



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

LIFE SCIENCES
PRE-TEST
MARKING GUIDELINES
11 SEPTEMBER 2026

MARKS: 60

TIME: 1 HOUR

This question paper consists of 07 pages

PRINCIPLES RELATED TO MARKING LIFE SCIENCES

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 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 unrecognised 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.
13. If common names given in terminology: only accept if provided as an alternative in the marking guideline.
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, drawings, 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 answer should be credited, if it is correct.
19. No changes must be made to the marking memoranda without consulting the District Curriculum Advisors.

SECTION A**QUESTION 1**

1.1.

1.1.1 D✓✓

1.1.2 C✓✓

1.1.3 A✓✓

(3 x 2) (6)

1.2.

1.2.1 Population ✓

1.2.2 Glomerulus ✓

1.2.3 Emphysema ✓

1.2.4 Natality ✓

(4 x 1) (4)

1.3.

1.3.1 B only ✓✓

1.3.2 A only ✓✓

1.3.3 A only ✓✓

(3 x 2) (6)

1.4.

1.4.1 In the cortex✓ of the kidney

(1)

1.4.2 Glomerular / Ultra filtration ✓

(1)

1.4.3 Glomerulus ✓

(1)

1.4.4 To create a high pressure in C for filtration✓

(1)

(4)

TOTAL QUESTION 1: [20]**SECTION A: 20**

SECTION B**QUESTION 2**

2.1.

2.1.1 Pre-predator / predation (1)

2.1.2 Carrying capacity✓ (1)

- 2.1.3 - The number of wild dogs will increase✓
 - due to there being more food/kudu available✓
 - Thereafter the number of wild dogs will decrease✓
 - as the number of kudu would have decreased due to limited resources✓

(Any 3) (3)

2.1.4
$$\frac{275 - 50}{50} \times 100$$

$$\frac{225}{50} \times 100$$

$$= 450\%$$
 ✓ (3)

- 2.1.5 - The population decreased from 1987-1994✓
 - then increased from 1994-2008✓
 - and finally decreased after 2008 - 2015✓ (Any 2) (2)

(10)

2.2.

2.2.1 1 – Endothelium ✓ (1)

2 – Squamous epithelium ✓ (1)

2.2.2 Erythrocyte / red blood cell ✓ (1)

2.2.3 Haemoglobin ✓ (1)

2.2.4 (a) Deoxygenated blood ✓ (1)

(b) Oxygenated blood ✓ (1)

2.2.5 Oxyhaemoglobin ✓ (1)

- 2.2.6 - The inner surface of alveoli is moist, which helps dissolve oxygen, ✓
making it easier for gases to diffuse through the membrane ✓
- The lining of the alveolus is thin✓/ one cell layer thick for rapid diffusion of
gases ✓
- Are in close contact with blood capillaries ✓/ surrounded by blood
capillaries,
- ensuring constant flow of blood to carry oxygen away and bring in carbon
dioxide ✓ (3)
- Blood contains haemoglobin which acts as an oxygen carrier ✓ (Any 3) (10)

TOTAL QUESTION 2: [20]

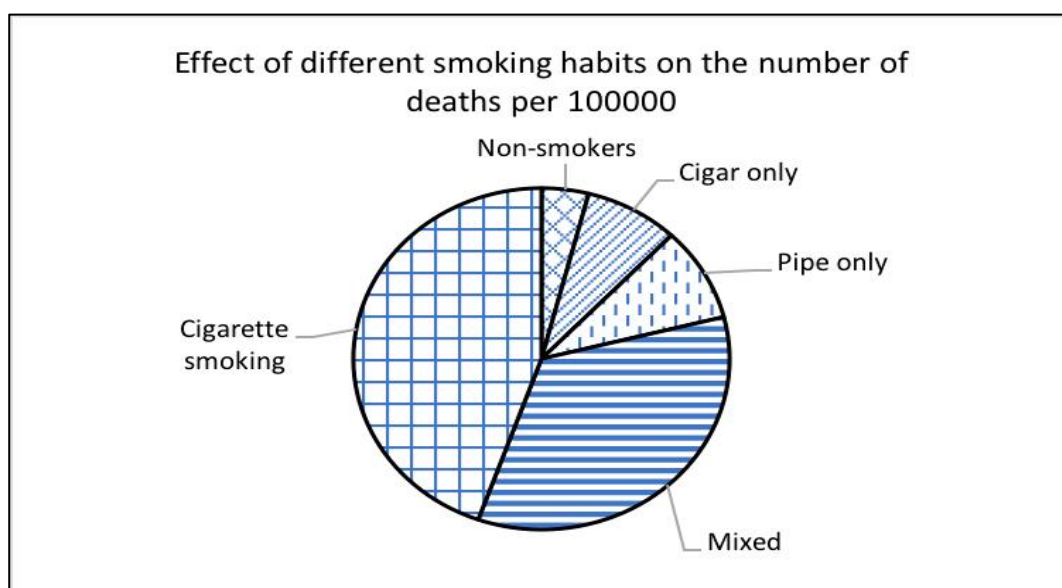
QUESTION 3

3.1.

3.1.1

Calculations:

Non-smokers:	$10/247 \times 360^0$	$= 14,57^0$ (Accept 15^0)
Cigars only:	$20/247 \times 360^0$	$= 29,14^0$ (Accept 29^0)
Pipes only:	$22/247 \times 360^0$	$= 32,06^0$ (Accept 32^0)
Mixed:	$85/247 \times 360^0$	$= 123,88^0$ (Accept 124^0)
Cigarette smoking:	$110/247 \times 360^0$	$= 160,32^0$ (Accept 160^0)

**Marking criteria for the graph:**

Criterion	Elaboration	Marks
Correct type of graph (T)	360 ⁰ circle	✓
Correct caption (C)	Including both variables	✓
Correct calculations (Cal)	1-3 correctly calculated	✓
	All correctly calculated	✓✓
Sectors are drawn correct (S)	1 – 3 sectors plotted correctly	✓
	All sectors plotted correctly	✓✓

3.1.2 - Increase the number of men participating in the investigation✓ (1)

- Repeat the investigation✓ (1)

3.1.3 - Same gender✓/only men (1)

- Same age group✓/40-79 years (1)

3.1.4 Non – smoker✓ (1)

3.1.5 $110/10 \checkmark = 11$ times more $\checkmark$ (2)

3.1.6 - Dust, germs and mucus will not be removed effectively $\checkmark$
- the gaseous exchange surface can become infected $\checkmark$ /destroyed
- leading to poor supply of oxygen $\checkmark$ to cells/ and poor removal of carbon dioxide from body.
(3)
(16)

3.2 - Part A becomes less lobed $\checkmark$
- which decreases the surface area $\checkmark$
- therefore, less oxygen can diffuse into the blood $\checkmark$
- resulting in shortness of breath/ difficulty in breathing $\checkmark$
(4)

TOTAL QUESTION 3: [20]

SECTION B: 40

GRAND TOTAL: 60