



## KWAZULU-NATAL PROVINCE

EDUCATION  
REPUBLIC OF SOUTH AFRICA

### NATIONAL SENIOR CERTIFICATE

GRADE 12

LIFE SCIENCES

COMMON TEST

MARCH 2023

**MARKING GUIDELINES**

MARKS: 60

Stanmorephysics

This memorandum consists of 6 pages

## PRINCIPLES RELATED TO MARKING LIFE SCIENCES SEPTEMBER 2022

- 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.
- 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.



**SECTION A****QUESTION 1**

1.1	1.1.1	D✓✓		
	1.1.2	B✓✓		
	1.1.3	A✓✓		
			(3 x 2)	<b>(6)</b>
1.2	1.2.1	Peptide✓bond		
	1.2.2	Ribosome✓		
	1.2.3	Testosterone✓		
			(3 x 1)	<b>(3)</b>
1.3	1.3.1	B only✓✓		
	1.3.2	Both A and B✓✓		
	1.3.3	A only✓✓		
			(3 x 2)	<b>(6)</b>
1.4	1.4.1	(a) B✓		(1)
		(b) C✓		(1)
		(c) - A✓		(1)
		- B✓		(1)
	1.4.2	External✓fertilisation		(1)
				<b>(5)</b>
			<b>TOTAL SECTION A:</b>	<b>20</b>

**SECTION B****QUESTION 2**

2.1	2.1.1	CAU✓		(1)
	2.1.2	- Determines the sequence of mRNA bases✓ - to provide coded message✓/sequence of amino acids - for the formation of a particular protein✓	Any	(2)
	2.1.3	(a) Threonine✓		(1)
		(b) ATG✓		(1)
				<b>(5)</b>

- 2.2 - The double helix DNA unwinds✓  
 - The double-stranded DNA unzips✓/weak hydrogen bonds break to form two separate strands  
 - Both strands are used as templates✓  
 - to form complimentary DNA strands✓  
 - using free DNA nucleotides from the nucleoplasm✓/Adenine pairing with thymine and cytosine pairing with guanine  
 - Two identical DNA molecules are formed✓  
 - Each molecule consists of one new strand and one original strand✓ Any (6)
- 2.3 2.3.1 (a) Homologous chromosome✓ pair (1)  
 (b) Spindle fibre✓ (1)
- 2.3.2 - Due to non-disjunction during Anaphase II✓  
 - Two chromatids moved to one pole in one cell✓  
 - and none moved to the other pole of the cell✓ Any (2)  
**(4)**  
**[15]**

### QUESTION 3

- 3.1 3.1.1 Mitosis (1)
- 3.1.2 No halving of chromosome number✓ (1)  
**(Mark the first ONE only)**
- 3.1.3 B✓ (1)  
**(3)**
- 3.2 3.2.1 Fertilisation✓ (1)
- 3.2.2 Foetus will not receive nutrients and oxygen✓ from the placenta (1)  
**(Mark the first ONE only)**
- 3.2.3 - Oestrogen✓  
 - thickens the endometrium✓  
 - in preparation for the implantation✓  
 - Progesterone✓  
 - Further thickens endometrium✓  
 - to maintain pregnancy✓ Any (2 x 2) (4)  
**(6)**



- 3.3 3.3.1 FSH level✓ (1)
- 3.3.2 To increase reliability✓ (1)  
**(Mark the first ONE only)**
- 3.3.3 Only non-pregnant females were used✓  
- Females of the same age✓  
- Groups of equal number✓/10  
- Duration of the treatments was 6 months Any (1)  
**(Mark the first ONE only)**
- 3.3.4 B✓ (1)
- 3.3.5 - Trilostane decreases the production of progesterone✓  
- and no inhibition of pituitary gland✓  
- from producing FSH✓ Any (2)  
**(6)**  
**[15]**

**TOTAL SECTION B: 30**

**GRAND TOTAL: 50**

