(Knowledge for Development)

# KIBABII UNIVERSITY

## UNIVERSITY EXAMINATIONS

## 2020/2021 ACADEMIC YEAR

## FIRST YEAR FIRST SEMESTER

## MAIN EXAMINATION

## FOR THE DEGREE OF POST GRADUATE DIPLOMA IN EDUCATION

## COURSE CODE: ESM 724 E

COURSE TITLE: CHEMISTRY EDUCATION

**DATE**: 6/10/2021 **TIME**: 2:00PM - 4:00PM

## QUESTION ONE (COMPULSORY) (30 marks)

a) Name any **four** common accidents in the school chemistry laboratory (4 marks)
b) State **three** reasons for proper storage of chemistry chemicals (6 marks)
c) Describe the **four** steps involved in problem solving in chemistry (4 marks)
d) In what **three** ways do chemistry projects contribute to learning problem-solving? (6 marks)
e) Describe **four** characteristics of structured questions (4 marks)
f) List the **three** domains of teaching chemistry (3 marks)
g) Outline **three** role of the teacher in demonstration work (3 marks)

## QUESTION TWO (20 marks)

a) Explain **five** ideas of Daltons Atomic Theory that were considered as important (10 marks)
b) With the use of a flow chart, demonstrate the **five** key evolutionary stages of the chemistry curriculum (10 marks)

## QUESTION THREE (20 marks)

a) Discuss **four** aims of practical work in secondary school chemistry (8 marks)
b) Discuss **four** conditions under which it is best to teach a chemistry class using demonstrations ( 8 marks)
c) Outline **four** criteria that a chemistry teacher needs to use when choosing the type of fieldwork in chemistry (4 marks)

**QUESTION FOUR (20 marks)**

a) A school chemistry laboratory structure comprises of **three** separate rooms. Name and state the function of each room (6 marks).

b) Draw a chemistry laboratory sketch plan to show the **three** main rooms (6 marks)

c) Briefly discuss the use of a fume cupboard (4 marks)

d) State **four** consideration to be made when designing a chemistry laboratory (4 marks).

**QUESTION FIVE (20 marks)**

a) Choose a topic in the 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)