



<u>FACULTY</u>	: Education
<u>DEPARTMENT</u>	: Science and Technology Education
<u>CAMPUS</u>	: APK
<u>MODULE</u>	: METHODOLOGY AND PRACTICUM: PHYSICAL SCIENCES (MOFPPA3)
<u>SEMESTER</u>	: First
<u>EXAM</u>	: May 2019

<u>ASSESSOR(S)</u>	: Mr A SONDLLO		
<u>MODERATOR</u>	: Dr S RAMAILA (UJ)		
<u>DURATION</u>	: 1 HOUR	<u>MARKS</u>	: 50

NUMBER OF PAGES: 4 PAGES

INSTRUCTIONS:

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

There has been overwhelming support from the public and other stakeholders for the principles of the reformed school science curriculum. However, many science teachers experience barriers when implementing changes.

- 1.1 Identify and discuss any two barriers that impede the implementation of the reformed school science curriculum. (4)
- 1.2 What strategies can science teachers implement in addressing the two barriers you have identified in 1.1? (7)
- [11]

QUESTION 2

- 2.1 Define inquiry-based learning. (3)
- 2.2 Describe any three (3) essential features of inquiry-based learning according to the National Science Education Standards of the United States. (6)
- 2.3 Discuss whether Inquiry Based Learning enhance student's learning or not in science classroom? And how does inquiry-based learning support science concept formation. Use examples from your own subject area in this discussion. (6)
- [15]

QUESTION 3

- 3.1 CAPS emphasised the importance of Specific Aims, which we referred to as 'guidelines on how to prepare learners to meet the challenges of society and they feature during teaching, learning and assessment' (DoE, 2011). Choose any Physical Sciences topic and design a lesson that is in line with

Specific Aim 1 'Doing Science'. In your response, consider the following:

3.1.1 Topic and grade; (2)

3.1.2 Skills addressed through this specific aim and activity; (3)

3.1.3 Summary of content knowledge; (3)

3.1.4 Purpose or objectives of the lesson; and (3)

3.1.6 Questions for assessment. (2)

[13]

QUESTION 4



Figure 1: An energy diagram

4.1 What is the expected cognitive learning outcome of the simulation in the above figure? (2)

4.2 Describe how a teacher may use this simulation in class. Consider the role of the science teacher and the role of the learners. (5)

4.3 Formulate any two (2) questions for a worksheet that could prompt the learners in forming the science concept represented in this interactive simulation. (4)

[11]

TOTAL: 50