JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF EDUCATION

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE

3RD YEAR 1STSEMESTER 2015/2016 ACADEMIC YEAR

MAIN CAMPUS REGULAR

COURSE CODE: ECT 335

COURSE TITLE: SPECIAL METHODS OF TEACHING PHYSICS

EXAM VENUE: LAB 9 **STREAM: (BED)**

DATE: 18/04/2016 **EXAM SESSION: 2.00 – 4.00 PM**

TIME: 2 HOURS

Instructions:

1. **Answer Question ONE (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.**

Question one (1) is compulsory

1. (a) Discus and cited applications of the following Philosophies in Physics teaching at secondary school
   (i) Rationalism (3 marks)
   (ii) Empiricism (3 marks)
   (b) Describe the limitation of "demonstration method" in teaching of Physics at secondary school (5 marks)
   (c) Outline the role of information communication technology in teaching Physics at secondary schools. (5 marks)
   (d) Outline the benefits of using Bloom's taxonomy in assessment of learners (6 marks)
   (e) Discuss why teachers in developing countries require skills and knowledge of developing learning and teaching materials from the immediate environment. (8 marks)

2. (a) Discuss the implications of the cognitive theory to the instructional process (6 marks)
   (b) Justify why the Ministry of education science and technology (MoEST) Kenya must initiate training of teachers on gender related issues. (6 marks)
   (c) Discuss a Physics lesson plan. (8 marks)

3. (a) Discuss the following terms science and technology. (6 marks)
   (b) Discuss the "scientific method" as applied to teaching of Physics in secondary school (6 marks)
   (c) Discuss why the "inquiry method" of teaching physics is hardly used in secondary schools in Kenya (8 marks)

4. (a) Evaluate how "African culture" and "language of instruction" influence the learning and teaching of physics in secondary schools. (6 marks)
   (b) Discuss the term "Physics scheme of work" (7 marks)
   (c) Illustrate how to teach topic "Linear Motion" using the active method of teaching and state four competencies to be achieved by learners. (7marks)

5. (a) Evaluate the implications of the constructivist teaching approach to the classroom teaching (7 marks)
   (b) Discuss the role of record of work in implementing the Physics curriculum in secondary schools (5 marks)
   (c) Describe the laboratory as a vital environment for implementing curriculum Physics in secondary. (8 marks)