

**UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
MAIN EXAMINATION PAPER
M. Ed.**

MAY 2011

Title of paper : Curriculum Studies: Chemistry

Course number : EDC 647

Time allowed : 3 hours

Instructions :

1. This paper contains SIX questions
2. Answer ANY Four questions
3. Answer all questions in essay form
4. Each Question carries 25 marks as indicated
5. Any piece of material or work which is not intended for marking purposes should be clearly **CROSSED OUT**

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

Magnusson et al. (1999) present five components of pedagogical content knowledge as ways of viewing teacher knowledge and beliefs: orientation towards science teaching, knowledge of the science curriculum, knowledge of students' understanding of science, knowledge of instructional strategies, and knowledge of assessment in science.

Discuss each of these components in relation to teaching a chemistry topic of your choice. [25]

QUESTION 2

The schema theory presents four ways that learners may use to process and learn information received from the environment: rote learning, reliance on prior knowledge, meaningful integration and meaningful conceptual change.

Discuss these kinds of learning making use of examples from chemistry. [25]

QUESTION 3

Self-appraisal, self-regulation, self-motivation and beliefs are some of the important perspectives of metacognition.

Show the significance of these perspectives in enhancing learning in chemistry. [25]

QUESTION 4

Misconceptions have been identified as one of the areas that lead to learning difficulties for chemistry learners, yet they are highly resistant to instructional strategies not specifically designed to address them.

Discuss this statement, using examples from a chemistry topic of your choice to support your discussion. [25]

QUESTION 5

Performance assessment and portfolio assessment are some alternative assessment approaches that are being advocated by many science educators as alternatives to traditional assessment forms.

Discuss your views on performance and portfolio assessments and their implications for the assessment of science in Swaziland. [25]

QUESTION 6

An understanding of the inquiry nature of science may be promoted using inquiry-based teaching strategies.

Discuss inquiry based teaching strategies in the context of chemistry their implications for science teaching in Swaziland. [25]