Province of the
EASTERN CAPE
EDUCATION

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

NATIONAL SENIOR CERTIFICATE

GRADE 11

JUNE 2025



LIFE SCIENCES
AMMENDED MARKING GUIDELINES

MARKS: 150

These marking guidelines consist of 11 pages.

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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.

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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



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)**

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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

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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 CO_2✓ 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✓

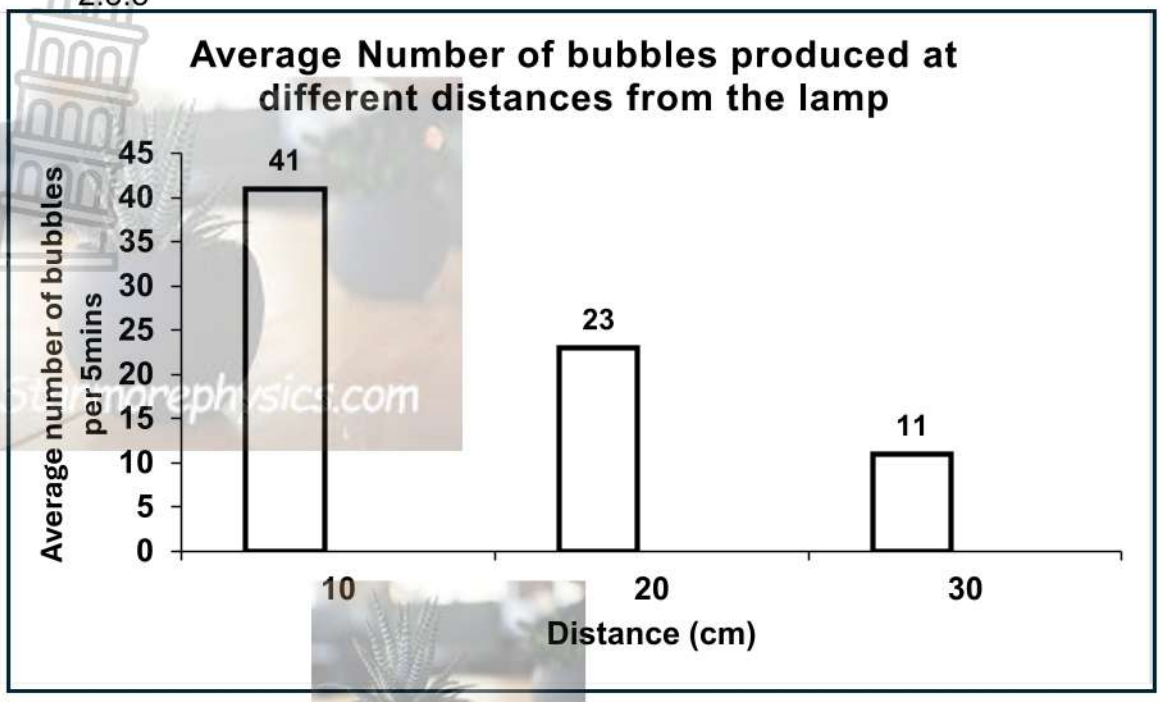
(Mark first THREE only) (3)

2.3.3 $= \frac{23+24+22}{3}$ ✓

$= 23$✓ (2)

2.3.4 As the light intensity deceases the rate of photosynthesis decreases✓✓ (2)

2.3.5



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)**	- Equal space and width of bars for X-axis and - Correct scale for Y-axis	1
Plotting of co-ordinates **(P)**	- 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✓/CO_2 (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✓

Any (2 x 2) (4)

(Mark first TWO only) **(8)**

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)

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3.3.1 High fever/✓Vomiting/Severe headaches (1)

3.3.2
- 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
- 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) Annelda/✓ Arthropoda/Chordata Any (1)
(Mark first ONE only)

(b) Annelida/✓Arthropoda Any (1)
(Mark first ONE only)

(c) Chordata✓. Any (1)
(**Mark first ONE only**)

3.5.3
- It separates the gut from the body wall✓
- Allowing for more extensive growth of organs and systems✓ (2)

3.5.4
- Coelom in Arthropods is reduced and contain haemocoels ✓.
- Coelom in Annelids contain coelomic fluid ✓. (2)

3.5.5 Insecta✓ (1)

3.5.6
- Insects act as pollinators✓
- by transferring pollen from the anther to the stigma of a flower✓ (2)

(11)

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3.6 3.6.1 $= \frac{44-4}{4}$ ✓ x 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)

3.6.3 Alcohol✓ (1)

(7)

[50]

TOTAL SECTION B: 100

GRAND TOTAL: 150



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