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KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017
SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
EDUCATION
ECT 153: MATHEMATICS EDUCATION

DATE: Tuesday, 16th May 2017

TIME: 2.00 p.m. - 4.00 p.m.

INSTRUCTIONS:

ANSWER QUESTION ONE AND ANY OTHER TWO

1. The topic "scale drawing" as taught to standard seven has the following specific objectives to be covered in five single lessons. By the end of the topic, the learner should be able to
 - Read and write linear scale in ratio form
 - Convert linear scale from statement to ratio form and ratio to statement
 - Work out problems involving scale drawing.

You are required to:

- a) Prepare a schemes of work for the topic. (25 Marks)
- b) Discuss two difficulties a teacher may face in attempting to cover the work in the five lessons. (5 Marks)
2. Discuss the contribution of the psychologist Jean Piaget in the teaching and learning of Mathematics. (20 Marks)
3. Discuss with examples the four steps of problem solving as advanced by George Polya. (20 Marks)
4. a) Illustrate how you would teach the conversion of the recurring number/decimal 1.243243243.....into a number / fraction. (10 Marks)
- b) Illustrate how you would teach the divisibility tests for 6, 7, 11 and 13. (10 Marks)
5. Prepare a 35 minutes lesson plan to teach the topic "The long method for finding square roots of large numbers (use numbers such as 8441, 6561, 20736 and 63360)" to a standard seven class. (20 Marks)