



KISII UNIVERSITY
UNIVERSITY EXAMINATIONS

SPECIAL EXAMINATIONS
THIRD YEAR EXAMINATION FOR THE AWARD OF THE
DEGREE OF BACHELOR OF EDUCATION (ARTS)
SECOND SEMESTER, 2021/2022
(FEBRUARY - JUNE, 2022)

EDCI 333: PHYSICS SUBJECT TEACHING METHODS

STREAM: Y3 S2

TIME: 2 HOURS

DAY: WEDNESDAY, 8:00 – 10:00 A.M.

DATE: 27/07/2022

INSTRUCTIONS

- 1. Do not write anything on this question paper.***
- 2. Answer question ONE (Compulsory) and any other TWO questions from section B.***

1. (a) Distinguish between Physics and Physics Education. (3 marks)
- (b) Physics is and will remain the main science subject. Explain. (3 marks)
- (c) The acronym SMART is presently used with Physics instructional objectives. Explain its meaning. (3 marks)
- (d) State and explain any one of the products of science education. (3 marks)
- (e) Distinguish (with two examples for each) between an analogy and a teaching model in the teaching of Physics. (3 marks)
- (f) Explain with two examples, the meaning of electrical hazard. (3 marks)
- (g) List four qualities of a good Physics teacher. (3 marks)

(h) State the main features of a Physics laboratory preparation room. (3 marks)

(i) The School Science Project curriculum was piloted in the secondary schools in East Africa from the late 1970s. Why was this curriculum not scaled up to all secondary schools in Kenya? (3 marks)

(j) Distinguish a scheme of work from;

(I) a worksheet (1 mark)

(II) a lesson plan (2 marks)

2. (a) Micro-teaching is a very important component of teacher training. Discuss why it may not be possible to fully meet all the necessary conditions required in a university setting. (5 marks)

(b) The teaching of physics involves the application of integrated science process skills. Discuss them. (5 marks)

(b) The competence-based curriculum may be met with challenges that will hamper its implementation. With reference to the Junior secondary school Physics curriculum, discuss these challenges (10 marks)

3. (a) Explain five main principles of media selection. (5 marks)

(b) Under what conditions will a physics teacher improvise? (5 marks)

(c) Discuss the procedure of textbook evaluation. Point out what it is a teacher of Physics will be looking for in a Physics Textbook. (10marks)

4. (a) In the teaching of Physics, constructionist approaches are advocated for. Discuss the statement with reference to derivation of the formula for pressure in fluids. (8 marks)

(b) Models are very useful in the teaching and learning of Physics. Discuss the application of **any three** types of models used in Physics. (12 marks)

5. (a) Using relevant examples, explain how fieldwork may be used as a method of teaching Physics to Secondary school children. (10 marks)

(b) The role of a Physics laboratory cannot be overemphasized. Discuss. (10 marks)