UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
MAIN EXAMINATION PAPER 2015

TITLE OF PAPER: CURRICULUM STUDIES IN MATHEMATICS/
CURRICULUM STUDIES IN MATHEMATICS I

COURSE CODE: EDC281/CTE531

PROGRAMME: B.ED 2 & PGCE

TIME ALLOWED: THREE (3) HOURS

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

Question 1

(a) Name and describe:
  i) Intrinsic motivation. [2]
  ii) Extrinsic motivation. [2]

(b) State and explain the seven factors that you could use to improve learners' motivation. [21]

Question 2

Question and answer is one of the methods that can be used in the teaching /learning of mathematics.

(a) **State** strengths and weaknesses of the question and answer method. [5]

(b) What does a teacher preparing for a question and answer lesson need to do and be careful about on each of the following aspects:
  i) The question. [5]

  ii) The lesson delivery. [15]

Question 3

Create a learning task on the topic "The Cosine Rule" for senior secondary learners. [10]
Identify the following for the task:
  i)   Material(s) needed to do the task. [2]
  ii) Prerequisite knowledge. [5]
  iii) The expected learning outcomes at the end of the task. [8]

Question 4

(a) Define and give examples of each of the following in relation to Mathematics teaching/learning:
  i)   Pedagogical knowledge [3,2]
  ii) Pedagogical content knowledge [3,2]
  iii) Mathematical content knowledge [3,2]
(b) Give a full Analysis of the learner's work in appendix 1 [10]

Question 5

For mathematics to be meaningful to learners it should be taught in contexts that are realistic to them. Write an essay on the use of realistic contexts in the teaching and learning of school mathematics. In your essay make examples using the topic 'Proportion.' In appendix 2 there is a syllabus extract to guide you. [25]

i) Right Angled Triangle

iii) Square A = 2 x 2   Square B = 3 x 3   Square C = 3.5 x 3.5

= 4 cm²   = 9 cm²   = 12.25 cm²

= 13 cm² (to the

iv) when the areas of the other two squares are   nearest whole #)

added

iv) The sum of the other areas of the other squares is equal to the
area of the
square of largest square.

A

10cm

3cm

C

3.5cm

B

Questions

i)   What is the special name for the triangle drawn?

ii)   Draw a square on each side of the triangle on the
grid.

iii)   Calculate the area of each square drawn.
Showing all your working.

iv)   What is the relationship between the size of the
area of the largest square and the areas of the
other squares?