UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER MAY 2016: BED II PRIMARY
COURSE NUMBER: PEC 276
COURSE NAME: CURRICULUM STUDIES: MATHEMATICS
TIME ALLOWED: 3 HOURS

INSTRUCTIONS:
1. THIS PAPER HAS **SIX** QUESTIONS.
2. YOU WILL ANSWER A TOTAL OF **FOUR** QUESTIONS
3. ANSWER QUESTION 1 and ANY **THREE** QUESTIONS FROM QUESTIONS 2, 3, 4, 5 AND 6.
4. EACH QUESTION IS WORTH **25 MARKS**
5. ANY PIECE OF MATERIAL WHICH IS NOT FOR MARKING PURPOSES MUST BE CROSSED OUT CLEARLY.

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

Question 1
a) Describe what you understand by each of the following in the context of primary school mathematics. In each case give examples of **two** topics where the method would be appropriate.
    (i) The Demonstration method [10]
    (ii) The Laboratory method [10]
b) Indicate how you would use an everyday context to teach the concept of area [5]

Question 2
a) Explain with examples from the primary school mathematics syllabus the process of adaptation [10]
b) Discuss how you would use Dienes' logic blocks to develop children's knowledge, comprehension and higher order abilities in the learning of shape and colour [15]

Question 3
a) Compare the use of the abacus, Dienes' base ten blocks and sticks in the teaching of addition of whole numbers with regrouping [15]
b) Choose one of the above materials to justify its use in learning the skill of addition with regrouping. [10]

Question 4
a) Children often have difficulty doing calculations involving time. This could be an indication that they did not grasp the concept of place value in arithmetic. Children were given the following problem: A car leaves Nhlangano at 0650h and arrives in Manzini at 0800h. How long does the car take to get to Manzini? Two children answered as shown below:

Child A	**Child B**
08:00	0800
− 06:50	− 0650
1:50	110 minutes
The car took 1hours 30minutes	The car took 1hour 50 minutes

Decode what each child is doing and explain how you would mark each child's work giving reasons for your allocation of marks.[12]
b) Pretend that the counting numbers are one, two, three four, umpty, umpty-one, umpty-two, umpty-three, umpty-four, dumpty, dumpty-one …,thrumpty.
    (i) How many fingers do you have on one hand in this system of counting? [2]
    (ii) An octopus in our everyday counting is believed to have 8 legs. How many legs does it have in the above system? [3]
    (iii) List odd numbers between one and thrumpty in the above system [4]
    (iv)What is your working definition of odd numbers in this system?[4]

Question 5

Below the number squares used in primary schools for teaching mathematics are shown.

    a) Complete each number square [5] **(Do this on this page and attach onto answer booklet)**

    b) Identify different patterns in each number square [10]

    c) Suggest how you would use each number squares when teaching mathematics [10]

+	0	1	2	3	4	5	6	7	8	9
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										

×	0	1	2	3	4	5	6	7	8	9
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										

Question 6

a) Explain the aim "appreciation of relationships within mathematics" in the context of primary school mathematics [10]

b) A lot of attention has been given to the affective domain in teaching and learning of school mathematics. Explain how you could contribute to this drive by instilling "good work habits" and "positive attitudes to mathematics" amongst children. [15]