



University of Fort Hare
Together in Excellence

LIFE SCIENCES METHOD
MODULE CODE: MML 411/MBI 411/MLS 412

FINAL EXAMINATION
JUNE/JULY MAIN EXAMINATION
2023

Time: 3 hours
Module: MML 411/MBI 411/MLS 412
Marks: 100

This paper consists of 4 pages including the cover page

Internal Examiners

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Instructions:

1. This assessment task consists of FOUR questions with question 1 and 2 consisting of two questions Question 1A & 1B. Choose one question, A or B from each of these questions.
2. If you choose 1A then you will have to choose 2B or Question 1B and 2A (you cannot choose A on both questions or B on both questions).
3. Marks are allocated according to the points discussed (you are expected to give 10 points for 10 marks) unless stated otherwise.

QUESTION 1A: INDIGENOUS KNOWLEDGE; ANALYSIS OF CAPS LIFE SCIENCES
[25 MARKS]

Critically discuss opportunities, strategies and challenges regarding effective integration of IK into LS lessons. [25 marks]

OR

QUESTION 1B: INDIGENOUS KNOWLEDGE; ANALYSIS OF CAPS LIFE SCIENCES
[25 MARKS]

- 1.1 As an effective Life Sciences teacher, you are expected to integrate Indigenous Knowledge (IK) into your lessons.
- 1.1.1 Explain TWO advantages of integrating IK into Life Science lessons. (4)
- 1.1.2 Name any THREE examples of Life Sciences concepts and describe the relevant IK that you would make use of to enhance learners' understanding of these concepts. (6)
- 1.2 There have been numerous changes made to the Life Sciences curriculum since the end of apartheid. Describe TWO curriculum changes that in your opinion have disadvantaged learners in rural areas of South Africa. You need to explain exactly why / how these changes have disadvantaged rural learners. (10)
- 1.3 One of the Specific Aims of CAPS Life Sciences is "Investigating phenomena in Life Sciences". List any FIVE skills learners are expected to acquire under this Specific Aim. (5)

[25 marks]

QUESTION 2A: TEACHING METHODS IN LIFE SCIENCE [25 MARKS]

Critique and reflect on the various teaching approaches and methods used in Life Sciences teaching, using relevant examples to highlight your views. [25 marks]

OR

QUESTION 2B: TEACHING METHODS IN LIFE SCIENCE [25 MARKS]

2. Read the extract below and answer the questions that follow:

Researchers in South Africa have identified teachers' use of didactic teaching methods as one of the factors that contribute to the poor performance of learners in Life Sciences. Thus, there is urgent need for the country's Life Sciences teachers to adopt teaching methods that promote active learning during their lessons. Among the constructivist principles that underpin active learning is the view that learning is a social process, as well the recognition of learners' prior knowledge. Life Sciences teachers are encouraged to make use of teaching methods such as the problem-based method, although teachers still face numerous obstacles in implementing these teaching methods in their classes. (Source?)

- 2.1 Describe ANY THREE factors affecting teachers and their teaching. (6)
- 2.2 Explain how you would make use of the following constructivist principles to improve the quality of teaching and learning during your Life Sciences lessons:
- 2.2.1 Learning as a social process. (3)
- 2.2.2 Learners have prior knowledge. (3)
- 2.3. In the extract above, the problem-based method is named as one of the teaching methods that enhance active learning.
- 2.3.1 Describe your understanding of problem-based learning. (4)
- 2.3.2 List any THREE other teaching methods that you can use during your Life Sciences lessons to promote active learning. (3)
- 2.4 Describe THREE challenges that you are likely to face during your Life Sciences lessons when using active learning teaching methods. (6)

[25]

Question 3: ICT integration, Analysis of CAPS Life Sciences [25 Marks]

You have been appointed as a Life Science educator at Amahlathi Senior Secondary school and you wish to request the School Governing Body (SGB) to allocate funds for purchasing ICT tools for use during your Life Sciences lessons.

- 3.1 Suggest any THREE examples of ICT tools that should be considered during the allocation of funds? (6)
- 3.2 For each ICT tool named in (3.1), briefly explain how you would use it in your Life Science lessons. (9)
- 3.3 Critically reflect on challenges for effective ICT integration into Life Sciences lessons. (10)
- [25]

Question 4: Practical work in Life Sciences [25 marks]

- 4.1 Explain the importance of practical work in Science education. (5)
- 4.2 Describe different practical activities that can be used in Life Sciences education. (5)
- 4.3 Design, implement and assess a Life Sciences practical. (15)
- [25]

TOTAL: 100 MARKS