



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2017/2018 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER

MAIN EXAMINATION FOR PART TIME PROGRAMS

**FOR THE DEGREES OF BACHELOR OF EDUCATION ARTS
AND BACHELOR OF EDUCATION SCIENCE**

COURSE CODE: ESM 311

COURSE TITLE: MATHEMATICS EDUCATION

DATE: 7TH DECEMBER 2018

TIME: 8:00 am - 10:00am

INSTRUCTIONS TO CANDIDATES

Answer **Question One** and any **other TWO (2)** Questions

TIME: 2 Hours

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

QUESTION ONE

- a) State any **four** goals of teaching mathematics. (2Marks)
- b) Identify any **three** learner related factors that may influence the choice of a teaching method in mathematics.
(3marks)
- c) Describe the **six** Bloom postulates on classification of educational objectives in relation to secondary school mathematics (9marks)
- d) Discuss any **five** implications of Jean Piaget's theoretical stages of Cognitive Development to Mathematics Education. (10 marks)
- e) Describe any **six** dangers of relying on specific textbooks during preparation and teaching process (6 marks)

QUESTION TWO

- a) State and explain **five** investigatory methods of teaching (10marks)
- b) Discuss any **five** roles of the mathematics laboratory in mathematics teaching.
(10 marks)

QUESTION THREE

- a) Explain **five** factors mathematics teachers should consider when designing schemes of work. (10 marks)
- b) Select a topic from the secondary school mathematics syllabus, and use it to prepare a sample mathematics lesson plan. (10marks)

QUESTION FOUR

- a) Discuss **four** applications of Robert Gagne's Stimulus-Response Theory to Mathematics teaching. (8marks)
- b) Highlight the **four** schedules of reinforcement attributed to B.F Skinner (4 marks)
- c) Devise a strategy of teaching how to solve problems involving long division in a form one class (8 marks)

QUESTION FIVE

- a) Discuss **seven** functions of a mathematics text book in teaching of mathematics
(14 marks)
- b) Highlight any **six** types of Mathematics activities in which models are used. (6 marks)