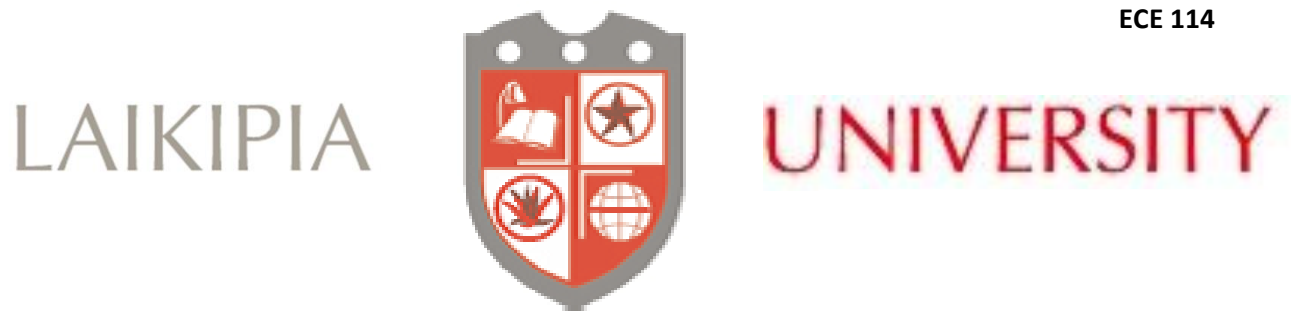




UNIVERSITY EXAMINATIONS

1ST SEMESTER 2025/2026 ACADEMIC YEAR

FOURTH YEAR EXAMINATIONS FOR BACHELOR OF EDUCATION (ECDE)

ECE 114: MATHEMATICS FOR ECDE

STREAM: BED(ECDE)

TIME:2 HRS

DAY: MONDAY (14:30-16:30)

DATE:26/1/2026

THIS QUESTION PAPER CONSISTS OF THREE (3 PAGES)

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS:

Answer Question ONE and TWO others

QUESTION ONE (30 MARKS)

- (a) Discuss any **four** reasons why mathematics is important in life. **(4 marks)**
- (b) Using examples, explain the following terms as used in ECDE Mathematics.
- (i) Grouping
 - (ii) Pairing
 - (iii) Texture
 - (iv) Ordering **(8 marks)**
- (c) Discuss any **four** factors to consider when developing mathematics for young children. **(4 marks)**
- (d) Using examples, differentiate between the following terms
- (i) Rote counting
 - (ii) Rational counting **(4 marks)**
- (e) Explain how you would develop the following concepts in ECDE Mathematics
- (i) concept of area
 - (ii) concept of time
 - (iii) concept of money
 - (iv) concept of speed
 - (v) concept of temperature **(10 marks)**

QUESTION TWO (15 MARKS)

- (a)(i) Discuss Piaget's (1965) stages in the intellectual growth of a mind of a learner and relate them to mathematics. **(8 marks)**
- (ii) Identify one implication of Piaget's Theory in the teaching and learning of mathematics. **(1 mark)**
- (b) Using examples, explain the meaning of the following concepts used in ECDE mathematics
- (i) Sorting
 - (ii) Matching
 - (iii) Sequencing **(6 marks)**

QUESTION THREE (15 MARKS)

- (a)(i) Discuss Bruner' stages in developing mathematical concepts for young children.
(6 marks)
- (ii) Identify the implication of the **order** in the stages in the learning of mathematics.
(1 mark)
- (b) Using examples, explain the following concepts used in ECDE Mathematics.
- (i) Number recognition
 - (ii) Number value
 - (iii) Put together
 - (iv) Take away (8 marks)

QUESTION FOUR (15 MARKS)

- (a) Discuss **four** principles that guide the development of mathematical skills and concepts for young children according to Reys et al. (2000). (8 marks)
- (b) Using examples, explain the following terms as used in ECDE Mathematics.
- (i) Part and whole
 - (ii) Kind and use
 - (iii) Puzzles of objects
 - (iv) Patterns of objects (7 marks)

QUESTIONS FIVE (15 MARKS)

- (a) (i) Discuss the **four** principles in the development of the concept of counting to young children. (8 marks)
- (b) Using examples, describe how you would develop the following measurement concepts to young children.
- (i) Taller and shorter
 - (ii) Heavier and lighter
 - (iii) Far and near
 - (iv) Full and empty (7 marks)