



Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

DIPLOMA IN ANALYTICAL CHEMISTRY

(DAC 11M)

ACH 2306 : APPLIED ANALYTICAL CHEMISTRY II

SEMESTER: EXAMINATIONS

SERIES: DECEMBER 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this paper

- *Answer booklet*

This paper consists of **FIVE** questions.

Answer Question **ONE (compulsory)** and any other **TWO** questions

This paper consists of 2 PRINTED pages

Question ONE

- a) Give THREE ways by which cellulose may be degraded by a number of environments (12marks)
- b) Explain the THREE techniques that are used for treating cellulose fibre during cellulose regeneration (12marks)
- c) Explain the action of CaCN_2 as fertilizer. (6marks)

Question TWO

- a) Give FOUR uses of vulcanized fibre of cellulose. (8marks)
- b) State its THREE major disadvantages (16marks)
- c) Cellulose molecules are rigid and forms strong H-bonds with adjacent molecules due to presence of OH groups but acetyl groups can be added to celluloses to modify its properties state THREE effects that acetyl group addition bring into celluloses. (6marks)

Question THREE

- a) Write equations for the manufacture of methyl chloro insecticide. (8marks)
- b) State its THREE advantages over DDT (6marks)
- c) State THREE needs for a fertilizer (6marks)

Question FOUR

- a) State SIX principle preliguizate for a fertilizer. (12marks)
- b) State THREE source of nitrogen nutrients in the soil. (6marks)
- c) List any other FOUR nutrients that are required in the soil for good and healthy plant growth. (2marks)

Question FIVE

- a) Explain the action of urea as fertilizer (11marks)
- b) Define the following
- (i) Herbicide
 - (ii) Inseticides
 - (iii) Mitocides
- (4marks)
- c) Differentiate between selective and non-selective herbicides.
- d) Give TWO example of selective herbicides. (5marks)