KWAZULU-NATAL PROVINCE

EDUCATION

REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 11

LIFE SCIENCES

PROVINCIAL STANDARDISED ASSESSMENT

MARCH 2026

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MARKS: 100

TIME: 2 hours

N.B. This question paper consists of 11 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.
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 1.1.6) in the ANSWER BOOK, e.g. 1.1.7 D.

1.1.1 The most advanced and most successful terrestrial plant group that provide fruits as source of food is …

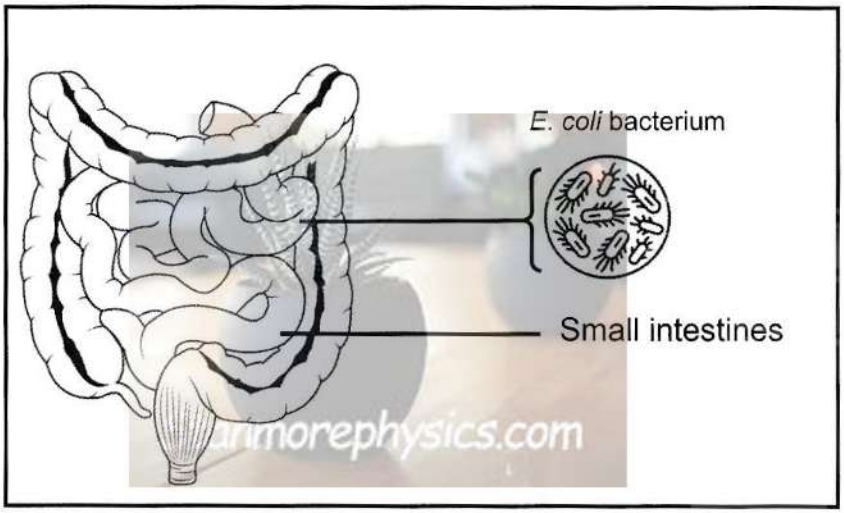
A gymnosperms.
B angiosperms.
C pteridophytes.
D bryophytes.

1.1.2 Primary taxonomic rank in the biological classification system, situated below the kingdom and above the class is …

A family.
B genus.
C phylum.
D order.

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QUESTION 1.1.3 AND 1.1.4 ARE BASED ON THE DIAGRAM BELOW



1.1.3 The *E. coli* strains reside in the human intestine, using the undigested food for nutrients, while providing the human with vitamins. The type of symbiotic relationship displayed in the diagram is …

A mutualism.
B parasitism.
C commensalism.
D neutralism.

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1.1.4 Below is the list of different characteristics:

(i) Eukaryotic
(ii) Multicellular
(iii) Reproduce by binary fission
(iv) Have flagellum for movement

Which ONE of the following combinations are CORRECT characteristics of *E. coli?*

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

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1.1.5 Seeds are better suited than spores because they …

A have limited food supply.
B are smaller.
C are dispersed by wind only.
D can remain dormant for long periods of time.

1.1.6 An investigation was carried out to determine the effect of temperature on bread mould growth, 2 breads were divided into two groups.

The results are shown in the table below.

TEMPERATURE (^{0}C)	BREAD MOULD GROWTH (MM^2)	
	GROUP A	GROUP B
20	22	0
29	35	0
38	12	0

Which ONE of the following statements is CORRECT based on the results in the table?

A **Group B** is included to ensure the growth of bread mould in **Group A** is due to temperature only
B **Group A** is included to ensure the growth of bread mould in **Group B** is due to temperature only
C **Group B** is included to improve the reliability of the results in the investigation
D Temperature has no effect in bread mould growth in **Group A** and **B**

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(6 x 2) **(12)**

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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 numbers (1.2.1 to 1.2.7) in the ANSWER BOOK.

1.2.1 Phylum to which vertebrates belong.

1.2.2 Name of microorganism that causes tuberculosis in human.

1.2.3 The ability of the human body to produce antibodies to protect the body.

1.2.4 The process of transferring pollen grains from the anther of one flower to the stigma of another flower of the same specie.

1.2.5 Type of symmetry that cannot be divided into equal halves in any plane.

1.2.6 The use of living organisms to modify products and processes to improve human life. stanmorephysics.com

1.2.7 Bacteria that manufacture their own food using the energy from the sun. (7 x 1) **(7)**

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 1.3.3) in the ANSWER BOOK.

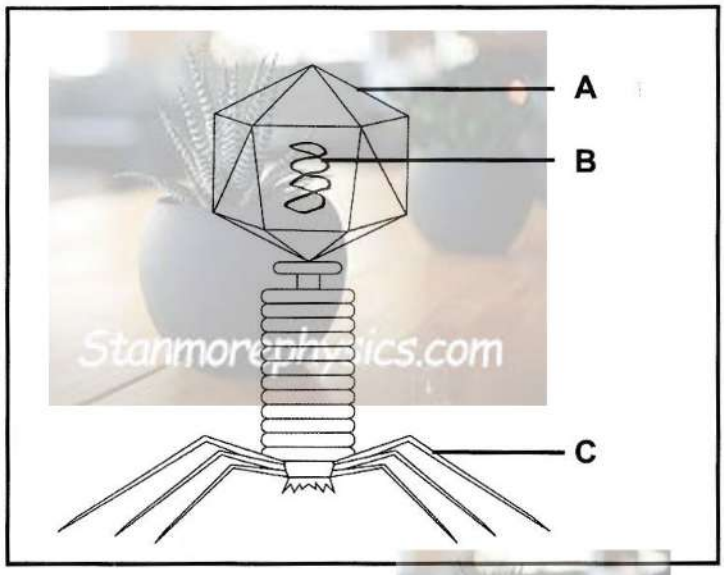
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	COLUMN I	COLUMN II
1.3.1	The part that is formed from a fertilized ovule	A: Seed B: Fruit
1.3.2	Phylum that consists of coelomate organisms	A: Platyhelminthes B: Arthropoda
1.3.3	Antibiotics are effective only against	A: Bacterial infection B: Viral infection

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

1.4 The diagram below shows a microorganism that infects bacteria.



1.4.1 Name the microorganism above. (1)

1.4.2 List TWO general characteristics of the microorganism mentioned in QUESTION 1.4.1. (2)

1.4.3 Give the LETTER of the part that:

(a) Is used to penetrate the cell wall of the bacteria (1)

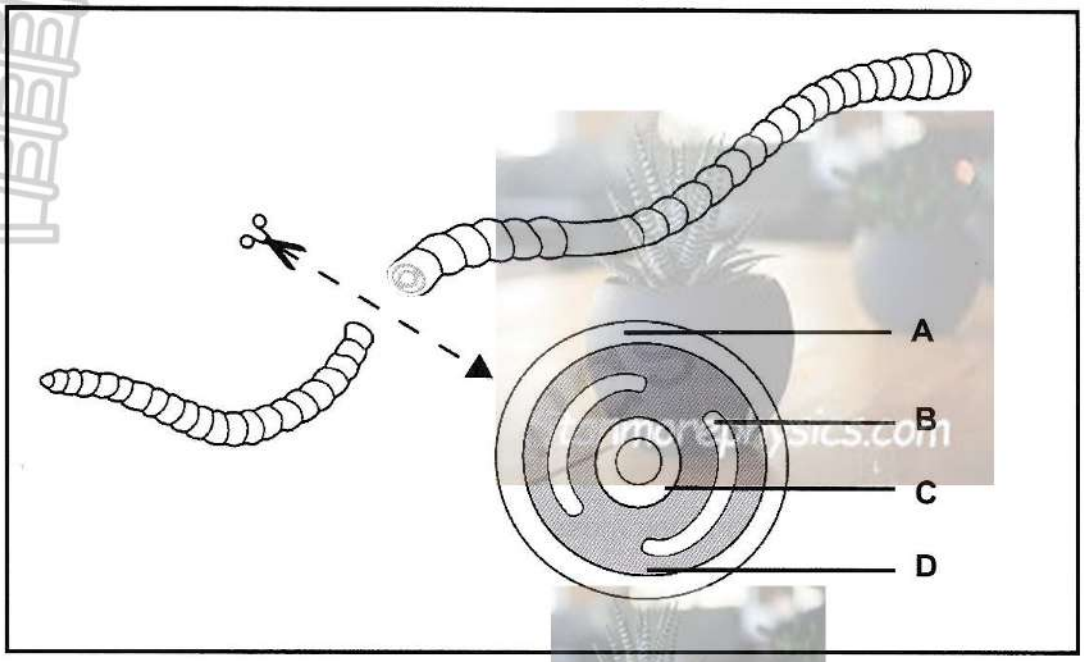
(b) Is the protein shell enclosing its genetic material (1)

(c) Carries the genetic material of the microorganism (1)

(6)

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1.5 The diagram below shows a body plan of an earthworm.



1.5.1 Name the:

(a) Phylum on which the organism above belongs. (1)

(b) Body plan associated with the phylum mentioned in QUESTION 1.5.1 (a). stanmorephysics.com (1)

(c) Type of gut for the organism above. (1)

1.5.2 Identify part:

(a) A (1)

(b) C (1)

1.5.3 Give the LETTER and NAME of the part that:

(a) Act as hydrostatic skeleton (2)

(b) Develops into a wide range of muscles and organs (2)

(9)

TOTAL SECTION A: 40

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SECTION B

QUESTION 2

2.1 Read the extract below.

THREATS TO MOSS HABITATS

As with many plants and animals, habitats of mosses are being destroyed due to human activities or environmental changes. Habitat destruction of mosses occurs through deforestation, urban development, or by agriculture.

Increasing global temperatures alter the moisture levels and the rising temperatures destroy habitats where moss could flourish in the past. The sexual reproduction of mosses can also be disturbed.

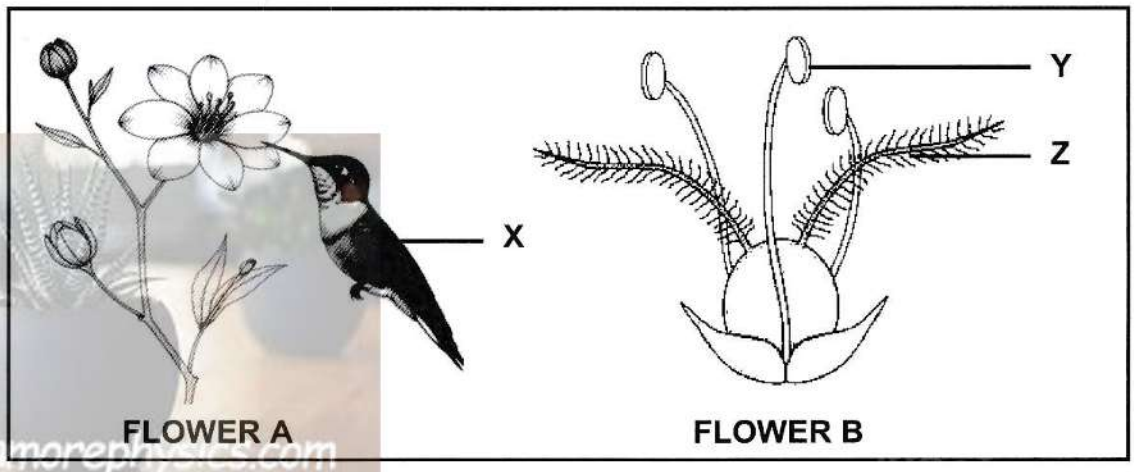
2.1.1 Name the kingdom to which moss plant belong. (1)

2.1.2 From the extract, give TWO main causes of habitat destruction of moss. (2)

2.1.3 Explain how increased temperatures affect sexual reproduction of mosses. stanmorephysics.com (2)

(5)

2.2 The diagrams below show adaptations of flowers for different pollinators.



2.2.1 Identify the pollinating agent **X** (1)

2.2.2 List TWO general characteristics of the division to which the above flowers belong. (2)

2.2.3 Describe the role of part **Y** in reproduction of plants. (3)

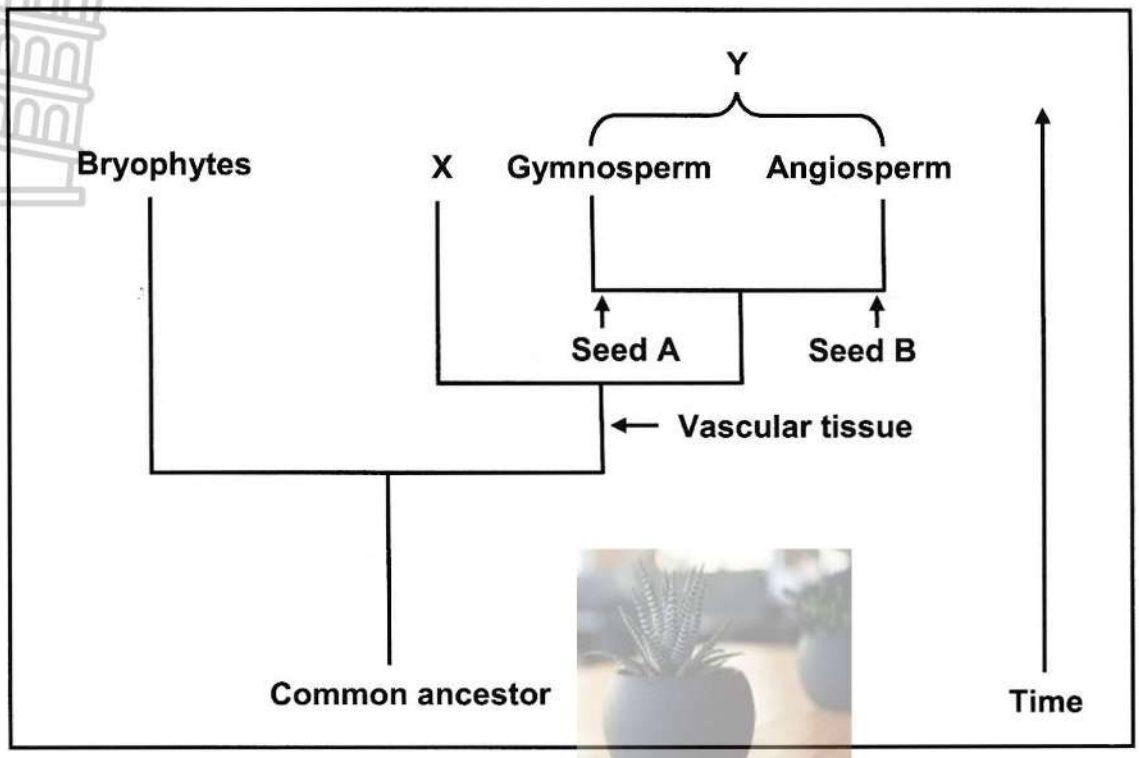
2.2.4 Tabulate TWO differences in petals of **FLOWER A** and **FLOWER B** (5)

2.2.5 Explain how part **Z** is structurally suited for its function. (3)

(14)

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



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2.3.1 Name the diagram above. (1)

2.3.2 Identify the following plant groups:

(a) **X** (1)

(b) **Y** (1)

2.3.3 State ONE difference between seed **A** and seed **B** (2)

2.3.4 Explain how plant group **X** is suited for a terrestrial habitat. (2)

2.3.5 Seed banks are a type of gene bank that stores seeds from a variety of different crops and trees.

Explain TWO reasons why seed banks are important. (4)

(11)

[30]

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QUESTION 3

3.1 At least 3.2 billion of the world's people are still at risk of contracting malaria, and an estimated 350-500 million clinical malaria cases occur annually. More than 600,000 malaria deaths occur in Africa. stanmorephysics.com

The table below shows the number of malaria case notifications received via the Notifiable Medical Conditions Surveillance System (NMC-SS) in South Africa by endemic provinces, from March 2023 to August 2023.

Month	Limpopo	KwaZulu-Natal	Gauteng
Mar	145	38	89
Apr	136	37	104
May	129	21	96
Jun	83	17	49
Jul	63	16	40
Aug	24	15	32
	580	144	410

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3.1.1 Name the:

(a) blood parasite that causes malaria. (1)

(b) vector that spreads malaria. (1)

(c) TWO provinces with the total highest malaria cases. (2)

3.1.2 Give TWO common symptoms in malaria patients. (2)

3.1.3 Explain how weather-related factors from May to August caused the decline in malaria cases. (2)

3.1.4 Draw a bar graph to show the number of malaria cases by endemic provinces in August 2023. (6)

(14)

3.2 Describe the role of protista and fungi in maintaining balance in the environment and web of life. **(5)**

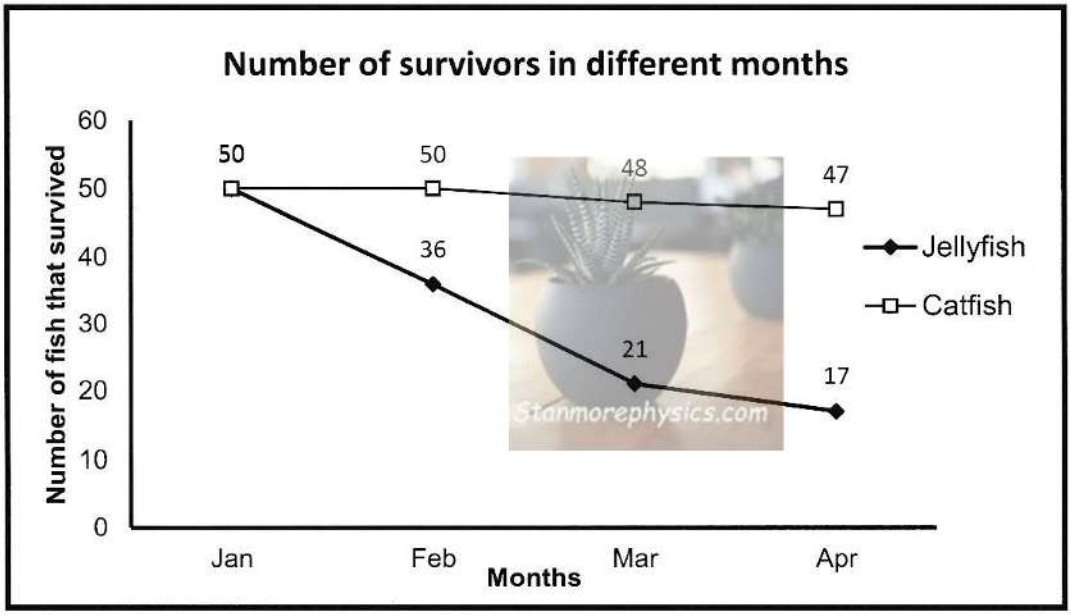
3.3 Group of researchers conducted an investigation to determine the effect of cephalisation on survival chances of aquatic animals.

The procedure was as follows:

- 50 male jellyfish and 50 male catfish were collected from the Indian ocean.
- Both species of fish were kept in the same lake with predators for the period of 4 months.
- The number of all fish present in the lake were counted from Jan to Apr. In total, 64 fish were collected in April and 47 were catfish and 17 were jellyfish.

NOTE: Jellyfish belong to Phylum Cnidaria
: Catfish belong to Phylum Chordata

The results are shown in the line graph below.



3.3.1 State the:

(a) Independent variable (1)

(b) Dependent variable (1)

3.3.2 State TWO ways in which the researchers ensured the reliability. (2)

3.3.3 Calculate the percentage decrease of jellyfish species between January and February. Show ALL working. stanmorephysics.com (3)

3.3.4 Describe the results obtained in this investigation. (2)

3.3.5 Explain why the researchers used the same gender of fish throughout the investigation. (2)

(11)

[30]

TOTAL SECTION B: 60

GRAND TOTAL: 100

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