



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF EDUCATION

UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF EDUCATION

SCIENCE/ARTS/SPECIAL NEEDS

3RD YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR

REGULAR (MAIN)

COURSE CODE: ECT 335

COURSE TITLE: SPECIAL METHODS OF TEACHING PHYSICS

EXAM VENUE: STREAM: (BED ARTS/ SCIENCE/SPECIAL NEEDS)

DATE: EXAM SESSION:

TIME: 2.00 HOURS

Instructions:

- 1. Answer question 1 (Compulsory) and ANY other 2 questions**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

Q 1. a) Discuss the following attributes of an effective Physics teacher under the following dimensions

- i. Understanding and learning
- ii. Questioning
- iii. Communicating
- iv. Using resources (8marks)

a) Compare and construct the constructivist theory of teaching and learning in terms of contemporary and traditional teaching. (6marks)

b) Discuss three characteristics of creative learners in a Physics classroom (6marks)

c) Justify why project work as a teaching method of Physics should be emphasized in Kenya secondary schools (5marks)

d) Outline the general guidelines for carrying out discussion in Physics classroom (5marks)

Q2. a) Discuss a Physics lesson plan as a tool for effective teaching and learning (7marks)

b) Outline Physics teacher characteristics that can de-motivate Physics learners in secondary school (7marks)

c) Discuss in detail the following terms “science” and “technology” (6marks)

Q3.a) Explain how “MISCONCEPTION” and “LANGUAGE OF INSTRUCTION” affect the learning and teaching of physics in secondary schools (6 marks)

b) Outline why gender related issues are part of the physics special methods curriculum (7marks)

c) Outline the role of improvisation of teaching resources in teaching and teaching of Physics at secondary school (7marks)

Q4. a) Discuss the following terms “skills” and “process skills” as approaches to the teaching of Physics in secondary schools. (6marks)

b) Discuss five international aims for teaching Physics in secondary schools (10marks)

c) Discuss four applications of ICT in secondary school Physics teaching (4marks)

Q5.a) Outline the limitation of lecturer method as an approach to teaching Physics at form one and two at secondary schools (6marks)

b) Outline and describe a good Physics scheme of work (8marks)

c) Discuss the following as applied in Physics teaching and learning “ASSESSMENT” and “Evaluation” (6marks)