

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER DECEMBER 2011: BED II PRIMARY

COURSE NUMBER: PEC 376

COURSE NAME: CURRICULUM STUDIES: MATHEMATICS

TIME ALLOWED: 3 HOURS

- INSTRUCTIONS:
1. THIS PAPER HAS SIX QUESTIONS.
  2. ANSWER QUESTION 1 AND ANY **THREE** OTHER QUESTIONS.
  3. YOU WILL ANSWER A TOTAL OF **FOUR** QUESTIONS. EACH QUESTION IS WORTH 25 MARKS
  4. DOCUMENTS REFERRED TO IN SOME OF THE QUESTIONS ARE ATTACHED. IF YOU DO NOT FIND THEM, ASK FOR THEM.
  5. ANY PIECE OF WRITTEN WORK WHICH IS NOT FOR MARKING PURPOSES MUST BE CROSSED OUT CLEARLY.

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

Answer **question 1** and any **three** other questions from this paper.

**Question 1** This question is compulsory.

Briefly describe the following terms:

- a. Misconceptions
  - b. Motivation
  - c. Situated cognition
  - d. Concept development
  - e. Problem solving
- (25)

**Total** **25 Marks**

**Question 2**

Study the following actual examples of responses to problems

i.  $2 \text{ into } 10 = 5 \text{ times}$                       ii.  $3m - 3 = m$   
 $10 \text{ into } 2 = 5 \text{ times}$

ii.  $420 \div 0.7 = 60$

- a) Identify the misconception shown in each case. (6)
- b) Suggest activities you would use to address each one of the misconceptions you have identified above. (17)

**Total** **25 Marks**

**Question 3**

- a) Compare and contrast the behaviourist and constructivist views of motivation. (15)
- b) In Maslow' hierarchy of needs, describe the esteem needs showing why it affects learning. (10)

**Total** **25 Marks**

**Question 4**

Describe how you would use the concept of situated cognition to explain the following:

- a. A child whose parents run a vegetable stall is unable to work out  $4 + 6$  (15)
- b. Describe an activity you would use to help children overcome the difficulties in a) above. (10)

**Total** **25 Marks**

**Question 5**

- a. Discuss language problems in a mathematics lesson giving examples of the problems caused. (15)
- b. Using the example of the term 'sum' show how you would address language problems in mathematics. (10)

**Total** **25 Marks**

**Question 6**

- a) Design an activity aimed at encouraging the following:
  - i. Creativity (9)
  - ii. Problem solving in mathematics. (9)
- b) What is involved in an investigation lesson in mathematics? (7)

**Total** **25 Marks**