



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

POSTGRADUATE DIPLOMA IN EDUCATION

2021/2022 ACADEMIC YEAR

YEAR ONE SEMESTER TWO

SPECIAL/SUPPLEMENTARY EXAMINATION

COURSE CODE: ESM 724E

COURSE TITLE: CHEMISTRY EDUCATION

Date: 15/11/22 11: AM

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 (2 marks)
- b) State 3 reasons why proper storage of chemistry chemicals is stressed (3 marks)
- c) Describe the 4 steps involved in problem solving (4 marks)
- d) In what ways do chemistry projects contribute to learning problem-solving? (2 marks)
- e) Describe the main characteristics of structured questions (3 marks)
- f) List the three domains of Chemistry (3 marks)
- g) Outline the role of the teacher in demonstration work (3 marks)

Question 2

- a) State Dalton's 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)