

**UNIVERSITY OF SWAZILAND  
FACULTY OF EDUCATION  
FINAL EXAMINATION PAPER 2007**

**TITLE OF PAPER:** CURRICULUM STUDIES IN MATHEMATICS

**COURSE CODE:** EDC 381

**PROGRAMME:** B.ED 3 & PGCE

**TIME ALLOWED:** THREE (3) HOURS

**INSTRUCTIONS:** ANSWER ANY **FOUR** QUESTIONS. EACH QUESTION IS WORTH 25 MARKS.

**This paper contains 2 pages including this one**

### Question 1

- (a) State **five** disadvantages of objective testing [10]
- (b) A student teacher during teaching practice gave item 1 in a test. Analyse the item and say with support why it is a good or a bad item.[3]

#### Item 1

Express  $(x + 2y)^2$  as a sum of terms.

- (c) Objective testing skills can be used to break down a conventional examination question into objective test items for diagnostic purposes. Break down the following examination question into related objective test items [12]

#### Examination question

A cylindrical flask of height 20 cm and diameter 10 cm is being filled with water from a tap at a constant rate. If the water is 4 cm deep after 10 seconds what is the volume of water in the flask in cubic centimetres to the nearest tenth after 30 seconds.

### Question 2

Some of the difficulties in the learning of mathematics are associated with language

- (a) State **five** general errors that are associated with language in the learning of maths. [5]
- (b) Outline **ten** other possible language problems in the SGCSE syllabus [10]
- (c) What advice would you give to your colleagues to overcome the problems stated in (b)? [10]

### Question 3

Subject integration is one way of contextualising school mathematics

- (a) (i) What is meant by curriculum integration? [2]
- (ii) In what other ways can school curriculum be integrated besides subject integration? [3]
- (b) Write some topics in your other subject which can be used as context for learning mathematics stating the relevant mathematics topics in each case.[10]
- (c) What other contexts would be relevant for teaching/learning the SGCSE mathematics syllabus besides other subjects in the curriculum? [10]

### Question 4

- (a) Write **seven** points on the importance of preparing a proposal before carrying out the actual research [7]
- (b) Explain each of the following types of research
  - (i) Case study [9]
  - (ii) Exploratory research [9]

### Question 5

Write an essay entitled "The pros and cons of a differentiated curriculum: speculations on the best approach to the SGCSE syllabus" [25]