KWAZULU-NATAL PROVINCE

EDUCATION

REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10

LIFE SCIENCES

MARCH 2022

COMMON TEST

MARKING GUIDELINE

MARKS: 60

N.B This marking guideline consist of 7 pages.

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.

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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)**

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 appear(s) 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 C✓✓
1.1.3 A✓✓
1.1.4 C✓✓ (2X4) **(8)**

1.2 1.2.1 Unsaturated fats✓
1.2.2 Centromere✓
1.2.3 Tonoplast✓
1.2.4 Diffusion ✓ (1x4) **(4)**

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1.3 1.3.1 Both A and B✓✓

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1.3.2 B only✓✓

1.3.3 None ✓✓

1.3.4 B✓✓ (2x4) **(8)**

TOTAL SECTION A: 20

SECTION B

QUESTION 2

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2.1 2.1.1 B – cell membrane✓
C – chromosome ✓ (2)

2.1.2 Part A transport substances in and out of the cell✓
It surrounds the contents of the nucleus ✓
(MARK FIRST ONE ONLY) (1)

2.1.3 Telophase*✓, because:
Two daughter cells are present✓
OR
Nucleolus reforms✓
OR
Nuclear membrane reforms ✓ Any 1 (2)
***compulsory mark**

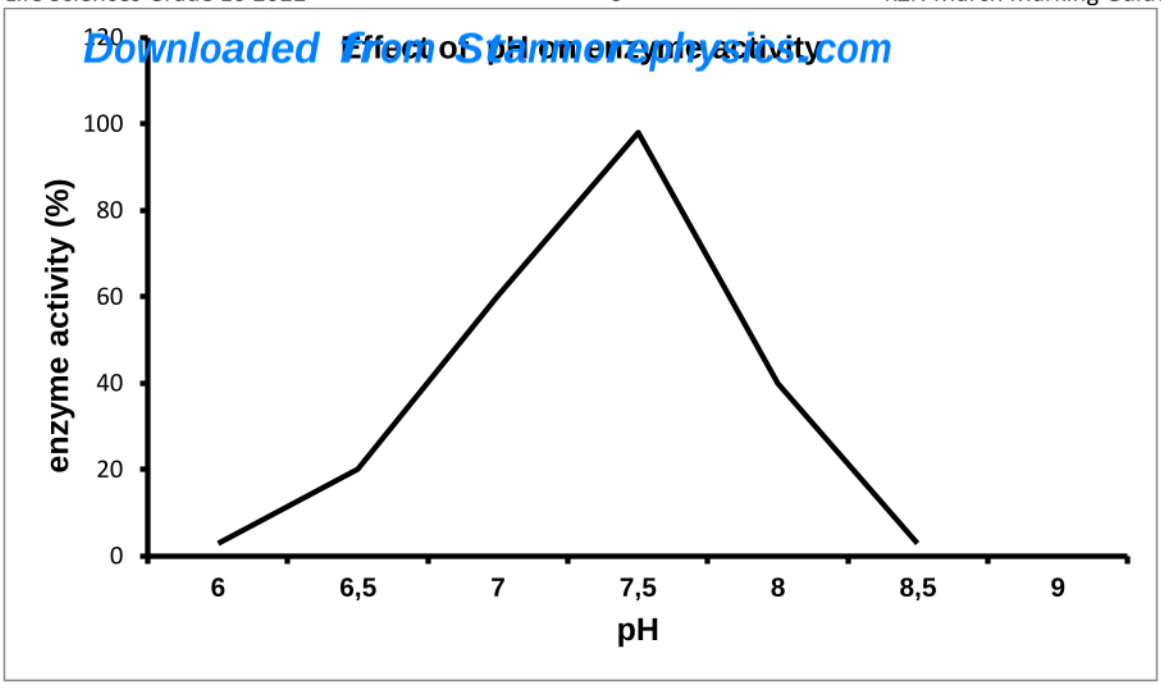
2.1.4 2 / two ✓ (1)

2.1.5 There is a cleavage furrow indicating the division of cytoplasm/ there is no cell plate dividing the cytoplasm✓ (1)
(MARK FIRST ONE ONLY)

2.1.6 It doubles genetic material ✓
To ensure that there are two copies of genetic material to be shared between the two resulting daughter cells✓ (2)
(9)

2.2 2.2.1
7,5✓
2.2.2 (1)
(a) Enzyme activity✓
(b) pH✓ (2)

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Marking allocation of the graph

Criteria	Marks
Correct type of graph **(T)**	1
Caption **(C)**	1
Correct labels with units in both Y & X –axis **(L)**	1
Correct scale in both Y and X – axis,**(S)**	1
Correct plotting **(P)**	1: 1 – 5 points plotted correctly 2: all 7 points plotted correctly

(6)

2.2.4 Increase sample size✓
Repeat investigation✓
(MARK FIRST TWO ONLY) (2)

(11)

TOTAL QUESTION 2 20

QUESTION 3

3.1	3.1.1	X✓		(1)
	3.1.2	large vacuoles present✓ has chloroplast✓ has cell wall✓ has regular shape ✓ (**MARK FIRST TWO ONLY**)		(2)
	3.1.3	Nucleic acids✓		(1)
	3.1.4	C✓		(1)
	3.1.5	Substances won't be able to go inside and outside of the cell✓ Waste substances will accumulate inside the cells✓ Resulting in a cell dying✓ Useful substances won't be able to enter the cell✓ Cause the shortage of useful substances inside the cell✓ Leading to a cell becoming inactive or dying✓	any 4	(4)
	3.1.6	The cell contents will shrink✓ Pulling away the cell membrane from the cell wall✓ And that can lead to death of the cell / plant ✓	any 2	(2) **(11)**
3.2	3.2.1	Mitochondrion✓		(1)
	3.2.2	Total magnification = 10 x 40✓ = 400x✓		(2) **(3)**
3.3	3.3.1	Carbon✓ Hydrogen✓ Oxygen✓ **(MARK FIRST TWO ONLY**)		(2)
	3.3.2	Proteins act as an energy reserve✓ They are important in cell communication✓ Helps repair and build body tissues✓ Allows metabolic reactions to take place✓ Catalysis reactions✓	any (4x1)	(4) **(6)** **[20]**

TOTAL SECTION B: 40
GRAND TOTAL: 60

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