KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

LIFE SCIENCES

COMMON TEST

MARCH 2023

MARKING GUIDELINES

Stanmorephysics

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

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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) **(6)**

1.2 1.2.1 Peptide✓bond
1.2.2 Ribosome✓
1.2.3 Testosterone✓

(3 x 1) **(3)**

1.3 1.3.1 B only✓✓
1.3.2 Both A and B✓✓
1.3.3 A only✓✓

(3 x 2) **(6)**

1.4 1.4.1 (a) B✓ (1)
(b) C✓ (1)
(c) - A✓ (1)
- B✓ (1)

1.4.2 External✓fertilisation (1)
(5)

TOTAL SECTION A: 20

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)
(5)

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✓ **(Mark the first ONE only)**		(1)
	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 **(Mark the first ONE only)**	Any	(1)
	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

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