



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2015/2016

**SECOND YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF EARLY CHILDHOOD EDUCATION
WITH INFORMATION TECHNOLOGY**

MAIN CAMPUS

ECE 201: MATHEMATICS ACTIVITIES

Date: 20th January, 2016

Time: 11.00 - 1.00 pm

INSTRUCTIONS:

- Answer question ONE and any other TWO questions.



QUESTION ONE

a) Define the following terms and concepts:

i) Mathematical operations

ii) Numbers

iii) Number sense

iv) Number value

v) Place value

(5 marks)

b) Explain the nature of mathematics as perceived in Early Childhood

Development Education. (10 marks)

c) Identify **five** Rey's principles that guide the teaching of mathematics in Early

Childhood Development Education. (5 marks)

d) Outline **five** factors to consider when designing and developing materials for

teaching and learning in preschool. (5 marks)

e) Outline **five** techniques used in assessment of mathematical activities in pre-

school. (5 marks)

QUESTION TWO

a) Discuss **five** objectives of teaching mathematical activities to children in ECDE class. (10 marks)

b) Explain **five** reasons why a pre-school child needs to be taught mathematical activities. (10 marks)

QUESTION THREE

a) Explain **four** implications of Piaget's theory to the teaching and learning of children in Early Childhood Development Education classes. (8 marks)

b) Describe activities you would use when teaching the following mathematical concepts and skills children at pre-primary school:

i) Classification (4 marks)

ii) Number concepts (2 marks)

iii) Measurement (2 marks)

iv) Geometry (2 marks)

v) Mathematical vocabulary (2 marks)

QUESTION FOUR

Discuss **five** principles of teaching mathematical activities to children at pre-school classes and their implications to teaching-learning of mathematics activities.

(20 marks)

QUESTION FIVE

Discuss how you would use the following activities to enhance acquisition of mathematical skills and concepts:

- i) Emptying and filling (4 marks)
- ii) Sorting and grouping (4 marks)
- iii) Arbitrary measurements (4 marks)
- iv) Matching and pairing (4 marks)
- v) Ordering and sequencing (4 marks)