UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2010: BED III PRIMARY

COURSE NUMBER: PEC 376/377

COURSE NAME: CURRICULUM STUDIES IN MATHEMATICS WITH SCIENCE

TIME ALLOWED: 3 HOURS

INSTRUCTIONS:

1. THIS PAPER IS DIVIDED INTO TWO SECTIONS. SECTION A IS FOR PEC 376 and SECTION FOR PEC 377.
2. ANSWER ANY **TWO** QUESTIONS FROM EACH SECTION.
3. DOCUMENTS REFERRED TO IN SOME OF THE QUESTIONS ARE ATTACHED. IF YOU DO NOT FIND THEM, ASK FOR THEM.
4. ANY PIECE OF WRITTEN MATERIAL WHICH IS NOT FOR MARKING PURPOSES MUST BE CROSSED OUT CLEARLY

SPECIAL REQUIREMENTS: PRIMARY BOOKS: GRADE VII MATHEMATICS
GRADE VII SCIENCE BOOKS

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

SECTION A - CURRICULUM STUDIES: MATHEMATICS

Answer **ANY TWO** questions from this section. Use the answer book provided for all answers.

Question 1

a) Using examples from the Grade VI mathematics programme; describe the role of preparing a scheme of work in mathematics teaching. (15)

b) Justify the inclusion of different lesson plan components. (10)

Question 2

Use examples from primary mathematics content to show how each of the following theories apply:

a) Situated cognition
b) Constructivism (25)

Question 3

a) The Swaziland school curriculum is undergoing change. Give a detailed description of what this change means and how it affects mathematics teaching. (15)

b) Supposing you were asked to describe contextualisation to a new colleague; describe what you would tell him/her with regard to teaching the concept of number?
(10)

Question 4

Discuss motivation in mathematics in the context of Swaziland classrooms. Your answer should present views from Behaviourist (e.g. Skinner) and Humanists (e.g. Maslow's theory) in your discussion. (25)

SECTION B - Curriculum Studies - Science

Answer any **two** questions from this section.

Question 5

a) Write an activity that aims to develop scientific processes among children. Your activity should involve problem solving. You may use the primary science materials provided. (15)

b) Discuss the factors involved when selecting teaching resources for the lesson. Indicate with reasons what resources you would use for activity described in a) above. (10)

Question 6

a) Using the primary science materials available, develop introductions for **two** different lessons of your choice. One lesson should clearly incorporate society and the other, technology issues in teaching science. (10)

b) In 2007 and 2008 forest fires ravaged the country. Many people were left homeless and many timber forests were burnt. Discuss the social implications of this occurrence and how it can be addressed in classroom teaching. (15)

Question 7

Suppose you were observing a series of science lessons from two teachers who had asked for your advice on how to improve their teaching. You reach a conclusion that teacher A's class had a language problem and that teacher B's class did not.

a.) Describe the incidences you might have observed in both classes that made you reach that conclusion. Your answer should indicate your understanding of language issues. (16)

b.) Outline possible strategies teacher A might employ to deal with the problem in her class. (9)

Question 8

Piaget and Vygotsky proposed powerful theories of learning.

a) Describe these theories showing how their theories differ. (20)

b) Pick an example of an activity from the primary science books and describe, using one of the theories, how it enables learners to develop the concept involved. (5)