

UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
DEPARTMENT OF CURRICULUM AND TEACHING
MAIN EXAMINATION PAPER

M. Ed.

December 2009

Title of paper: Curriculum Studies: Chemistry I

Course number: EDC 646

Time allowed: Three (3) hours

Instructions:

1. This paper contains FIVE questions.
2. Answer Question 1 and then choose ANY TWO questions
3. Answer all questions in continuous essay form.
4. Questions carry marks as indicated.
5. Any piece of material or work which is not intended for marking purposes should be clearly **CROSSED OUT**. Ensure that responses to questions are **NUMBERED CORRECTLY**.

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

QUESTION 1

This question is compulsory

Lederman (1992) states that '*the development of an "adequate understanding of the nature of science" or an understanding of "science as a way of knowing" continues to be the objective of science instruction.*' (331)

Discuss the importance of understanding the nature of science for both pupils and teachers, indicating also the feasibility of developing such understanding among science pupils in Swaziland schools. [40]

QUESTION 2

Scientific inquiry (method) is usually presented as if it follows a series of simple steps.

Outline and discuss the developments and nature of scientific inquiry. Your discussion should also show why the stepwise presentation of scientific inquiry may be misleading. [30]

QUESTION 3

The chemical revolution and the scientific revolutions demonstrate the development and evolution of scientific ideas. The revolutions also highlight the kind of resistance new ideas encounter from different angles.

Discuss the relationship between the chemical revolution and the scientific revolutions and show the kinds of resistance new scientific ideas may need to overcome before entering the realm of scientific knowledge. [30]

QUESTION 4

The aims of science education are many and their attainment depends on the science curriculum offered and its implementation. According to Trowbridge and Bybee (1991:133-134) these aims include:

Developing scientific knowledge that provide fundamental understanding of natural system

Developing fundamental understanding of, and ability to use, methods of scientific investigations

Preparing citizens to make responsible decisions concerning science related social issues

Discuss the significance of these aims and indicate your views on the extent to which the science curriculum offered in schools and its implementation meet these aims. [30]

QUESTION 5

Science curriculum relevance has been an area of concern for many decades, and has inspired many curriculum reviews and reforms. STS approaches in curriculum development and implementation are some the models that have been used to promote curriculum relevance.

What does the STS approach involve and how might it promote relevance of school science? [30]