



JARAMOGI ODINGA OGINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF EDUCATION, HUMANITIES AND SOCIAL SCIENCES

**UNIVERSITY EXAMINATION FOR THE DEGREE OF EARLY CHILDHOOD
EDUCATION**

YEAR II, SEMESTER 1I, 2022/2023 ACADEMIC YEAR

MAIN CAMPUS – REGULAR.

COURSE CODE: EEC 3221

COURSE TITLE: MATHEMATICS ACTIVITIES

DATE : 19/12/2022

VENUE:LR5

TIME: 2 HOURS

EXAM SESSION: 9.00-11.00AM

Instructions:

- 1. Answer question ONE (COMPULSORY) and ANY other TWO questions.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidate must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE:

- (a) It is argued that mathematics is a language; using **three** examples verify this statement. **(3 marks)**
- (b) State any **THREE** objectives of teaching mathematics to ECD learners. **(3 marks)**
- (c) Identify any two mathematics:
- i) a concept in an ECD class **(2 marks)**
 - ii) a skill in an ECD class **(2 marks)**
- (d) Differentiate between a strategy and method in teaching that are applicable to teaching mathematics activities in ECDE. **(4 marks).**
- (e) Identify any **two** types of curriculum for ECDE in Kenyan ECDE today. **(4marks)**
- (f) An ECDE teacher started with a song for his mathematics lesson before going in the real content. Cite three reasons why he might have started with a song. **(6 marks)**
- (g) How can some mathematics activities be used to initiate agricultural skills among learners in ECDE class? **(3 marks).**
- (h) An ECDE teacher was using press-ups as an activity to introduce numeracy in her class, state any **THREE** skills the lesson could develop among the learners. **(3marks).**

QUESTION TWO:

Albert Bandura emphasizes on “Observation Learning.”

- (a) Assess this theory in relation to mathematics activities in the ECDE class. **(10 marks).**
- (b) Describe how mathematics activities help in observation learning in an ECDE classroom **(10 marks).**

QUESTION THREE:

A **PP2** teacher was using different geometric shapes as squares, rectangles, circles etc. in her class for a whole week:

- (a) Identify **four** possible skills that those learners could acquire from the lesson. **(4marks).**
- (b) Suggest **four** possible topics in primary mathematics that such learners could well perform in at primary STD. 7 and / or 8. **(12marks).**
- (c) Set any **one** mathematics question reflecting on any of your suggested topics above. **(4 marks).**

QUESTION FOUR:

Piaget in his Cognitive Development Theory talks of **reversibility of objects or shapes**, hence, abstractness is possible.

- (a) Assess the **Stage of Development** where this argument is from. **(12 marks).**
- (b) Using some **two** activities in mathematics, explain how you would teach numbers to children in this Piagetian stage. **(8 marks).**

QUESTION FIVE:

. In a PPI classroom, a teacher was **introducing** the number system. She wrote the numbers 1-10 on the BB. Her methods were as follows;

- (i) "Class, read them after me as I read"
- (ii) Class, write the numbers and bring for marking
- (iii) Only five students wrote the numbers well
- (iv) Others, only lines scribbled for answers
- (v) Caning followed for those who were wrong.

Discuss this lesson suggesting how best it could have been conducted. **(20 marks).**