

UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
DEPARTMENT OF CURRICULUM AND TEACHING
MAIN EXAMINATION PAPER
M. Ed.
December 2014

Title of paper: Curriculum Studies in Chemistry I

Course number: EDC 646

Time allowed: Three (3) hours

Instructions:

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

Special Requirement

SGCSE Physical Science syllabus 6888 (Chemistry section)

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

QUESTION 1

Smith and Scharmann (1999) note that while science educators agree that the nature of science should be taught at school level there is no consensus about the nature of science or what should be taught about the nature of science.

Discuss your views regarding Smith and Scharmann's (1999) observation in the context of the school science curriculum in Swaziland. [25]

QUESTION 2

"...the scientific method will bring us close to truth even though we will never arrive at truth, for we are always theory bound. Science always results in theory, not pure objective truth". (Naugle, undated)

Discuss your views about the ideas raised in the statement above. [25]

QUESTION 3

The goals of science education are many and their attainment depends on the science curriculum offered and its implementation. Trowbridge and Bybee (1991:133-134) summarise the goals of science education into five main goals:

Discuss **three** of the goals of science education and indicate your views on the extent to which the school science curriculum and its implementation meet these goals. [25]

QUESTION 4

School chemistry curriculum has a potential to contribute to learner's holistic development. As such Mbajorgu (2006) advises that a number of factors need to be considered when designing and developing chemistry curricula.

Discuss **five (5)** factors that must be considered when designing chemistry curricula with reference to the Swaziland General Certificate of Secondary Education Physical Science-Chemistry curriculum. [25]

QUESTION 5

The "...Decade for Education for Sustainable Development (DESD) ... spans the years from 2005 to 2014 and has the goal of thoroughly and internationally implementing ESD in schools and all other educational domains. All educational levels and domains are tasked with contributing to ESD, including science education. A particular focus is placed upon secondary school chemistry education." (Burmeister and Eilks, 2013, pp 168).

Discuss Education for Sustainable Development and the role of chemistry education in promoting ESD in Swaziland secondary schools. [25]