



# MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations 2015/2016

SCHOOL OF EDUCATION

DEPARTMENT OF EARLY CHILDHOOD EDUCATION

## FIRST SEMESTER EXAMINATION FOR DEGREE IN BACHELOR OF EARLY CHILDHOOD

**ECE 206: SCIENCE AND MATHEMATICS FOR EARLY CHILDHOOD EDUCATION**

**Date: SCHOOL BASED**

**Time:**

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### INSTRUCTIONS

**Answer All The Questions In Section A And Any Two In Section B**

#### SECTION A (30 MARKS)

1. (a) Define the following terms (5 marks)
  - i. Exploration
  - ii. Manipulate
  - iii. Reversibility
  - iv. Discovery
  - v. Ordering
- (b) Highlight any five activities for number writing for the pre-school children (5 marks)
- (c) State any five objectives of teaching Mathematics activities in pre-school. (5 marks)
- (d) State any four science concepts that teacher can develop in a child. (4 marks)

- (e) State any two objectives of teaching science in pre-school. (2 marks)
- (f) List any three characteristics of a scientifically minded person. (3 marks)
- (g) Addition is a binary operation. What does this statement mean? (2 marks)
- (h) Develop four activities for introducing children to the concepts of “addition” (4 marks)

**SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)**

2. (a) Science is a natural activity for young children. Evaluate this statement (10 marks)
- (b) Describe Piaget’s theory of cognitive development with respect to teaching and learning science. (10 marks)
3. (a) Analyze any five characteristics of science activities appropriate to children (10 marks)
- b) Examine any five activities which can enhance observation skills in children (10 marks)
4. a) Clearly describe five distinct activities that you can use as a teacher to introduce electricity and magnetism to a five year old child. (10 marks)
- b) As a pre- school teacher describe suitable activities you can use to introduce the concept of number recognition in children. (10 marks)
5. a) Examine the importance of Teaching / learning materials. (6 marks)
- b) Explain any four factors to consider when developing teaching/learning material for young children. (8 marks)
- c) Highlight the activities a pre- school teacher can use to introduce the concept of volume to children. (6 marks)