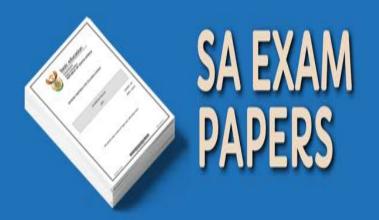


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## **KWAZULU-NATAL PROVINCE**

**EDUCATION**REPUBLIC OF SOUTH AFRICA

# NATIONAL SENIOR CERTIFICATE

**GRADE 12** 

**LIFE SCIENCES** 

**COMMON TEST** 

**MARCH 2023** 

**MARKING GUIDELINES** 

MARKS: 60

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.

(5)

#### **SECTION A**

## **QUESTION 1**

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

#### **SECTION B**

## **QUESTION 2**

2.1 2.1.1 CAU

2.1.2 - Determines the sequence of mRNA bases

- to provide coded message ✓/sequence of amino acids

- for the formation of a particular protein ✓

2.1.3 (a) Threonine ✓
(b) ATG ✓

(1)

2.2	<ul><li>The operations</li><li>Both</li><li>to for</li><li>using thym</li><li>Two</li></ul>	double helix DNA unwinds \( \) double-stranded DNA unzips \( \strands\) rate strands strands are used as templates \( \strands\) m complimentary DNA strands \( \strands\) g free DNA nucleotides from the nucleoplasm \( \strands\)/Adenine pairing ine and cytosine pairing with guanine ide. \( \strands\) molecule consists of one new strand and one original strand \( \strands\)	g with	(6)
2.3	2.3.1	<ul><li>(a) Homologous chromosome ✓ pair</li><li>(b) Spindle fibre ✓</li></ul>		(1) (1)
	2.3.2	<ul> <li>Due to non-disjunction during Anaphase II√</li> <li>Two chromatids moved to one pole in one cell√</li> <li>and none moved to the other pole of the cell√</li> </ul>	Any	(2) (4) [15]
QUE	STION 3	3		
3.1	3.1.1	Mitosis		(1)
	3.1.2	No halving of chromosome number√ (Mark the first ONE only)		(1)
	3.1.3	B√		(1) <b>(3)</b>
3.2	3.2.1	Fertilisation√		(1)
	3.2.2	Foetus will not receive nutrients and oxygen√ from the placenta (Mark the first ONE only)		(1)
	3.2.3	<ul> <li>Oestrogen√</li> <li>thickens the endometrium√</li> <li>in preparation for the implantation√</li> </ul>		
		<ul> <li>Progesterone√</li> <li>Further thickens endometrium√</li> <li>to maintain pregnancy√</li> </ul>	Any (2 x 2)	(4) <b>(6)</b>

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

TOTAL SECTION B: 30

**GRAND TOTAL:** 50