ALUPE UNIVERSITY

OFFICE OF THE DEPUTY VICE CHANCELLOR
ACADEMICS, RESEARCH AND STUDENT AFFAIRS

UNIVERSITY EXAMINATIONS

2023/2024 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER REGULAR EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF EDUCATION

COURSE CODE: CIM312

COURSE CODE: MATHEMATICS EDUCATION II

DATE: 19/12/2023   **TIME: 9AM – 12PM**

INSTRUCTIONS TO CANDIDATES

- **SEE INSIDE**

THIS PAPER CONSISTS OF THREE PRINTED PAGES. PLEASE TURN OVER.

REGULAR MAIN EXAM

STREAM: BED   **DURATION: 3 HOURS**

INSTRUCTIOINS TO CANDIDATES

Answer Question One and any other TWO questions

Do not write on the question paper

Question One

    a) Highlight **FIVE** roles of the textbook in teaching Mathematics.   (5 Marks)

    b) Outline **FOUR** criteria for selecting strategies for teaching Mathematics.   (4 Marks)

    c) Discuss **FOUR** reasons for using multiple methods in teaching Mathematics in secondary schools.   (4 Marks)

    d) Highlight **FOUR** efforts teachers of Mathematics should put in place for students to succeed.   (4 Marks)

    e) In reference to the topic **"LOCI"** in the Mathematics syllabus list **FOUR** elements of background knowledge which students should possess prior to teaching the topic.

                                                                     (5 Marks)

    f) Highlight **FOUR** limitations of class discussions method of teaching Mathematics in secondary schools.   (4 Marks)

    g) Suppose you have given students the following problem to solve:-

    Simplify the following algebraic expression:-

$$\frac{12x^2 - 27}{4 - (2x + 1)}$$

    Prepare a marking scheme that you would use to mark the students' work. (4 Marks)

Question Two

    a) Explain **FOUR** factors affecting performance in Mathematics.   (8 Marks)

    b) Explain **FOUR** limitations of the secondary school Mathematics syllabus. (8 Marks)

    c) Outline **FOUR** advantages of group discussion as a method of teaching Mathematics.

                                                                        (4 Marks)

Question Three

    a) Explain **FOUR** reasons for testing learners.   (4 Marks)

    b) Explain Cognitive, Affective and Psychomotor categories of objectives.   (6 Marks)

    c) Explain **FOUR** ways which a teacher can use to maintain students' motivation.

                                                                       (4 Marks)

d) Discuss **THREE** theories of learning in Mathematics as advanced by Jerome Bruner.

(6 Marks)

Question Four

a Discuss **FOUR** importance of testing students in Mathematics to the teacher.

(8 Marks)

b Discuss the influence of the following factors in the performance of Mathematics:-

i) Environment. (2 Marks)

ii) Personal/individual factors. (2 Marks)

c) Highlight **FOUR** ways to make the use of chalkboard more effective. (8 Marks)

Question Five

a) In the equation below, list down the problem solving steps you would use to reach the solution hence prepare a marking scheme. (7 Marks)

$$\frac{x-3}{8} = \frac{2}{x+3}$$

b) Outline **FIVE** benefits of Assessment to the learner. (5 Marks)

c) Explain **TWO** limitations of Mathematical modeling. (4 Marks)

d) Highlight **FOUR** steps involved in Mathematical modeling. (4 Marks)

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