KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 11

LIFE SCIENCES

MARKING GUIDELINES

COMMON TEST

SEPTEMBER 2024

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MARKS: 50

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This marking guideline consists of 5 pages.

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PRINCIPLES RELATED TO MARKING LIFE SCIENCES

1. **If more information than marks allocated is given**
   Stop marking when maximum marks 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 whole process is given when only a part of it is required**
   Read all and credit the relevant part.

4. **If comparisons are asked for, but descriptions are given**
   Accept if the 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-recognised abbreviations**
   Accept if first defined in answer. If not defined, do not credit the unrecognised abbreviation, but credit the rest of the 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 recognisable, accept the answer, 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 national memo discussion meeting.

14. **If only the letter is asked for, but only the name is given (and vice versa)**
    Do not 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.

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SECTION A

QUESTION 1

1.1	1.1.1	C ✓✓			
	1.1.2	D ✓✓			
	1.1.3	B ✓✓			
	1.1.4	D ✓✓		(4 x 2)	**(8)**
1.2	1.2.1	Population✓			
	1.2.2	Carrying capacity✓			
	1.2.3	Ureter✓		(1 x 3)	**(3)**
1.3	1.3.1	B only ✓✓			
	1.3.2	Both A and B ✓✓		(2 x 2)	**(4)**
1.4	1.4.1	(a)	Inhalation✓		(1)
		(b)	Exhalation ✓		(1)
		(c)	Diaphragm ✓		(1)
	1.4.2	(a) Lifted ✓ (b) Lowered ✓			(2)
					(5)

TOTAL SECTION A: 20

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SECTION B

QUESTION 2

2.1 2.1.1 (a) Malpighian body ✓ (1)

(b) Podocyte cell✓ /Bowman's capsule (1)

2.1.2 Glomerular filtration/ Ultra-filtration ✓ (1)

2.1.3 E ✓- capillary✓ / glomerulus / capillary network (2)

2.1.4 - Allows blood to be under high pressure✓
- for substances to be forced out of the glomerulus ✓ (2)

(7)

2.2 2.2.1 Oxygen has been used by body cells for cellular respiration ✓ (1)
(Mark the first ONE only)

2.2.2 4% – 0,04%✓ = 3,96% ✓ (2)

2.2.3 - Receptors in the carotid artery are stimulated ✓ and
- impulses are sent to the medulla oblongata ✓
- stimulating the heart to beat faster✓
- The breathing muscles (intercostal muscles and diaphragm) contract more actively ✓
- more carbon dioxide is taken to the lungs✓
- And the rate/ depth of breathing increases ✓
- More carbon dioxide is exhaled ✓
- The carbon dioxide level in the blood decreases✓ /returns to normal

Any (5)

(8)

[15]

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QUESTION 3

3.1 3.1.1 - People with DI have normal blood sugar level while people with diabetes mellitus have high blood sugar level. ✓✓

OR

- People with DI have kidneys that are not able to balance fluid and salt while people with diabetes mellitus have kidneys that are able to balance fluids and salt.✓✓ Any (2)

(Mark the first ONE only)

3.1.2 Failure of the kidneys to respond to ADH ✓ (1)

(Mark the first ONE only)

3.1.3 (a) - Low level of ADH in the blood ✓
- leads to decrease in permeability of the kidney tubules ✓
- Hence less water reabsorbed back to the blood✓/ More water excreted with the urine Any (2)

(b) - Kidneys are unable to prevent the excretion of water ✓
- Therefore, more water leaves with the urine✓ / large volume of urine is formed/ dilute urine formed.
- decreasing the level of water in the blood ✓ Any (2)

(7)

3.2 3.2.1 (a) To determine the changes in the population size of impala in a nature reserve over time. ✓✓ (2)

(b) Population size of impala ✓/ number of impala (1)

3.2.2 - Mark and recapture method was used every year✓
- Procedure was always done in April
- Impalas were given 3 weeks to mix in their environment ✓ before 2nd sample was taken
- Population is determined using same Petersen index✓

(Mark first ONE only) (1)

3.2.3 Logistic growth form ✓ (1)

3.2.4 Lag✓ / establishment phase (1)

3.2.5 - Population growth is slow ✓
- Impala still acclimatising to the area ✓ (2)

(8)

[15]

TOTAL SECTION B: 30

GRAND TOTAL: 50

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