(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2017/2018 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER

MAIN EXAMINATION

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

COURSE CODE: ESM 311

COURSE TITLE: MATHEMATICS EDUCATION

DATE: 31/7/2018   **TIME:** 9.00-11.00am

INSTRUCTIONS TO CANDIDATES

Answer Question One and any other TWO (2) Questions

TIME: 2 Hours

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 CognitiveDevelopment 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 mathematicslaboratory 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 reinforcementattributed to B.F Skinner (4 marks)

c) Device 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)