



JARAMOGI ODINGA OGINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF EDUCATION

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
(SCIENCE) WITH IT**

3RD YEAR, 1ST SEMESTER, 2017/2018 ACADEMIC YEAR

MAIN CAMPUS, REGULAR: DEC-2017

COURSE CODE: ECT 335

COURSE TITLE: SPECIAL METHODS OF TEACHING PHYSICS

DATE

STREAM: BED (Arts)

TIME: 2HOURS

EXAM SESSION: December, 2017

Instructions:

1 Answer question ONE (COMPULSORY) and ANY other TWO questions.

2 Candidates are advised not to write on the question paper.

3 Candidate must hand in their answer booklets to the invigilator while in the examination room.

Q1. COMPULSORY

- a. Discuss how philosophy affects science (5marks)
- b. Discuss five international aims of teaching Physics in secondary schools (5marks)
- c. Discuss why teachers in Kenya require skills and knowledge of developing and utilizing learning and teaching resources from the school environment. (7marks)
- d. Discuss the essential requirements for a teacher to effectively lesson plan (7marks)
- e. Compare and contrast the traditional and the constructivist classroom environment (6marks)

- Q2. a) Outline the benefits of using active method of teaching physics (8marks)
- b) Discuss the outline of Physics scheme of work (6marks)
 - c) Discuss the core ideas of constructivism according to Taber (6marks)

- Q3.a) Discuss the role of the following Philosophies in Physics instruction at secondary school
- (i) Inductive
 - (ii) Deductive (4marks)
- b) Justify the role of information technology (ICT) in Physics teaching (6marks)
- c) Discuss the implication to Physics learning of the following Piaget's stages of child development
- (i) The young child (6-10 years of age)
 - (ii) The adolescent (11-18 years of age) (10marks)

- Q4. a) Discuss science creativity in line with Physics learning and teaching at secondary school level (8marks)
- b) Discuss the limitations of following methods of teaching Physics in secondary schools
- (i) Demonstration
 - (ii) Inquiry (12marks)

- Q5. a) Discuss five aims of teaching Physics in secondary schools in Kenya (10marks)
- b) Prepare a two period- practical lesson plan from any form one or form two Physics topic (10marks)