



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) | (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✓ (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

