



(Knowledge for Development)

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS**

### **POSTGRADUATE DIPLOMA IN EDUCATION**

**2021/2022 ACADEMIC YEAR**

**YEAR ONE SEMESTER TWO**

**MAIN EXAMINATION**

**COURSE CODE: ESM 724E**

**COURSE TITLE: CHEMISTRY METHODS**

**DATE: 22/12/2022**

**TIME: 2-4PM**

### **INSTRUCTIONS TO CANDIDATES**

Answer Question One and any other two (2) Questions TIME: 2 Hours

### Question 1

- a) Name the common accidents in the school chemistry laboratory (5 marks)
- b) State 3 reasons why proper storage of chemistry chemicals is stressed (6 marks)
- c) Describe the 4 steps involved in problem solving (4 marks)
- d) In what ways do chemistry projects contribute to learning problem-solving? (5 marks)

### Question 2

- a) State Daltons ideas that were considered with a lot of importance (10 marks)
- b) With the use of a flow chart, demonstrate the evolution of chemistry (10 marks)

### Question 3

- a) State the aims of practical work in secondary school chemistry (8 marks)
- b) Discuss the conditions under which it is best to teach a chemistry class using demonstrations (8 marks)
- c) Outline the criteria that a chemistry teacher needs to use when choosing the type of fieldwork that he/she needs to show the link between the chemistry taught in class and natural phenomenon (4 marks)

### Question 4

- a) A school chemistry laboratory structure comprises three separate rooms. Name and state the function of each room (6marks).
- b) Draw a chemistry laboratory sketch plan to show the three main rooms (10 marks)
- c) Briefly discuss the use of a fume cupboard (4 marks)

### Question 5

- a) Choose a topic in Chemistry secondary school curriculum and prepare a two weeks scheme of work (10 marks)
- b) From the schemes of work prepared in (a) above, prepare a forty-minutes chemistry lesson plan (10 marks)