



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF EDUCATION

DEPARTMENT OF EARLY CHILDHOOD EDUCATION

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR IN EDUCATION (EARLY CHILDHOOD)

ECE 206: SCIENCE AND MATHEMATICS IN EARLY CHILDHOOD

DATE: 9/12/2021

TIME: 11.00-1.00 PM

INSTRUCTIONS

Answer question ONE and any other two questions

QUESTION ONE (30 MARKS)

- a) Define the following terms:
- Science
 - Mathematics
 - Exploration
 - Reversibility
 - Physical science (5 marks)
- b) Give **five** reasons that support the statement that “Children are scientific in Nature” (5 marks)
- c) Give **three activities** that help children understand each of the concept below:
- Weight. (3 marks)
 - Volume. (6 marks)
- d) List **four** activities that can help children to understand the concept of spatial geometry. (2 marks)

- e) You intend to teach plants and water to your class. Identify:
- i. At least **three** resources you would use to illustrate the concepts. (6 marks)
 - ii. Explain the organization of activities you would engage the children in, to actualize the lesson. (4 marks)

QUESTION TWO (20 MARKS)

Name and explain any **five** play activities that will influence scientific and mathematical creativity in children.

QUESTION THREE (20 MARKS)

Children learn better through exploration and discovery. **Discuss five** ways as a teacher you would promote learning through exploration and discovery in your school.

QUESTION FOUR (20 MARKS)

Explain how you would teach the following concepts to pre- school children:

- a) Number recognition. (8 marks)
- b) Number Value. (8 marks)
- c) Meaningful counting. (4 marks)

QUESTION FIVE (20 MARKS)

Science and Math skills are still very low among learners. As a pre- school teacher outline and discuss **five** ways you would enhance the acquisition of Science and Mathematics skills in your Centre.