



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF EDUCATION

DEPARTMENT OF EARLY CHILDHOOD EDUCATION

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION

ECT 306: TEACHING METHODS-PHYSICS

DATE: 17/4/2019

TIME: 8:30 – 10:30 AM

INSTRUCTIONS: Answer Question One and Any Other Two

1.
 - a) Write a **brief five-point text** that would convince a Form One that Physics is a major contributor to Technological and Economic development. (5 marks)
 - b) With reference to a practical on refraction through a Glass block, explain the following aspects:
 - i) **Three** objectives in the psychomotor domain. (6 marks)
 - ii) **Two** objectives in the cognitive domain. (4 marks)
 - iii) The teaching aids you would require to perform a class experiment. (5 marks)
 - iv) The necessary preparation you would make prior to the practical lesson. (5 marks)
 - v) The structure and timing of activities in the practical lesson. (5 marks)
2.
 - a) Describe the steps you would use to help learners derive the lens formula
 $1/v + 1/u = 1/f$. (10 marks)
 - b) Outline the procedure you would use to teach **How to interpret the graph of (u v) versus (u+v) for a given lens.** (10 marks)
3. Discuss the following steps involved in the teaching of Physics through the constructivist approach: (20 marks).
 - i) Eliciting.
 - ii) Confronting.
 - iii) Negotiating.
 - iv) Evaluating.
 - v) Reviewing.
4. Critically Analyse the role of a Table of Specification in the efficient planning for a balanced Physics Test. (20 marks)

5. Write a brief essay **on any one of the following topics:** (20 marks)
- i) Physics and innovative Technology.
 - ii) Project Work in the teaching of Physics.
 - iii) Physics and Globalisation.
 - iv) Physics and Military Science.