



<u>FACULTY</u>	: Education
<u>DEPARTMENT</u>	: Science and Technology Education
<u>CAMPUS</u>	: APK
<u>MODULE</u>	: METHODOLOGY AND PRACTICUM: NATURAL SCIENCE 3A (MOSPNA3)
<u>SEMESTER</u>	: First
<u>EXAM</u>	: May 2019

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MODERATOR : DR L MAVURU

DURATION : 1 HOUR **MARKS** : 50

NUMBER OF PAGES: 4 PAGES

INSTRUCTIONS:

1. Answer ALL THE QUESTIONS.
 2. Number your answers clearly.
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QUESTION 1

There are different models of curriculum design, however, South African curriculum is based on Tyler Model of Curriculum Design. This model address three important aspects when designing a curriculum: The nature and structure of knowledge; the needs of the society; and the needs of the learner.

- 1.1 From the three mentioned aspects, select one aspect you understand fully and discuss why it is important for the curriculum developers to take into consideration this aspect when drafting/designing a curriculum. (5)
- 1.2 South Africa experienced several school curriculum reforms. Identify and discuss three (3) factors that have driven science curriculum reform in South Africa. (6)

[11]

QUESTION 2

- 2.1 Science is different from other subjects, identify one characteristic of science that you are aware of and provide an example. (2)
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2.2	<p>Below is an example of a Natural Sciences experiment for grade 9. The lesson objectives are to concentrate on the ability of water to absorb and release large quantities of energy as it undergoes a change of state and to discuss the role of the evaporation process in the regulation of the weather and climate. Read the abstract and respond to question 2.2.1-2.2.3</p> <p>ACTIVITY</p> <p>When auntie Lindiwe feels like a cold glass of lemonade, she adds a couple of ice-blocks in it. Why adding ice-blocks at 0°C and not just cold water at 0°C? Well, auntie thinks that when she adds ice-blocks, her juice stays cool for longer!</p> <p>Is auntie Lindiwe right, what do you think? Do an investigation to find out. Work in groups. Use polystyrene cups, mass scale, watch, thermometer, and water and ice blocks. Before you begin, plan your investigation (it must be a “fair test”!) and write down the steps you will follow. Prepare a table to record your measurements. When you finish your investigation, discuss the result with your group. How do you explain this result? What does it mean? Prepare to report on the steps of your investigation and your conclusions.</p>	
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Have You
noticed That
too?

- 2.2.1 What NOS tenet(s) are addressed by the above activity? (6)
- 2.2.2 What is the specific aim addressed by the same investigation?
Substantiate your answer. (2)
- 2.2.3 What pre-requisite science knowledge and process skills are essential for learners to successfully accomplish the investigation? Justify. (4)

[14]

QUESTION 3

- 3.1 What are the three (3) domains that lesson outcomes should cover? (3)

3.2 Briefly elaborate on each domain mentioned in question 3.1. (6)

3.3 Lesson planning occurs within a broader framework of guiding questions.

How many guiding questions are there? (1)

[10]

QUESTION 4

As a Science teacher you are required to set a standardised final exam for schools in your cluster. Identify and discuss what form of assessment the final exam can be classified as. In your discussion clearly identify and discuss the cognitive levels that your paper will cover.

(15)

[15]

TOTAL: 50