



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations 2015/2016

SCHOOL OF EDUCATION

DEPARTMENT OF COMMUNICATION AND TECHNOLOGY

SECOND SEMESTER EXAMINATION FOR DIPLOMA IN EDUCATION

ECT 0212/302: TEACHING METHODS IN MATHEMATICS

Date: 1/8/2016

Time: 11:00 – 1:00 PM

INSTRUCTIONS

Answer Question One and Any Other Two Questions

1.
 - a) Outline four objectives of teaching mathematics. (4 marks)
 - b) Explain the purpose of teaching resources in mathematics (6 marks)
 - c) Explain five limitations of the secondary school maths syllabus (10 marks)
 - d) Explain the difference between the following tools in mathematics instruction
 - i) Mathematics syllabus
 - ii) Mathematics scheme of work
 - iii) Mathematics lesson plan (6 marks)
 - e) Contrast between behaviorist and constructivist theories. (4 marks)
2.
 - a) Discuss why most teachers do not complete the syllabus yet they have options to choose the strategies. (10 marks)
 - b) Explain why it is important for a mathematics teacher to plan for teaching. (10 marks)
3.
 - a) State the aims of teaching mathematics (4 marks)
 - b) Explain the meaning of the following terms citing an example in each term.
 - i) Formative assessment

- ii) Summative assessment (6 marks)
- c) Using the topic and the subtopic. Prepare a lesson plan for a forty minutes lesson. (10 marks)
- 4. a) Explain each of the following theories in relation to teaching and learning of mathematics.
 - (i) Instructional Theory
 - (ii) Learning Theory (6 marks)
- b) Select a topic from the secondary school mathematics syllabus. Prepare a scheme of work for one week assuming one week has six single lessons of forty minutes each. (14 marks)
- 5. a) Differentiate between cognitive, affective and psychomotor objectives. (4 marks)
- b) Explain each of the following terms as relates to mathematics curriculum of secondary school.
 - i. Curriculum as intended
 - ii. Curriculum as implemented
 - iii. Curriculum as attained
- c) Explain five roles of mathematics textbook in the classroom. (10 marks)