MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2015/2016

FIRST YEAR SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF POSTGRADUATE DIPLOMA IN EDUCATION

(CITY CAMPUS-SCHOOL BASED)

ECT 514: SPECIAL METHODS OF TEACHING MATHEMATICS

Date: 17th December, 2015 Time: 2.00 - 5.00 pm

INSTRUCTIONS:

- Answer question ONE and any other TWO questions.

QUESTION ONE

a) Briefly explain the complementary relationship between culture and the development of mathematics curriculum [6marks]

b) With a suitable example describe the use of demonstration method in a mathematics class? [6marks]

c) Identify one general objective of teaching mathematics at secondary school level and explain the role of the teacher in an attempt to assist the learners to achieve the objective [6marks]

d) Distinguish between instrumental and relational understanding in the learning of mathematics. [6marks]

e) Briefly justify the selection and use of manipulative materials in the teaching and learning of mathematics. [6marks]

QUESTION TWO

a. State five(5) advantages of mathematics instructional planning [5marks]

b. Plan a one-week scheme of work and 40 minute lesson plan on topic from KCSE Mathematics syllabus [15marks]

OUESTION THREE

Discuss the significance of instructional theories to the teaching and learning of Mathematics .[20marks]

QUESTION FOUR

a) Construct a word a Mathematical problem on simultaneous linear equations and provide an appropriate marking scheme. [14marks]

b) What problems that learners encounter in solving word problems and suggest remedial activities the Mathematics teachers would engage learners in. [6marks]

QUESTION FIVE

a. Explain the meaning of inductive and deductive approaches in the teaching and learning of Mathematics. [6marks]

b. I)Describe practical activities a teacher would involve a Mathematics class to establish the relationship between faces(F),Edges(E) and Vertices(V). [10marks]

ii)What difficulties are learners likely to encounter in establishing the formula in (i) and suggest the necessary teacher assistance [4marks