Course Code PEC376 December 2012

UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER 2012

B.Ed PRIMARY

COURSE NAME: CURRICULUM STUDIES IN MATHEMATICS

TIME ALLOWED: 3HOURS

INSTRUCTIONS:

1. There are 5 questions in this paper.
2. Each question has 25 marks
3. Answer 4 questions

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

Question1

a) Discuss **five** different language difficulties in the teaching and learning of primary school mathematics. [15]
b) Critique appendix 1on the next page, a lesson from a primary school text book, on relevant language issues. [10]

Question 2

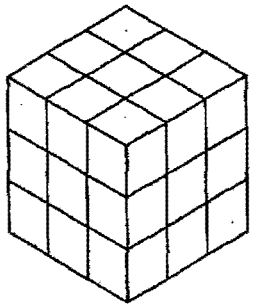
a) The principal at your school has appointed you the overseer of mathematics. Write a 15 minutes paper to motivate teachers of mathematics in the school to use problem solving and investigations in their teaching. [10]
b) Below is a problem from a grade 7 text book. Work out the problem. [5]
c) Critically comment on its mathematics content and appropriateness for the level. [5]
d) Lastly using Schoenfeld's(1983) definition of a problem state why this is or is not a problem. [5]

Painting cubes

The large cube on the right consists

of 27 unit cubes.

All six faces of the large cube are painted green.



- How many unit cubes have 3 green faces?
- How many unit cubes have 2 green faces?
- How many unit cubes have I green face?
- How many unit cubes have 0 green faces?

Question3

Write an essay on motivation in primary school mathematics. Your essay should make reference to the following constructs: **Achievement, feedback, variety, meaning** and **active involvement.** [25]

Question 4

a) Give a detailed discussion of how a curriculum change in secondary school mathematics might affect the curriculum at primary school. [15]

b) Show how realistic mathematics education (RME) can be used in the introduction of common fractions. [10]

Question 5

Write an essay entitled "Situating the teaching and learning of primary school mathematics: The use of games and ideas from newspapers." [25]

Place value

In this lesson, you will give the place value of each digit in a 6-digit number. You will use place value vocabulary correctly.

Vocabulary: Place value, digit, spike abacus, place value strips

Example: 40 070

In this given number:
The **place value** of 4 is Ten Thousands.
The value of 4 is 4 Ten Thousands = 40 000.
The place value of 7 is Tens. The value of 7 is 7 Tens = 70.

Exercises:

1. Write the place value of the 3 in the following numbers:
   (a) 2 493 (b) 536 (c) 738 421 (d) 94 346
   (e) 723 810 (f) 327 000 (g) 300 568

2. Write the place value of 6 in these numbers:
   (a) three thousand, five hundred and eighty-six
   (b) six hundred and fourteen thousand and two
   (c) fifty-nine thousand, six hundred and thirty-two
   (d) six thousand, eight hundred and thirty-two
   (e) one hundred thousand and sixteen
   (f) two hundred and sixty-three thousand and ten
   (g) five hundred and six thousand and twenty-nine

3. Write the value of each digit in these numbers:
   (a) 483 (b) 4 237 (c) 23 415 (d) 273 015

Summary:

The value of a digit determines its position in the number. The value of places in a number is given in Ones, Tens, Hundreds, Thousands, Ten Thousands and Hundred Thousands.