UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
FINAL EXAMINATION PAPER 2007

TITLE OF PAPER: CURRICULUM STUDIES IN MATHEMATICS

COURSE CODE: EDC 381

STUDENTS: B.ED 3 AND PGCE

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS.

                            EACH QUESTION IS WORTH 25

                            MARKS.

ADDITIONAL MATERIALS: IGCSE MATHEMATICS SYLLABUS

                            2006 IGCSE PAPER 4

Question 1
The head of the mathematics department at your school has assigned you to prepare a paper for differer topics integration in the IGCSE mathematics syllabus. Your task is to explain the commonalities in the topics and recommend on the form of integration to be used. [25]

Question 2
(a) Write **three** reasons given by the Ministry of Education (MOE) for each of the following curriculum changes:
  (i)   GCE to IGCSE [3]
  (ii)   IGCSE to SGCSE [3]

(b) State the specific major differences between:
  (i)   GCE and IGCSE Mathematics? [4]
  (ii)   IGCSE and SGCSE?[5]

(c) Write a 500 words reflection on the reform from IGCSE to SGCSE [10]

Question 3
The following item was given to a form three group during a mock examination at a school with 150 fc three candidates:
Item

$P = \{2,3,5,7\}$, $Q = \{1, 3, 5, 7, 9\}$ and $R = \{2, 4, 6, 8\}$ are subsets of $\xi = \{1, 2, 3, 5, 4, 6, 7, 8, 9\}$.
$P \cap Q \cap R'$ equals:
A $\{1, 2, 3, 5, 7, 9\}$
B $\{3,5,7\}$,
C $\{2\}$,
D $\{\ \}$
E none of the above
The table below shows the statistics of the group's performance on this item.

Response	Top	Middle	Bottom	Total
A	1	2	4	7
B*	37	43	17	97
C	4	5	4	13
D	0	7	7	14
E	1	8	8	17
O	1	1	0	2
Total	44	66	40	150

(a) Calculate each of the following giving the answer to two decimal places:
  (i) The facility value for this item [4].
  (ii Calculate its discrimination index [11]
(b) Make a comment on the distractors based on some calculations you have made [4].
(c) Using your answers to (a) and (b) what comment would you give to the examiner about this question? [6]

Question 4

    (a) The IGCSE syllabus gives a specification grid in relation to the given assessment objectives. Using the given paper 4 match each question to relevant objectives by ticking in the appropriate cell on the grid on the next page. [20]

    (b) Write a comment on the paper about its coverage of the assessment objectives [5].

Question 5

    (a) Discuss reasons associated with girls achieving lower than boys in mathematics. [20]

    (b) During the course of study what trend did you observe about the performance of girls compared that of boys at the various external examinations taken in Swaziland government schools?[5]

Questions \ Objectives	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1															
2															
3															
4															
5															
6															
7															
8															
9															