nutrient-rich endosperm,
 promoting seed development and early growth success✓
 - Angiosperms generally grow and reproduce faster✓ /have a faster
 life cycle
 allowing them to colonise environment quickly✓ and outcompete
 slower growing gymnosperms.
 - Angiosperms show incredible diversity in form, size and habitat✓
 allowing them to thrive in nearly every terrestrial ecosystem✓
 (Gymnosperms are mainly limited to a specific niche (e.g. cold or
 dry regions) and have much lower species diversity.)

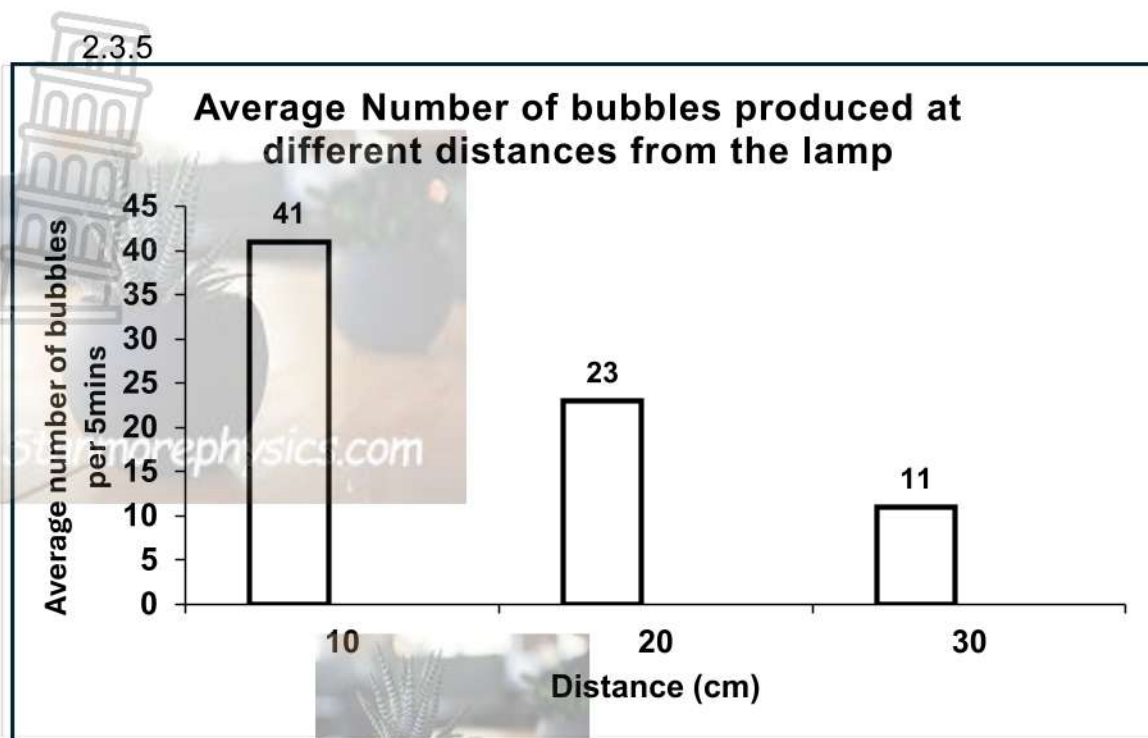
Any (1 x 2) (2)

(Mark first ONE only)

- 2.1.4 - Has vascular tissue✓/ xylem/ phloem
 to transport water✓/food
 - Have true roots✓
 that anchor them and absorb water and nutrients✓
 - Have a waxy cuticle ✓ on their leaves and stems
 that prevents water loss✓
 - Have stomata✓
 which can open and close to prevent water loss✓ Any (1 x 2) (2)

(Mark first ONE only) (7)

- 2.2 2.2.1 Chloroplast✓ (1)
- 2.2.2 (a) Light independent phase✓/ Dark phase/Calvin cycle (1)
- (b) Stroma✓ (1)
- 2.2.3 - No food will be produced✓, and this leads to increased competition and starvation✓.
 - No oxygen will be released✓ which lead to death of all organisms✓. (Mass extinction)
 - Increased(high) levels of CO₂✓ in the atmosphere will lead to global warming✓ and eventually climate change. Any (3 x 2) (6)
- (Mark first THREE only)** (9)
- 2.3.1 Carbon dioxide✓ (1)
- 2.3.2 Rate of photosynthesis✓ (1)
- 2.3.3 Counting the number of bubbles produced in five minutes✓ (1)
- 2.3.4 - Temperature✓
 - Amount of carbon dioxide✓
 - Amount of water✓
- (Mark first THREE only)** (3)
- 2.3.3 = $\frac{23+24+22}{3}$ ✓ (2)
- = 23✓
- 2.3.4 As the light intensity decreases the rate of photosynthesis decreases✓✓ (2)



Criteria for assessing the graph

CRITERIA	ELABORATION	MARKS
Correct type of graph (T)	Bar graph drawn	1
Caption of graph (C)	Both variables included	1
Axes Labels (S)	X- and Y-axes correctly labelled with units	1
Scale for X- and Y-axis (S)	<ul style="list-style-type: none"> - Equal space and width of bars for X-axis and - Correct scale for Y-axis 	1
Plotting of co-ordinates (P)	<ul style="list-style-type: none"> - 1 to 2 co-ordinates plotted correctly - All 3 co-ordinates plotted correctly 	1 2

2.4.1 Krebs Cycle✓ (1)

2.4.2 To determine if carbon dioxide is released during respiration✓✓ (2)

2.4.3 (a) To test for the presence of carbon dioxide✓/CO₂ (1)

(b) - Allow gases to pass through✓
 - To separate lime water from the organisms✓ (2)

2.4.4 ✓(table)

Test Tube	Result
A	Milky✓
B	Clear✓
C	Milky✓

(4)
 (10)



2.5.1

B✓ - Tapeworm✓

(2)

- (a)
- Decomposition✓ of dead organisms leads to the
 - formation of humus✓ that
 - improves the structure and texture of the soil✓ / increases the water retention capacity of the soil/ increases the fertility of the soil/ cause the recycling of nutrients in the soil.

OR

- Burrowing into the soil leads better aeration✓ of the soil that
- increases the oxygen supply ✓ to the cells of root
- promoting better root growth✓ / prevent rotting of the root system/ better absorption of nutrients and water.

(3)

- (b)
- Organism C causes pollination✓ of flowers and
 - increases the rate of fertilisation✓
 - leading to increased food production✓

OR

- Organism C serves as a source of food✓ for
- Other organisms in the food chain✓ (e.g. birds) / transfer of energy flow to the higher trophic levels/that
- Increases the chances of their survival✓

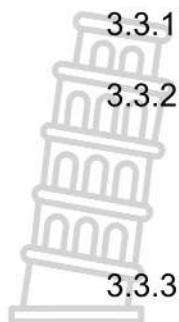
(3)

(8)

[50]

QUESTION 3

- 3.1 3.1.1 (a) Liver✓ (1)
- (b) Rectum✓ (1)
- (c) Pancreas✓ (1)
- 3.1.2 Stores bile✓ (1)
- 3.1.3
- It is (6m) long✓/coiled to increase digestion /absorption✓
 - Has villi✓/ transverse folds To increase the surface area for absorption✓
 - Walls are moist✓ for the nutrients to dissolve during diffusion✓
 - Walls are thin✓ to facilitate easy diffusion✓
- (Mark first TWO only) Any (2 x 2) (4)
- 3.2.1 Receive pollen✓ (1)
- 3.2.2 (a) Stigma✓ (1)
- (b) Anther✓ (1)
- 3.2.3 p✓ (1)
- 3.2.4
- The stigma is exposed✓
 - Anthers are exposed✓
 - Long, flexible filaments✓
 - Large hairy stigma✓
- Any (2)
- 3.2.5 **The anther is at the top and the stigma is lower✓**
- Insects such as bees collect nectar at the base of the ovary✓
 - they receive pollen on their bodies which brush against the anthers✓
 - When visiting other flowers, they pollinate stigmas at the same height as the anthers from which the pollen was collected✓
 - -pollen is transferred from flower R to flower Q✓ and vice versa
- 1 compulsory mark + ANY 2** (3)
- (9)



	3.3.1	High fever/✓ Vomiting/Severe headaches		(1)
	3.3.2	<ul style="list-style-type: none"> - People cannot go to work, become sick or die✓ - leading to loss of income✓ - treatment of malaria is expensive✓ - Most developing countries won't afford✓ 	Any	(3)
	3.3.3	<ul style="list-style-type: none"> - Use of mosquito nets✓ - use of spray insecticides to eliminate the vector mosquitos✓ - Use of prophylactic medication✓ - Vaccinate before visiting malarial area✓ 	Any	(3)
				(7)
3.4	3.4.1	A- Arthropoda✓ B- Porifera✓ C- Cnidaria✓		(3)
	3.4.2	B → C → A✓✓.		(2)
	3.4.3	(a) B✓		(1)
		(b) A✓		(1)
		(c) C✓		(1)
				(8)
	3.5.1	Arthropoda✓		(1)
	(a)	Annelida/✓ Arthropoda/Chordata (Mark first ONE only)	Any	(1)
	(b)	Annelida/✓ Arthropoda (Mark first ONE only)	Any	(1)
	(c)	Chordata✓. (Mark first ONE only)	Any	(1)
	3.5.3	<ul style="list-style-type: none"> - It separates the gut from the body wall✓ - Allowing for more extensive growth of organs and systems✓ 		(2)
	3.5.4	<ul style="list-style-type: none"> - Coelom in Arthropods is reduced and contain haemocoels ✓. - Coelom in Annelids contain coelomic fluid ✓. 		(2)
	3.5.5	Insecta✓		(1)
	3.5.6	<ul style="list-style-type: none"> - Insects act as pollinators✓ - by transferring pollen from the anther to the stigma of a flower✓ 		(2)
				(11)

3.6 3.6.1 $= \frac{44-4}{4} \times 100$
 $= 1\,000\%$ (3)



- 3.6.2
- Muscles do not get enough oxygen to keep up with the energy demand ✓
 - The body shifts to anaerobic respiration ✓ where
 - glucose is converted into energy without oxygen ✓ producing lactic acid as a by-product.

3.6.3 Alcohol ✓ (1)

(7)

[50]

TOTAL SECTION B: 100
GRAND TOTAL: 150

