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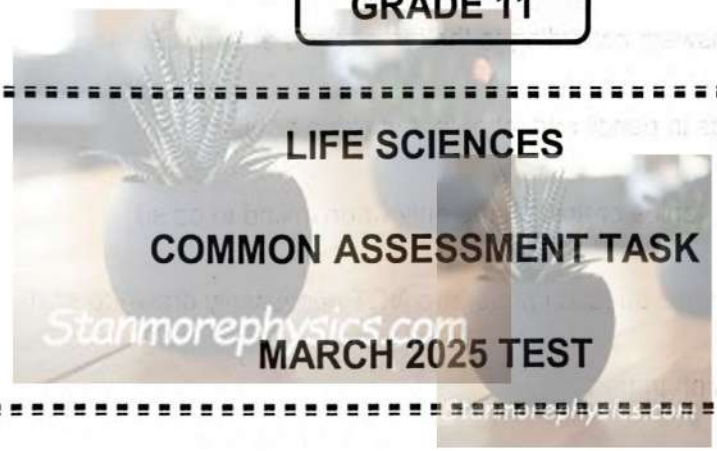
KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 11



LIFE SCIENCES

COMMON ASSESSMENT TASK

MARCH 2025 TEST

MARKS: 50

TIME: 1 hour

N.B. This question paper consists of 9 pages.

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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. stanmorephysics.com
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 may use a non-programmable calculator, protractor and a compass.
11. Write neatly and legibly.

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SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) next to the question number (1.1.1 to 1.1.3) in the ANSWER BOOK, e.g. 1.1.4 D.

1.1.1 Organisms with a true body cavity are called…

A coelomates.
B acoelomates.
C pseudocoelomates
D platyhelminthes.

1.1.2 Which ONE of the following phyla have endoskeleton?

A Annelida
B Arthropoda
C Chordata
D Cnidaria

1.1.3 The following is a list of characteristics of bacteria

(i) Make their own food using energy from chemical reactions.
(ii) Obtain food from their living organisms on which they live.
(iii) They obtain their food from dead plants and animal material.
(iv) Synthesise their own food using light energy from the sun.

Which ONE of the following is the CORRECT combination of characteristics of autotrophic bacteria?

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

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

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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 1.2.3) in the ANSWER BOOK.

1.2.1 Symbiotic interaction in which one organism benefits and the other organism is harmed. stanmorephysics.com

1.2.2 Organisms that remain attached to a substrate for most of their lives.

1.2.3 Type of symmetry which allows organism to be cut into two identical images in one plane only.

(3 x 1) **(3)**

1.3 Indicate whether each of the descriptions 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 1.3.2) in the ANSWER BOOK.

	COLUMN I	COLUMN II
1.3.1	Depends on water for sexual reproduction	A: Bryophytes B: Pteridophytes
1.3.2	Gametophyte generation is the dominant generation	A: Angiosperms B: Gymnosperms

(2 x 2) **(4)**

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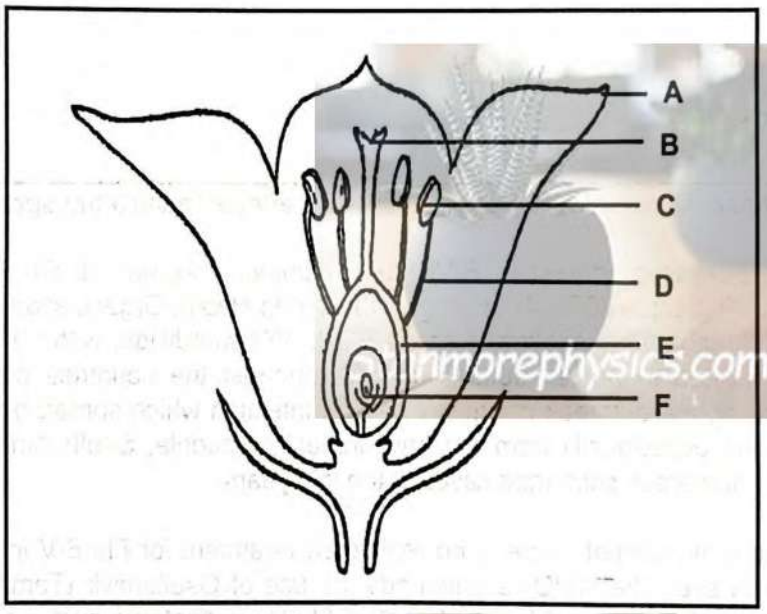
1.4 The diagram below shows a longitudinal section of a dicotyledonous flower.



1.4.1 Identify part **C** and **E** (2)

1.4.2 Name the process that occurs from part **C** to **B** of the flower. (1)

1.4.3 Write down the LETTER and NAME of the part that develops into a seed after fertilisation (2)

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1.4.4 Give the collective name for parts **C** and **D** (1)

1.4.5 Name the pollinating agent that can be linked to a flower with large colourful petals (1)

(7)

TOTAL SECTION A: 20

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SECTION B

QUESTION 2

2.1 Read the extract below.

Infuenza (B/Victoria) in South Africa and efforts to curb the spread

Global outbreak of Influenza (B/Victoria), commonly known as Flu B, has been ongoing since 2023. According to the World Health Organization a total of 650 000 laboratory confirmed cases of Flu B/V worldwide, with 10% total cases reported in Africa. South Africa is amongst the countries currently experiencing the outbreak of Flu B/V, a viral infection which spread between people and occasionally from the environment to people, South Africa has recorded numerous confirmed cases in the last years.

At the current moment, there is no registered treatment for Flu B/V in South Africa. However, the WHO recommends the use of Oseltamivir (Tamiflu) an anti-viral medication used for treatment of Flu-like symptoms such as fever, sore throat and headache. stanmorephysics.com

https://www.nicd.ac.za

2.1.1 Name the microorganism that causes Infuenza in humans. (1)

2.1.2 List ONE symptom of Flu B/V mentioned above. (1)

2.1.3 Explain why Infuenza B cannot be treated effectively with antibiotics. (2)

2.1.4 State ONE method that can be used to prevent the spread of Flu B. (1)

2.1.5 Calculate the number of people with confirmed Flu B cases in Africa. Show ALL working. (3)

(8)

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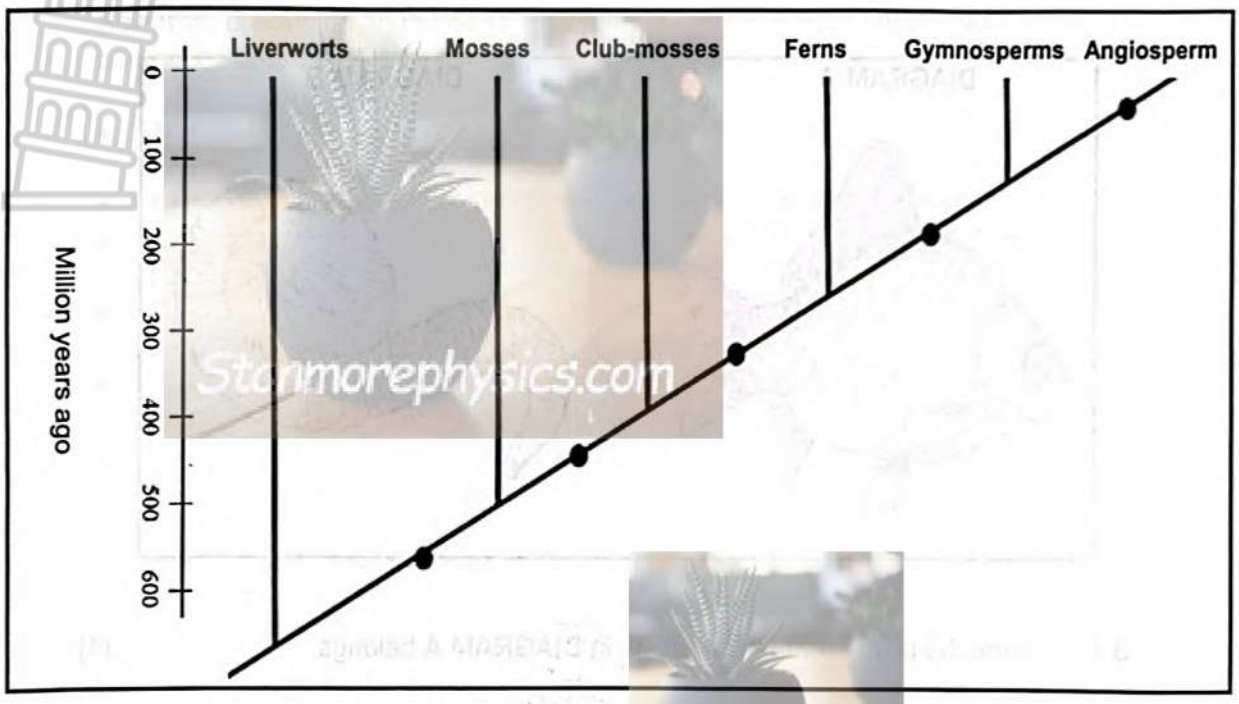
2.2 The diagram below shows a possible evolutionary relationship within plant diversity.



2.2.1 Name the above evolutionary diagram. (1)

2.2.2 According to the evolutionary diagram above:

(a) Name the most recent plant group to appear on earth? (1)

(b) Identify the group of plants which produce naked seeds. (1)

(c) How long after the mosses did the first club-mosses appear? Show ALL working (2)

2.2.3 Give TWO characteristics of gymnosperms which make them more successful to terrestrial life than ferns. (2)

(7)

[15]

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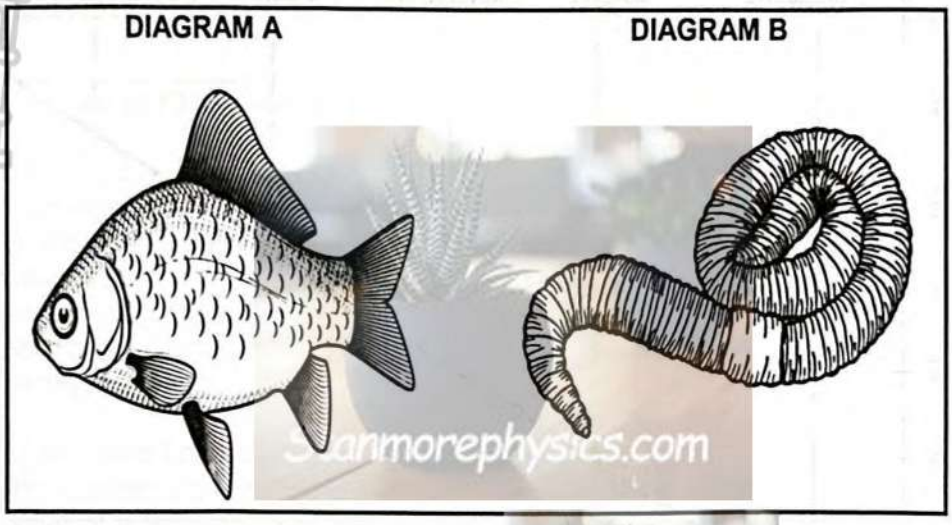
QUESTION 3

3.1 The diagrams below show organisms of two different phyla.



3.1.1 Name the phyla to which organism in **DIAGRAM A** belongs. (1)

3.1.2 Explain the importance of cephalisation in the above organisms. (2)

3.1.3 Both organisms have two digestive openings described as 'through gut'. stanmorephysics.com

State TWO advantages of a through gut. (2)

3.1.4 Draw and label a body plan of a diploblastic organism. (3)

(8)

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3.2 Mould is a common name for several species of the Fungi kingdom. Most moulds are known saprotrophs which reproduces by releasing spores, consist of threadlike hyphae and fruiting structures.

Scientists conducted an investigation to determine the effect of high moisture content on bread mould growth.

- 10 pieces of white bread were collected (all same size).
- The pieces were divided into 2 equal groups
- **GROUP A**: pieces of bread were sprayed with 100ml of water each.
- **GROUP B**: which served as a control consisted of bread pieces that were not sprayed with water.
- Damp pieces of bread were then placed into a plastic bag where it was sealed by tape.
- Both groups were left under same controlled environmental condition for 5 days.
- The preparation of the experiment occurred 5 days before the stated expiration date of the bread

The results of each sample are shown in the table below.

DAYS	AREA OF BREAD COVERED WITH MOULD (mm^2)	
	GROUP A	GROUP B
1	2.0	0
2	2.4	0
3	3.1	0
4	3.3	0
5	3.7	0

3.2.1 Identify the dependent variable in the investigation. (1)

3.2.2 State ONE factor that was kept constant. (1)

3.2.3 Explain why scientists used pieces of bread before the expiration date. (2)

3.2.4 State:

(a) how the reliability of this investigation was ensured? (1)

(b) the purpose of the control group in the investigation. (2)

(7)

[15]

SECTION B: 30

TOTAL MARKS: 50

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FINAL

KWAZULU-NATAL PROVINCE

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NATIONAL SENIOR CERTIFICATE

GRADE 11

LIFE SCIENCES

MARKING GUIDELINES

COMMON ASSESSMENT TASK

MARCH 2025 TEST

Stanmorephysics.com

MARKS: 50

This marking guideline consists of 6 pages.

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PRINCIPLES RELATED TO MARKING LIFE SCIENCES MARCH 2025

1. **If more information than marks allocated is given**
   Stop marking when maximum marks are 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 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 is incorrect, do not credit. If sequence and links becomes correct again, resume credit.

9. **Non-recognised 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 answer fits into the correct sequence of questions but the wrong number is given, it is acceptable.

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.

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13. **If common names given in terminology**
Accept provided it was accepted at the National memo discussion meeting.

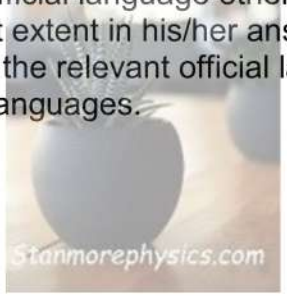
14. **If only letter is asked for and only name is given (and vice versa)**
No credit

15. **If units are not given in measurements**
Candidates will lose marks. Memorandum will allocate marks for units separately

16. Be sensitive to the **sense of an answer, which may be stated in a different way**.

17. **Caption**
All illustrations (diagrams, graphs, tables, etc.) must have a caption

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 languages.



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SECTION A

QUESTION 1

1.1 1.1.1 A✓✓

1.1.2 C✓✓

1.1.3 D✓✓ (3 x 2) **(6)**

1.2 1.2.1 Parasitism✓

1.2.2 Sessile/sedentary✓

1.2.3 Bilateral✓ (3 x 1) **(3)**

1.3 1.3.1 Both A and B✓✓

1.3.2 None✓✓ (2 x 2) **(4)**

1.4 1.4.1 C - Anther✓ (1)

E - Ovary✓ (1)

1.4.2 (Self) pollination✓ (1)

1.4.3 F ✓ Ovule ✓ (2)

1.4.4 Stamen✓ (1)

1.4.5 Insect✓ (1)

(7)

TOTAL SECTION A: [20]

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SECTION B

QUESTION 2

2.1 2.1.1 Virus✓ (1)

2.1.2 - fever✓
- sore throat✓
- headache✓ Any (1)

(Mark first ONE only)

2.1.3 - Flu B is a viral infection/caused by virus✓
- antibiotics are only effective against the living organisms✓
- they are acellular ✓/do not have membranes✓ that can be destroyed by antibiotics✓ Any (2)

(Mark first TWO only)

2.1.4 - Vaccination✓
- Use of disinfectants✓/Sanitise regularly/wearing of face masks Any (1)
- Isolation✓/avoid contact with infected people

(Mark first ONE only)

2.1.5 $\left.\frac{10}{100}\right\}$ ✓ x 650 000✓

= 65 000✓ (3)

(8)

2.2 2.2.1 Phylogenetic tree✓/cladogram (1)

2.2.2 (a) angiosperms✓ (1)

(b) gymnosperms✓ (1)

(c) (500 – 400) ✓ mya = 100 ✓ mya (2)

2.2.3 - Do not require water for fertilisation✓
- Produce seeds which have long lifespan✓/seed can remain dormant for long period of time
- Gametophytes are enclosed and protected by sporophytes/cones✓ Any (2)

(Mark first TWO only)

(7)

[15]

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QUESTION 3

3.1 3.1.1 Chordata ✓ (1)

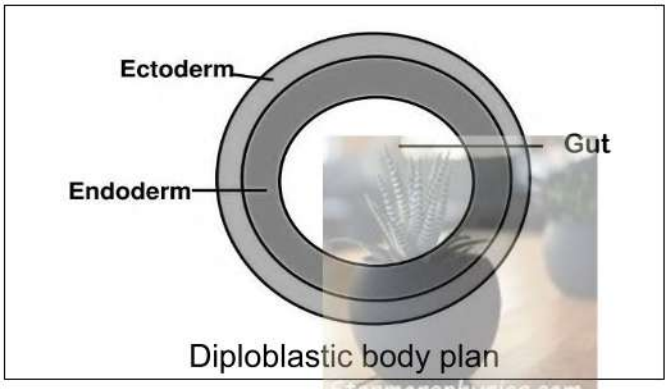
3.1.2
- sense organs are at the anterior end ✓ / head region
- allowing for more well-organized forward movement ✓
- provides quicker responses✓ Any (2)

(Mark first TWO only)

3.1.3
- food moves in one direction only✓/ no mixing of undigested and digested food
- allows digestion to take place continuously✓
- permits specialisation of the gut✓ Any (2)

(Mark first TWO only)

3.1.4



Diploblastic body plan

Criteria for marking the diagram

Criteria	Mark allocation
Correct diagram (**D**)	1
Labels (**L**)	(Any) 2

(3)
(8)

3.2 3.2.1 Bread mould growth✓ (1)

3.2.2
- Size of bread pieces ✓
- Type of bread (white) ✓
- Environmental condition ✓
- Duration of the investigation ✓ Any (1)

(Mark the first ONE only)

3.2.3
- To ensure that there is no bread mould before the investigation ✓
- and the growth of the bread mould is due to moisture✓ (2)

3.2.4 (a) Five pieces of bread in each group. ✓ (1)

(b) To ensure that growth of bread mould in Group A was due to moisture only. ✓✓ (2)

(7)
[15]

TOTAL SECTION B: 30

GRAND TOTAL: 50

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