



*(Knowledge for Development)*

**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS  
2019/2020 ACADEMIC YEAR**

**THIRD YEAR**

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF EDUCATION (ARTS)  
AND BACHELOR OF EDUCATION (SCIENCE)**

**COURSE CODE: ESM 311**

**COURSE TITLE: MATHEMATICS EDUCATION**

**DATE: 5<sup>TH</sup> FEBRUARY, 2021**

**TIME: 8 AM-10 AM**

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**INSTRUCTIONS TO CANDIDATES**

Answer Question One and Any other TWO Questions

**TIME: 2 Hours**

This Paper Consists of 3 Printed Pages. Please Turn Over.

ANSWER QUESTION **ONE** AND ANY OTHER **TWO** QUESTIONS.

QUESTION 1 (30 MARKS)

- a) To develop positive attitude towards learning mathematics is the first general objective of teaching mathematics at secondary school level. Discuss five ways through which you can help your students realize this objective (10 marks)
- b) Outline any **four** purposes of assessment in the teaching of mathematics. (4 marks)
- c) State any four reasons why the mathematics is included in the curriculum. (4 marks)
- d) Mention any **three** learning and instructional theorists and their main contribution to the learning and teaching of mathematics (6 marks)
- e) Draw a scheme of work format for secondary school mathematics. (6 marks)

QUESTION 2 (20 MARKS)

- a) What is Expository Method of teaching? (2 marks)
- b) Explain any **four** merits of using investigatory methods in teaching mathematics. (8 marks)
- c) Explain any **five** implications of games for teaching mathematics. (10 marks)

QUESTION 3 (20 MARKS)

- a) Draw a format of a lesson plan and clearly explain all the stages involved. (10 marks)
- b) Justify with any **five** reasons why a teacher should plan for a lesson before going to class to teach mathematics. (10 Marks)

QUESTION 4 (20 MARKS)

- a) Explain any **four** implications of Jean Piaget's theory of cognitive development to the teaching and learning of mathematics. (10 marks)
- b) Discuss Zoltan Dienes 6-stage theory of learning mathematics. (10 marks)

### QUESTION FIVE

- a) Describe any **five** circumstances when a teacher should use set induction during a mathematics lesson. (10 marks)
- b) With the aid of examples, describe how a teacher can go about set induction as used in the classroom teaching of mathematics. (10 marks)