UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
SUPPLEMENTARY EXAMINATION PAPER
July 2011
B. Ed. III AND PGCE

Title of paper: Curriculum Studies: Chemistry

Course number: EDC 379

Time allowed: 3 hours

Instructions:

1. This paper contains SIX questions
2. Question 1 is COMPULSORY. You may then choose ANY THREE questions from questions 2, 3, 4, 5 and 6.
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)

QUESTION 1

This question is compulsory

a) Kelly (2010) states that "... chemistry is a language as well as a body of content, ...it needs to be taught as a language and as well as a body of content."

Discuss Kelly's statement, using specific examples from chemistry to illustrate your views. [10]

b) Using the principles of contextualisation, suggest a sequence for teaching the content found in the Topic: Metals (see Chemistry section of the SGCSE Physical Science syllabus 2011/2012 attached) in a contextualised way. Justify your sequence. [15]

QUESTION 2

Molymod atomic and molecular models are a useful resource for teaching certain chemistry concepts. Select 3 concepts in chemistry that could be taught using these models and discuss how these models would assist the process. [25]

QUESTION 3

Discuss how each of the following may help promote understanding of chemistry concepts. Use examples from chemistry to illustrate your points

a) Advance organisers

b) Analogies

c) Concept mapping

d) Sequencing [25]

QUESTION 4

a) The teaching of science and the society are inter-dependent. Discuss the relationship that exists between science and society. [10]

b) A chemistry teacher wants to use a resource person from one of the industries in Swaziland to give a talk to one of her/his chemistry classes. Outline the procedure the teacher might follow to make use of the services of the resource person to the school. [15]

QUESTION 5

Suppose you identify the following misconception among your pupils.

When a substance undergoes a change of state, the particles of the substance also undergo a change of state.

a) Why is this idea considered a misconception? [2]

b) What might be the source(s) of such a misconception? [3]

c) What strategies might a teacher use to determine the kinds of misconceptions learners may have in chemistry? [5]

d) Describe (an) activity(ies) that a teacher might use to assist pupils undergo conceptual change. [15]

QUESTION 6

a) Explain why input from the following stakeholders need to be obtained when developing a school science curriculum:

i) teachers

ii) employers

iii) parents [12]

b) Identifying and formulating objectives, selecting content, and designing learning experiences are important steps in developing a curriculum.

Using the example of a chemistry curriculum, briefly describe what each of the three processes referred to above involve, indicating how each is related to the other. [13]