



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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UNIVERSITY EXAMINATIONS 2023/2024

THIRD YEAR SECOND SEMESTER EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE
IN EDUCATION SCIENCE, BACHELOR OF SCIENCE IN EDUCATION ARTS, BACHELOR OF
EDUCATION TECHNOLOGY IN CIVIL, ELECTRICAL AND MECHANICAL

ECT 3350: MATHEMATICS SUBJECT METHODS

DATE: APRIL 2024

TIME: 2 HOURS

INSTRUCTIONS: Answer Question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

- a) Explain the meaning of the following terms:
 - i. Teaching
 - ii. Learning

(4 marks)
- b) Explain any five reasons why schemes of work are important to a mathematics teacher.
(5 marks)
- c) Suppose you have been assigned grade 8 mathematics and you are planning to teach sub-strand squares and square roots.
 - i) Develop two specific learning outcomes of the lesson
 - ii) Determine three lesson experiences of the learners.
 - iii) Explain any two core competencies that will be developed during the lesson.

(4 marks)

(3 marks)

(4 marks)
- d) Discuss any five factors that a teacher has to put into consideration when selecting a mathematics teaching method.
(10 marks)



QUESTION TWO(20MAKRS)

- a) Competency Based Curriculum (CBC) envisions specific learning outcomes that demonstrate a change in the learners in three levels. Using a relevant example in each case, explain the three levels of learning outcomes that should be a target for each lesson. (6 marks)
- b) Prepare a 40 minutes mathematics lesson plan on the sub-topic "Types of angles" from the topic "Angles" (14 marks)

QUESTION THREE (20MARKS)

- a) Discuss any five ways you would apply the social learning theory to enhance student's performance in mathematics. (10 marks)
- b) Identify any five challenges facing the Kenya National Examination Council (KNEC) and provide a possible remedy for each challenge identified (10 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss any five ways you would motivate and sustain learner's attention when teaching mathematics. (10 marks)
- b) Explain the importance of the local environment as a source of materials for teaching and learning mathematics. (5 marks)
- c) Examine the importance of remarks/reflection column in a mathematics scheme of work. (5 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss five ways in which you can use Information Communication Technologies (ICTs) to enhance effectiveness of teaching mathematics (10 marks)
- b) Collaborative teaching technique is an effective method of teaching mathematics. Discuss the role of mathematics teacher during such a lesson. (10 marks)

