Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

LIFE SCIENCES

COMMON TEST

MARKING GUIDELINE - MARCH 2018

NATIONAL
SENIOR CERTIFICATE

GRADE 11

MARKS: 60

This memorandum consists of 6 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.
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)**
    Do not 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.

SECTION A

QUESTION 1

1.1 1.1.1 B ✓✓
1.1.2 B ✓✓
1.1.3 C ✓✓
1.1.4 D ✓✓
1.1.5 A ✓✓ (5 x 2) **(10)**

TOTAL SECTION A: 10

SECTION B

QUESTION 2

2.1 2.1.1 As height above sea level/altitude increases the death rate from cholera increases✓✓

OR

As height above sea level/altitude increases the death rate from cholera decreases✓✓

OR

Height above sea level/altitude has no effect on the death rate from cholera✓✓ (2)

2.1.2 $\frac{60}{10\,000}$ x 2 500 000✓

= 15 000✓ (2)

2.1.3 - Course of antibiotics not completed✓
- resulting in production of more✓bacteria

- Mutations✓of bacteria may occur
- making them resistant✓to antibiotics

- Overuse✓of antibiotics
- kills antibiotic-sensitive bacteria✓, allowing antibiotic-resistant bacteria to grow and multiply Any 2 x 2 (4)
(Mark first TWO only)

2.1.4 - Introduction of antibiotics ✓
- Improved sanitation✓
- Improved hygiene✓ Any 2 (2)
(Mark first TWO only)

(10)

2.2 2.2.1 No✓ - A high percentage of women with cervical cancer have HPV16✓

OR

No✓ - A low percentage of women with cervical cancer have HPV6✓ (2)

2.2.2 Substance/molecule from HPV capable of producing an immune response✓/antibodies (1)

2.2.3 - Antibiotics are only effective in destroying living✓ organisms
- Viruses, like HPV, do not have the general characteristics of living organisms ✓ (2)
(5)
[15]

QUESTION 3

3.1 3.1.1 - Ensure food security✓
- Preservation of seeds that are resistant to pests✓
- Preservation of seeds that are resistant to harsh weather conditions✓/heat/drought/wind Any 2 (2)
(Mark first TWO only)

3.1.2 - These seeds are adapted for survival in hot, dry conditions✓ that may occur in all parts of the world in the future
- due to climate change/global warming✓ (2)

3.1.3 Cool✓ conditions (in Arctic/polar region)
Secure✓ location (deep inside mountain) Any 1 (1)
(Mark first ONE only) **(5)**

3.2 3.2.1 Algae✓ (1)

3.2.2 - Non-vascular✓
- Motile gametes✓ (2)

3.2.3 Motile sperm✓ (1)

3.2.4 - Flowers have a larger variety of pollinating agents✓
- increasing their chances✓ of pollination/fertilization/reproduction (2)
(6)

3.3 3.3.1 - Transfer of pollen✓
- from an anther to a stigma✓ (2)

3.3.2 - Rough/spiky edges✓
- to attach✓ to body covering of animal (2)
(4)
[15]

Total Section B: 30

SECTION C

QUESTION 4

Body Plan of Porifera

- Organisms are asymmetrical✓
- They have no cephalisation✓
- since they are sedentary✓/sessile
- Water circulates inside sac✓/spongocoel
- and is ejected through single opening✓/osculum
- Individual cells sense environment✓ and react to changes in the environment
- No tissues/organs present✓
- No coelom present✓
- No gut present✓/no mouth since
- they are filter-feeders✓
- No blood system present✓
- since all cells are in direct contact with the water✓
- so diffusion is sufficient✓
- for all cells to obtain nutrients✓/for gaseous exchange/for waste removal

Any 8 (8)

Body Plan of Platyhelminthes

- Bodies are flat✓
- and have no coelom✓/acoelomate
- enabling rapid diffusion of substances✓
- This enables endoparasitic organisms✓
- to obtain food efficiently✓
- They are triploblastic✓/have ectoderm, endoderm and mesoderm
- allowing greater complexity/differentiated tissue/organ specialisation✓
- which suits the lifestyle of a motile✓organism
- Some have a blind gut✓/one gut opening
- No blood system✓
- since the process of diffusion is sufficient✓to obtain substances needed
- Organisms have bilateral symmetry✓
- and dorsoventral differentiation✓
- They have cephalisation✓
- Cephalisation enables mobile organisms✓
- to detect food✓/sense danger
- and respond quickly when entering a new environment✓

Any 9 (9)

Content: (17)
Synthesis: (3)
(20)

ASSESSING THE PRESENTATION OF THE ESSAY

Relevance	Logical sequence	Comprehensive
All information provided is relevant to the topic	Ideas arranged in a logical/ cause-effect sequence	Answered all aspects required by the essay in sufficient detail
All information provided is relevant to: - The body plan of Porifera in relation to its mode of life - The body plan of Platyhelminthes in relation to its mode of life There is no irrelevant information.	All information regarding: - The body plan of Porifera in relation to its mode of life - The body plan of Platyhelminthes in relation to its mode of life Is arranged in a logical sequence	Required minimum mark for each aspect: - The body plan of Porifera in relation to its mode of life **(5/8)** - The body plan of Platyhelminthes in relation to its mode of life **(6/9)**
1 mark	1 mark	1 mark

TOTAL SECTION C: 20

GRAND TOTAL: 60