

UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
SUPPLEMENTARY EXAMINATION PAPER
JULY 2013
B. Ed. III AND PGCE

Title of paper: Curriculum Studies in Chemistry II

Course number: EDC 379

Time allowed: 3 hours

Instructions:

1. This paper contains FIVE questions
2. Question 1 is COMPULSORY. You may then choose ANY THREE questions from Questions 2, 3, 4, and 5.
3. Marks for each question are indicated at the end of the question.
4. Any piece of material or work which is not intended for marking purposes should be clearly CROSSED OUT
5. Ensure that responses to questions are NUMBERED CORRECTLY

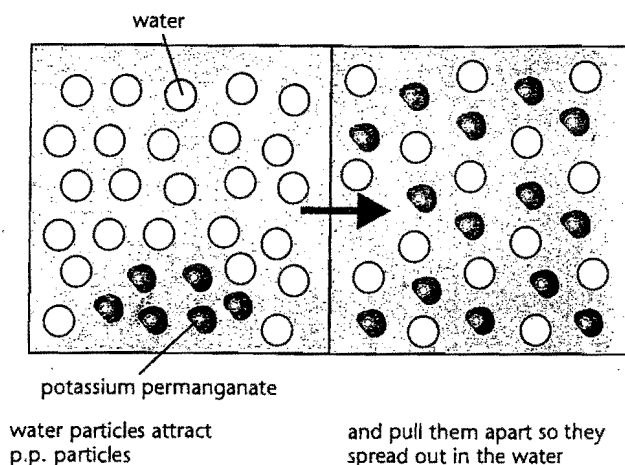
Special Requirements

SGCSE Physical Science syllabus (6888) (Chemistry section)

THIS PAPER SHOULD NOT BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR

QUESTION 1

- a) The diagram below is taken from a Physical Science text book. Study the diagram and then answer the questions below it. [NB: In the original diagram the water particles are white and the potassium permanganate particles are purple]



- i) What chemical phenomenon is the diagram intended to illustrate? [2]
- ii) Identify **three** possible misconceptions learners might develop from the diagram? [6]
- iii) What would you consider to be the correct conceptions for each of the identified misconceptions? [6]
- b) Describe **three** ways in which a chemistry teacher may use computers and accessories for teaching. [6]
- c) As part of the process of developing a science curriculum, the developed curriculum and support materials have to go through various stages of evaluation. This is an important step in curriculum development.
- i) What is curriculum evaluation? [2]
- ii) Why is curriculum evaluation an important step in curriculum development? [3]
- [25]

QUESTION 2

- a) Describe fully the importance of preparing a detailed scheme of work before embarking on teaching chemistry. [21]
- b) Why is it advisable for a chemistry teacher to always write a lesson evaluation at the end of each lesson? [4]
- [25]

QUESTION 3

- a) *Schools can be used to promote gender equity in science and technology.*
Support this statement. [10]
- b) For the chemistry topic: *C5.Atoms Elements and Compounds*, describe how you would use **one** specified resource to maximise the learning of concepts in the topic. In your description also indicate the following:
- i) at least **three** chemistry concepts learners may learn;
 - ii) how you would use the resource and engage learners during the learning of the selected concepts;
 - iii) the precautions you might consider when using the specified resource in order to maximise concept development. [15]
- [25]

QUESTION 4

Discuss how each of the following factors may affect the implementation of a curriculum, such as SGCSE Physical Science.

- a) Culture [5]
 - b) Teachers [8]
 - c) Science education policy [5]
 - d) The society [7]
- [25]

QUESTION 5

Language plays an important role in teaching and learning of chemistry, yet learners are often challenged by it.

- a) Discuss the challenges learners encounter regarding language in learning chemistry. [15]
- b) *To overcome obstacles to learning, student conceptions researchers have been focusing on identifying and assessing students misconceptions... (Sirhan, 2007:8)*
- i) What do you understand by misconceptions in chemistry? [3]
 - ii) Discuss the advantages of assessing learners' misconceptions in chemistry. [7]
- [25]