



**KENYATTA UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2014/2015**  
**DIGITAL SCHOOL OF VIRTUAL AND OPEN LEARNING**  
**SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN EARLY**  
**CHILDHOOD EDUCATION**  
**ECE 025/051 BASICS OF SCIENCE AND MATHEMATICS CURRICULUM**

**DATE: SATURDAY, 2<sup>ND</sup> MAY 2015**

**TIME: 8.00 A.M. – 10.00 A.M.**

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**INSTRUCTIONS:**

**SECTION A: ANSWER ALL QUESTIONS (30 MARKS)**

1. Briefly explain the following science experiences children acquire in early childhood education.
  - i) Formal Science
  - ii) Informal Science
  - iii) Incidental Science (6 marks)
2. Briefly describe the following Piaget's stages of cognitive development in children.
  - i) Formal Operational
  - ii) Concrete Operational. (6 marks)
3. Outline any four activities you can use to teach the theme "electricity" to early childhood class. (6 marks)
4. State any three activities you can use to teach the concept of volume and capacity to young children. (6 marks)

5. Give any four objectives of teaching Mathematics in Early Childhood Education. (6 marks)

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

6. Explain ten factors that early childhood teachers need to consider when selecting Mathematical content for children. (20 marks)
- 7.a) Describe briefly any five characteristics of appropriate Science activities for young children. (10 marks)
- b) Describe the following Science Skills:
- i) Experimenting
  - ii) Measuring
  - iii) Classifying
  - iv) Inferring (10 marks)
8. With illustrations, discuss how you can teach the following concepts to an early childhood class.
- i) Ordering and pairing
  - ii) Number value activities
  - iii) Number counting
  - iv) Number recognition. (20 marks)
9. Discuss any five characteristics of children that are relevant for learning of Science and Mathematics.