

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER - 2008: BED III PRIMARY

COURSE NUMBER: PEC 376/377

COURSE NAME: CURRICULUM STUDIES: MATHEMATICS AND SCIENCE

TIME ALLOWED: 3 HOURS

- INSTRUCTIONS:
1. THIS PAPER HAS **TWO** SECTIONS.
 2. ANSWER ANY **TWO** QUESTIONS FROM EACH SECTION. ANSWER A TOTAL OF **FOUR** QUESTIONS
 3. DOCUMENTS REFERRED TO IN SOME OF THE QUESTIONS ARE ATTACHED. IF YOU CAN'T FIND THEM ASK FOR THEM.
 4. ANY PIECE OF MATERIAL WHICH IS NOT FOR MARKING PURPOSES MUST BE CROSSED OUT CLEARLY.

SPECIAL REQUIREMENTS: NCC MATHS AND SCIENCE BOOKS

THIS PAPER MUST NOT BE OPENED UNTIL PERMISSION IS GIVEN BY THE INVIGILATOR

SECTION A - PEC 377

Answer any **two** questions from this section

Question 1

Study the following section of a lesson

Teacher brought salt, water, cooking oil and several empty containers for the lesson. after preliminaries the lesson went as follows:

Teacher: someone come and mix the oil and the water, anyone, (a student pours water into an empty container and then pours oil onto the water.
 Teacher: what do you notice?
 Class: the oil is on top of the water
 Teacher: why?
 Class: the oil is lighter than water
 Teacher: yes the oil is lighter or is it denser than water
 Teacher: now let us mix the salt and water, what happens to the salt?
 Class: it melted, it evaporated, it became water vapour.
 Teacher: can you separate the salt from the water?
 Student 1: no.
 Student 2: add water
 Student 3: add salt
 Teacher: add more water (salt to this?)
 Silence.

- a. Give a brief critique of this lesson indicating its strong and weak points. (10)
- b. What misconceptions are shown to exist in this class? (5)
- c. Suggest strategies you might use to address the misconceptions identified. (10)

Question 2

- a. Describe how your experience on teaching practice helped you apply contextualisation. (10)
- b. Write a contextualised lesson plan for teaching 'Gases' to a Grade 5 class. (15)

Question 4

- a. Draw a worksheet you would use for the lesson in question 1 above. (12)
- b. Discuss the issues related to selecting resources in science giving an example of one resource you consider most useful (13)

SECTION B – PEC 376

Answer any **Two** questions from this section

Question 5

Discuss what any **two** of the following entails in the teaching process

- a) Situated cognition
 - b) Constructivism
 - c) Discovery learning
- (25)

Question 6

One can lead a horse to the river; twenty cannot make him drink...

- a) Discuss the educational ideas inherent in this statement. In your discussion, present the behaviourist and the constructivist views of motivation. (10)
- b) Mathematics is believed to be a difficult subject thus many people shy away from it yet research has shown that children enter the school system with high interest in mathematics.

Indicate what you might do to ensure that children's motivation in mathematics is maintained if you were a constructivist. (15)

Question 7

... change is the only constant in science and mathematics education ...

- a. Discuss this statement indicating your understanding of change in curriculum and courses of change. (15)
- b. Give examples from mathematics that show that change is indeed occurring in mathematics education in Swaziland. (10)