



*(Knowledge for Development)*

## **KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**THIRD YEAR FIRST SEMESTER**

**MAIN EXAMINATION**

**FOR THE DEGREES OF BED (SC)**

**COURSE CODE: ESM 314**

**COURSE TITLE: PHYSICS EDUCATION**

**DATE: 27/05/22**

**TIME: 9:00 AM - 11:00 PM**

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### **INSTRUCTIONS TO CANDIDATES**

Answer Question One and Any other TWO (2) Questions

TIME: 2 Hours

This Paper Consists of 3 Printed Pages. Please Turn Over. ►

### QUESTION ONE

- a) Justify the use of a combination of teaching methods rather than one, in the teaching of physics (5Marks)
- b) i) Explain what you understand by *integration and infusion* in teaching of physics in secondary school (4Marks)  
(ii) With the use of suitable examples, illustrate how you would utilize the concept of integration in a physics lesson (4Marks)
- c) Inadequacy of teaching-learning resources is one of the challenged of teaching physics. Explain *three* other major challenges associated with the teaching of physics in secondary schools. (6Marks)
- d) State and explain two weaknesses of *behaviorism* as a teaching and learning theory in science. (4Marks)
- e) Show how the weaknesses of *Empiricism* as an epistemological theory of acquiring scientific knowledge can be overcome in teaching of physics (3Marks)
- f) Critically examine the role of project work in teaching and learning of physics (4Marks)

### QUESTION TWO

Scrutinize the following lesson plan developed by an untrained teacher and answer the questions that follow

Topic: Electrostatics I

Class: Form One

- Objectives: 1. To teach about electrostatics  
2. Students to understand and discover how a material is charged  
3. Discussion on electrostatics will be conducted

Time	Content	Learning Resources	Teaching Activities
40 Minutes	1. Electrostatics	The electroscope, ebonite rod, cloth, dry cells	Class experiment, questions and answer
	2. Charging material	Electroscope, ebonite rod, glass rod, dry	Demonstration, Observation

### QUESTION THREE

- a) In order to establish a conducive learning environment and address the low enrolment in secondary school physics, it is necessary to interrogate the role of the teacher. Discuss (10Marks)
- b) With the use of suitable examples, show how content in secondary school physics curriculum has come to be chosen. (10Marks)

### QUESTION FOUR

- a) Discuss any *five* factors that hinder widespread improvisation in teaching of physics in secondary schools. (10Marks)
- b) Critique the use of experimentation in teaching physics. (10Marks)

### QUESTION FIVE

- a) Explain any *three* advantages of project work in the teaching of physics (6Marks)
- b) Describe the preparation that a teacher ought to undertake before implementing the experiment method in physics (10Marks)
- c) Identify *two* risks associated with developing a simple primary cell in the physics laboratory (4Marks)

		cells and slinky spring	
	3. Discussion	KLB Pupils Book 1 Page 89 to 94	Asking and answering questions. Taking notes and assignment

- a) Identify and explain the mistakes in this lesson plan (10Marks)
- b) Prepare a workable lesson plan to teach the same concept incorporating the corrections that should be made in the one above (10Marks)