

**UNIVERSITY OF SWAZILAND  
FACULTY OF EDUCATION  
FINAL EXAMINATION PAPER 2006**

**TITLE OF PAPER** : CURRICULUM IN MATHEMATICS

**COURSE CODE** : EDC 381

**STUDENTS** : B.ED III AND PGCE

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

**INSTRUCTIONS** : ANSWER FOUR QUESTIONS  
EACH QUESTION IS WORTH 20 MKS

**ADDITIONAL MATERIALS** : APPENDIX 1

**THIS PAPER CONTAINS THREE PAGES. DO NOT OPEN UNTIL PERMISSION  
HAS BEEN GRANTED BY THE INVIGILATOR.**

**Answer four questions**

**Question 1**

- (a) Describe each of the **three** leadership styles you studied. [9]
- (b) Give examples of how each of the leadership styles might be used. [3]
- (c) List **eight** factors that influence the choice of leadership style to be used. [8]

**Question 2**

Appendix 1 is a conventional examination question which you gave to your form 4 students. Out of the fifty students you have in form 4 only 10 got the whole question correct.

- a) What **two** calculations could you use to explain the students' performance on this question to your head of department? [2]
- b) Why would it be sensible to work out these calculations for each of the sub questions? [2]
- c) The head of department suggests you break down the question into objective test items in order to diagnose the problems the students had.
  - i. Write down all the sub topics that students need to know in order to work out this question. [6]
  - ii. Write an objective completion test item for each of the subtopics you wrote in c) i. [10]

**Question 3**

- a) Explain **four** ways in which communication is used in the teaching/learning of mathematics. [4]
- b) 'Conventional teaching methods encourage pupils to only focus on procedural knowledge of algorithms.' Support or refute this statement by first indicating what you understand by conventional teaching methods. [6]
- c) List **ten** advantages of audible communication during a mathematics lesson. [10]

**Question 4**

- a) What is the primary purpose of educational research? [2]
- b) Outline and explain fully each stage of Krathwohl's model for the chain of reasoning in quantitative research. [18]

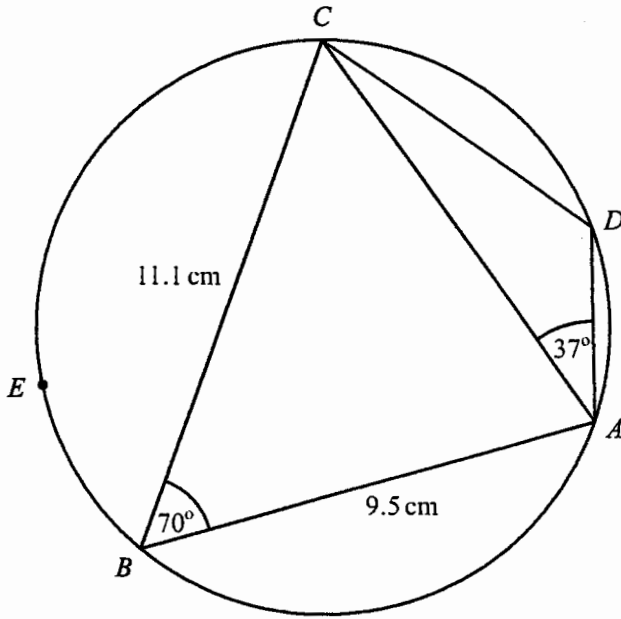
**Question 5**

When constructing an objective test item one has to pay attention to **six** things, one of these is Bloom's ability levels. Write each of the other things giving full details of what each entails and why it is necessary to pay attention to it. [20]

APPENDIX 1

4

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$ABCD$  is a cyclic quadrilateral.  
 $AB = 9.5$  cm,  $BC = 11.1$  cm, angle  $ABC = 70^\circ$  and angle  $CAD = 37^\circ$ .

- (a) Calculate the length of  $AC$ . [4]
- (b) Explain why angle  $ADC = 110^\circ$ . [1]
- (c) Calculate the length of  $AD$ . [4]
- (d) A point  $E$  lies on the circle such that triangle  $ACE$  is isosceles, with  $EA = EC$ .
- (i) Write down the size of angle  $AEC$ . [1]
- (ii) Calculate the area of triangle  $ACE$ . [3]

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(UCLES, 2004)