LIFE SCIENCES
MARCH 2025

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CONTROLLED TEST
GRADE: 11

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MARKS: 50

TIME: 50 minutes

EDUCATOR: Miss Masia TM

MODERATOR: Mr. Sibanyoni MF

TOTAL NUMBER OF PAGES: 7

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. Make ALL diagrams with pencil and captions with blue or black ink.
7. Draw diagrams and flow charts only when prompted.
8. The diagrams in the question paper are NOT necessarily drawn to scale.
9. You may NOT use graph paper.
10. You must use a non-programmable calculator, protractor and compass.
11. Write neatly and legibly.

SECTION A

QUESTION 1

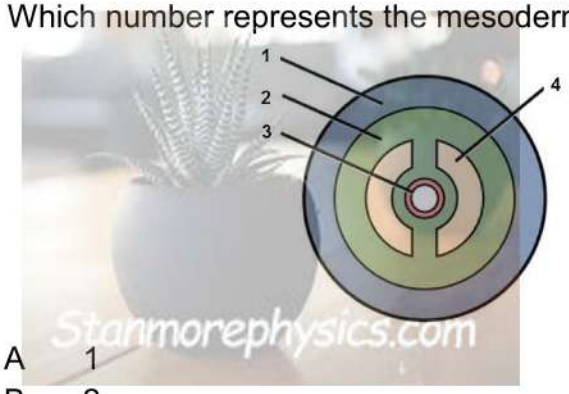
1.1. Various options are given as possible answers to the following questions. Choose the correct answer and write only the letter (A - D) next to the question number (1.1.1 - 1.1.5) in the ANSWER BOOK, eg 1.1.11 D.

1.1.1. Type of pollination linked to this flower.



A Wind pollution
B Pollen transfer
C Angiosperm
D Wind pollination (2)

1.1.2. Which number represents the mesoderm in the diagram below?



A 1
B 2
C 3
D 4 (2)

1.1.3. What part of bread mound anchors the fungus to the bread?

A Sporangium
B Sporangiaphore
C Rhizoids
D Rhizopus (2)

(3 × 6) **(6)**

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 BOOK.

1.2.1. Organism with a definite nucleus.
1.2.2. Female parts of the flower that is sticky receives pollen.
1.2.3. Organisms that can only be seen with a microscope.
1.2.4. Accumulation of nerve tissue and sense organs at the anterior end of an organism.
1.2.5. Male and female reproductive cells.

(5 x 1) **(5)**

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 only A, only B, both A and B or none next to the question number (1.3.1 - 1.3.5) in the ANSWER BOOK

COLUMN I		COLUMN II
1.3.1. Vascular tissue	A. B.	Xylem Phloem
1.3.2. Two germ layers	A. B.	Ectoderm and endoderm Diploblastic
1.3.3. Non-ling structures that reproduce in living cells	A. B.	Virus Bacteriophage

(3 x 2) **(6)**

TOTAL SECTION A: 17

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SECTION B

QUESTION 2

2.1. A case study observing whether the use of mouthwash killed parasitic oral bacteria. The study focused on only three patients presenting with symptoms of gum disease, was conducted by investigating their mouths to identify bacteria *Streptococcus mutans,* a species associated with causing gum disease such as gingivitis. The results were recorded a week after after mouthwash.

The results are shown in the table:

Name of patients	Amount of bacterial growth	
	Gingivitis causing bacteria (millions) before investigation	Gingivitis causing bacteria (millions) after investigation
Patient A	36	16
Patient B	40	17
Patient C	31	9

2.1.1. From the extract, state the shape of the bacteria that is investigated. (1)

2.1.2. State the dependent variable. (1)

2.1.3. State ONE controlled variable. (1)

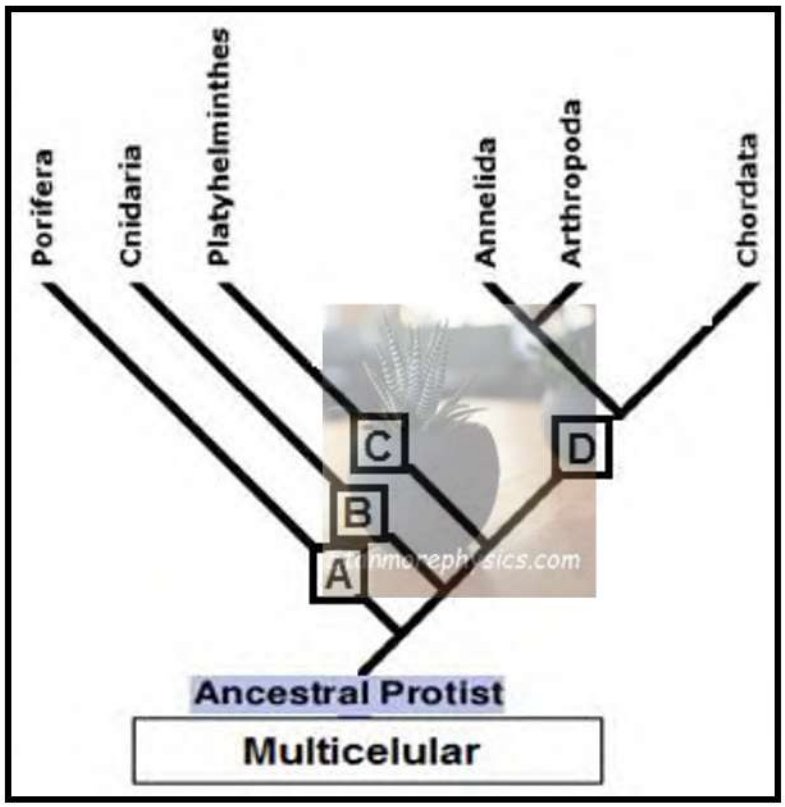
2.1.4. Write a conclusion for this investigation. (1)

2.1.5. Which of the three patients has the most improved oral health after using the mouthwash? (1)

2.1.6. Draw a bar graph to represent the number of gingivitis causing bacteria before the investigation. (6)

(11)

2.2. The diagram below shows evolutionary relationships amongst some animal phyla. The letters **A** to **D** indicate characteristics for each different phyla.



2.2.1. Give the **NAME** for the type of diagram shown above. (1)

2.2.2. Study the following characteristics.

Body plan symmetry	Development of skeleton
Tissues	Cephalisation

Which characteristics are represented by letters:

a) A (1)
b) B (1)
c) C (1)
d) D (1)

2.2.3. Provide **ONE** advantage of a coelom. (1)

(6)

QUESTION 2: 17

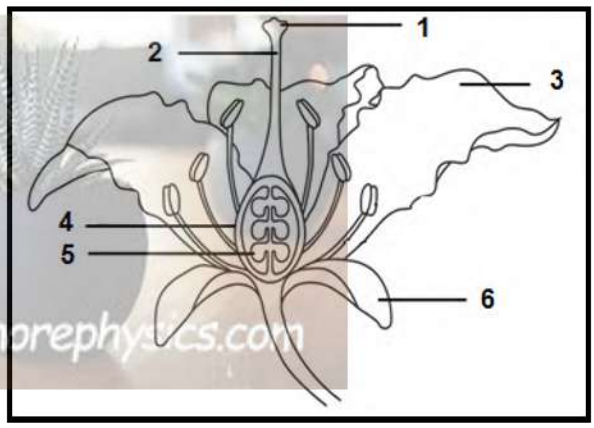
QUESTION 3

3.1. The diagram below represents an animal which belongs to one animal phyla.



3.1.1.	Identify the phyla to which the dog belongs.	(1)
3.1.2.	What type of symmetry is associated with this organism?	(1)
3.1.3.	Name the type of skeleton found in the animal above.	(1)
3.1.4.	What type of gut system is associated with this animal?	(1)
3.1.5.	State **TWO** advantage of this type of gut system mentioned in 3.1.4.	(2)
		(6)

3.2. Look at the diagrams of the flowers below and answer the question.



3.2.1.	What plant group if represented by the flowers above?	(1)
3.2.2.	What type of pollination can be linked to this flower?	(1)
3.2.3.	Provide **TWO** visible characteristics that support your answer in question 3.2.2.	(2)
3.2.4.	Explain how self-pollination is prevented in the flower above.	(2)
3.2.5.	Using the **NUMBER** and the **NAME** , identify the following:	
	a) Part where seeds can form	(2)
	b) Part which receives pollen	(2)
		(10)

QUESTION 3: 16
TOTAL SECTION B: 33
GRAND TOTAL: 50