



MAASAI MARA UNIVERSITY

**UNIVERSITY REGULAR EXAMINATIONS
2022/2023 ACADEMIC YEAR
THIRD YEAR FIRST SEMESTER**

**SCHOOL OF EDUCATION
BACHELOR OF EDUCATION**

COURSE CODE: ECI 3116-1

COURSE TITLE: MATHEMATICS SUBJECTS METHODS

DATE: 9TH DECEMBER, 2022

TIME: 0830-1030

INSTRUCTIONS TO CANDIDATES

Answer Question **ONE** and any other **TWO** questions

*This paper consists of **three** printed pages. Please turn over.*

1. Debate briefly how you would use to teach number patterns in Mathematics using each of the following methods.

- a. Demonstration (3 mks)
- b. Problem solving (3 mks)
- c. Supervised practice (3 mks)
- d. Instructional objectives are necessary in the teaching process. Justify this statement with reference to three roles of instructional objectives in teaching of Mathematics in secondary school. (3 mks)
- e. Explain Blooms cognitive levels which can be used in the setting, Mathematics examination questions. (5 mks)
- f. Describe Zoltan Dienes contribution to the theory and practice of Mathematics education. (3 mks)

2. a). Explain the importance of a well prepared lesson plan in the teaching of quadratic equations (8mks)

b). Planning is vital for successful teaching. Explain this statement highlighting the different considerations which Mathematics teachers should emphasize in a successful lesson plan. (7 mks)

3a). Find the value of x and y in the following simultaneous equations using matrix method.

$$\begin{aligned} 3x - y &= 2. & (3 \text{ mks}) \\ X + y &= 4 \end{aligned}$$

b). Prepare a marking scheme of the problem above; explain how you would award marks. (5 mks)

c). In 2003, the Kenya institute of education (KIE) published twelve objectives for secondary school Mathematics. One of the objectives is, "Develop a positive attitude towards Mathematics." Explain how you can help your students realize this objective. (7 mks)

4. Explain briefly how you would use each of the following methods in Mathematics lessons on Angles.

- a. Question and answer (4 mks)
- b. Exposition. (4 mks)
- c. Discussion (4 mks)
- d. Discovery (3mks)

5. a) Describe three main components of instructional objectives giving one example in each case in the teaching of Mathematics (7mks)

b). Distinguish between Mathematics and Mathematics education (2 mks)

c). The teaching of Mathematics can be taught through inductive or deductive approaches. Using suitable examples explain the underlined terms. (6 mks)

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