

**UNIVERSITY OF SWAZILAND**  
**FACULTY OF EDUCATION**  
**RE-SIT EXAMINATION PAPER**  
**JULY 2018**  
**B. Ed. II /PGCE**

**Course Code:** CTE229/CTE529  
**Title of paper** Curriculum Studies in Chemistry I  
**Time allowed:** 3 hours

**Instructions:**

1. This paper contains FIVE questions.
2. Question 1 is COMPULSORY. You may then choose and answer ANY THREE questions from Questions 2, 3, 4, 5.
3. Each question carries 25 marks. Marks for each question and sub-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**

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

## QUESTION 1

A Chemistry teacher stated the SGCSE Physical Science learning outcome

*“ Investigate the differences in volatility (including melting point and boiling point), solubility and electrical conductivity between ionic and covalent compounds.”*

- a) What scientific ideas might learners learn in lessons targeting this syllabus learning outcome? [12]
- b) Construct three learning outcomes for a lesson targeting different competencies. [6]
- c) The interpersonal domain focuses on the development of learners' interpersonal relationships.

What activities might the Chemistry teacher referred to above engage learners in to enable them to develop interpersonal skills while teaching to attain the learning outcome stated? [7]

## QUESTION 2

- a) Discuss the functions of assessment in learning showing their role in teaching and learning of chemistry. [16]
- b) Discuss the use of tables of specification when developing examination papers for SGCSE Physical Science? [9]

## QUESTION 3

Practical skills are assessed either through the Practical Test Paper or the Alternative the Practical Paper.

Discuss these two approaches of assessing practical skill in SGCSE Physical Science. [25]

## QUESTION 4

Suppose you wish learners to develop abilities as indicated in **learning outcome (b)** in the JC Science Syllabus 2014 extract shown below.

JC SCIENCE Syllabus 414  
October/November 2015 Examination

### 18. Metals

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All learners should be able to:

- (a) describe the general physical properties of metals
- (b) investigate and place in order of reactivity: calcium, copper, (hydrogen), iron, magnesium, potassium, sodium and zinc by reference to the reactions, if any and where relevant, of the metals with water or steam and dilute hydrochloric acid (word equations required for reactions with dilute hydrochloric acid only)
- (c) describe the ease in obtaining metals from their ores by relating the elements to the reactivity series.
- (d) name metals that occur in pure state: copper and gold.
- (e) name the main ores of aluminium and iron.
- (f) define oxidation and reduction in terms of oxygen gain/loss only.
- (g) describe the essential reaction in the extraction of iron (reduction of iron (III) oxide).
- (h) Define an alloy as a mixture of two or more metals or a metal and a non metal.
- (i) describe the idea of changing the properties of iron by the controlled use of additives to form steel alloys.
- (j) name the uses of mild steel (car bodies and machinery) and stainless steel (chemical plant and cutlery).
- (k) name the uses of zinc for galvanizing and for making brass.
- (l) name the uses of copper (electrical wiring and in cooking utensils) and aluminium (aircraft bodies and food containers), relating them to their properties.

- a) Identify two teaching methods you could use for learning outcome (b). [2]
- b) Discuss the two methods identified in (a) above, showing how you might go about using to ensure successful attainment of learning outcome (b). [12]
- c) i) Construct assessment item(s) worth a total of 10 points that could be use to assess learning outcome (b). [4]
- ii) Construct a marking guide for the item(s) in c) i) above. [7]

## QUESTION 5

Discuss schemes of work in preparing for instruction in Chemistry. [25]