

**UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
FINAL EXAMINATION PAPER 2015**

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 3 pages including this one

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TO DO SO BY THE INVIGILATOR**

Question 1

- (a) Explain how you would use testing in school mathematics for each of the following :
- (i) Achievement [3]
 - (ii) Diagnosis [3]
 - (iii) Prognosis [3]
 - (iv) Selection [3]
 - (v) Motivation [3]
 - (vi) Instrument of Teaching [3]
- (b) Below is the formula for calculating a standard score; explain what each letter in the formula stands for. $S = \frac{X - M}{\sigma_x}$ [3]
- (c) What is the purpose of standardising scores from different tests before their comparison can be made? [4]

Question 2

Questions 1 & 2 below are from a junior certificate multiple choice examination.

- (a) For the questions below how would you establish the functioning of the distractors? [2]
- (b) Study each question to: identify the key, analyse each distractor and decide if it is plausible. In other words find out how each distractor might arise in each case [19]
- (c) For each question establish if the key cannot be obtained by using an incorrect method [4]

The Questions

1. Arrange the following fractions in order of size starting with the largest first

$$\frac{1}{2}, \frac{5}{8}, \frac{9}{16}, \frac{3}{4}, \frac{3}{8}$$

A $\frac{1}{2}, \frac{3}{4}, \frac{3}{8}, \frac{5}{8}, \frac{9}{16}$ B $\frac{3}{4}, \frac{5}{8}, \frac{9}{16}, \frac{1}{2}, \frac{3}{8}$ C $\frac{3}{8}, \frac{5}{8}, \frac{3}{4}, \frac{1}{2}, \frac{9}{16}$

D $\frac{3}{8}, \frac{1}{2}, \frac{9}{16}, \frac{5}{8}, \frac{3}{4}$

2. The distance between two airports on a map is 6 cm. The actual distance between the airports is 30 km. The scale of the map is:
A 1:500 000 B 1:5 000 C 1:500 D 6:30

Question 3

Write monitoring plan for the mathematics department of the school where you are the HoD. Introduce the reader to the school such that he/she is aware of the type of school, the type of learners and the qualifications of teachers you have to work with. [6]

The plan should show clearly how you intend to monitor the following for the effective teaching and learning of mathematics:

- (i) Teachers [8]
- (ii) Learners [7]
- (iii) Finally write a conclusion on monitoring as a duty of the HoD [4]

Question 4

Write an essay on code switching in the teaching and learning of mathematics highlighting the advantages and disadvantages of code switching. How would you minimise the disadvantages and take full benefit of the advantages.

[25]

Question 5

Research has shown that girls in single-sex schools perform better in mathematics than their counterparts in coeducation. On the other hand boys tend to perform better in coeducation than in single-sex schools. Write an essay on how you would use this knowledge in organising classes for teaching and learning mathematics.

[25]