



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2007/2008
SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF
EDUCATION

ECT 524: METHODS OF TEACHING SCIENCE

DATE: Tuesday, 10th June, 2008

TIME: 9.00 a.m. – 12.00 noon

INSTRUCTIONS:

Answer any **THREE** questions.

- Q.1 a) Distinguish between the basic Nature of and Process in any Problem Solving activity. (8 marks)
- b) Study the Problem Solving model below.

- i) Explain how you could apply the model in teaching one of your Secondary School Science subjects. Give example(s) to illustrate your answer (10 marks)
 - ii) What basic assumptions would you make when applying the model in teaching and learning? (5 marks)
- Q.2 Compare the Objectives and Process models of curriculum development using the following points:
 - a) The Philosophy (6 marks)
 - b) Facilitation of teachers and learners in instruction (6 marks)
 - c) Facilitation of learning skills for technological development (6 marks)
 - d) Uniformity in assessment of the final examination (5 marks)
- Q.3 It is widely believed that African nations lag behind other nations of the world in technological, social and economic development basically due to their inadequate Science and Technology education.
 - a) To what extent do you agree with this belief? (8 marks)
 - b) Suggest strategies to be followed in order to pull African nations out of this predicament (15 marks)
- Q.4 Constructivism is a relatively new term which has a lot with laboratory and fieldwork methods of teaching biology
 - a) Explain how constructivism applies to the two methods mentioned above and how it enhances the use of each method in teaching. (8 marks)
 - b) Identify two distinctive differences between fieldtrip and laboratory methods to explain the complementarity of the two methods in enhancing effective teaching/learning of biology as a practical subject. (8 marks)
 - c) Effective classroom presentation is influenced by both verbal and non verbal presentation tactics. Give two (2) verbal and two (2) non verbal tactics which play a key role in effective teacher presentation. Explain each one of them. (7 marks)
- Q.5 Inductivism, deductivism and existentialism are intertwined. They are also controversial particularly where observation – theory derivation is concerned. Discuss. (23 marks)
