



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR**

(SCHOOL BASED)

THIRD YEAR FIRST SEMESTER EXAMINATIONS

MAIN EXAM

**FOR
THE BACHELOR OF EDUCATION DEGREE
(EARLY CHILDHOOD EDUCATION)**

COURSE CODE: ECD 303

**COURSE TITLE: METHODS OF TEACHING SCIENCE AND
MATHEMATICS IN EARLY CHILDHOOD
EDUCATION**

DATE: 19/4/2022

TIME: 3.00-5.00PM

INSTRUCTIONS TO CANDIDATES

Answer 3 questions
Question ONE (1) is compulsory
Answer two other (2) questions

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over. ▶

Question 1 (30 marks)

- a. Number Flash cards are an excellent material for teaching mathematics to young children. Describe 5 different ways in which teachers can effectively use this material in teaching mathematics (10 marks).
- b. Discuss 5 instructional methods in which an ECD science and mathematics teacher can ensure that the teaching takes into Jerome Bruner's ideology (10 marks)
- c. Explain, giving relevant examples 5 ways in which a pre-school teacher can enhance creativity in children during Science and Mathematics Activities. (10 marks)

Question 2 (20 marks)

- 2a. Identify and explain 5 challenges that teachers are likely to experience when teaching science using the project method in a science lesson in ECDE (10 marks)
- b. Describe 5 roles of the ECD teacher during a science project work activity (10 marks)

Question 3 (20 marks)

- 3a. Identify and explain 5 signs of organizational difficulties that children experience when learning mathematics in early childhood (10 marks)
- b. Describe 5 intervention measures for the difficulties mentioned above that the ECD teacher can employ

Question 4 (20 marks)

4. Describe 5 activities each, which an ECD teacher can employ to teach the following concepts in mathematics
 - a. Volume (10 marks)
 - b. Weight (10 marks)

Question 5 (20 marks)

- a. Parents and local communities play an important role in the development of ECDE centres. Discuss 5 roles of parents towards the success of Mathematics education in Pre-school (10 marks)
- b. Identify and explain how an ECD teacher can utilize the natural environment as a learning resource in teaching science for pre-schoolers (10 marks)