



**JARAMOGI OGINGA ODINGA UNIVERSITY
OF SCIENCE & TECHNOLOGY**

UNIVERSITY EXAMINATIONS 2012/2013

**3RD YEAR 1ST SEMESTER EXAMINATION FOR THE
DEGREE OF BACHELOR OF EDUCATION (ARTS) WITH IT**

MAIN

COURSE CODE: ECT 311

COURSE TITLE: SPECIAL METHODS OF TEACHING MATHS

DATE: 29.4.2013 TIME: 9.00-11.00AM

DURATION: 2 HOURS

INSTRUCTIONS

- 1. This paper consists of 5 Questions.**
- 2. Answer Question 1 (Compulsory) and any other 2 questions**
- 3. Write your answers on the answer booklet provided**

1.a) Briefly explain how the knowledge of Mathematics and technological development complement each other. (6 marks)

b) State a mathematics specific objective and identify the four criteria. (6 marks)

c) Why is the knowledge of history and psychology of mathematics important to the Mathematics teacher? (8 marks)

d) i) Indicate the relationship between ratio and proportion concepts indicating which is the prerequisite of the other. (4marks)

ii) Suggest real life situations that you can engage learners to understand each of the concepts. (4 marks)

e) Identify two areas where a chart can be used in teaching in mathematics. (2 marks)

2.a) Using an appropriate example explain the steps or heuristics in solving Mathematics problems (12 marks)

b) Discuss four difficulties that mathematics learners encounter in the solving of the word problem (8 marks)

3.a) What are the advantages and disadvantages of using practicals and projects as instructional methods in Mathematics. (8 marks)

b) i) Explain practical activities a teacher would involve learners in establishing the formula for finding the surface area of a closed cylinder. (8marks)

ii)Mention the prerequisite knowledge necessary to establish the formula(4 marks)

4. a) Discuss factors that have affected the change in mathematics curriculum in Kenya. (10marks)

b) Discuss the significance of cooperative teaching and learning in Mathematics(10marks)

5. a) State four uses of assessment in Mathematics learning. (4 marks)

b) Explain the relevance of a table of specification(grid) when constructing mathematics test items. (4marks)

c) How would the affective and psychomotor domains(according to Bloom's taxonomy) be tested in KCSE mathematics. (12 marks)