



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A CONSTITUENT COLLEGE OF JKUAT)

(A Centre of Excellence)

Faculty of Applied and Health Sciences

DEPARTMENT OF **PURE AND APPLIED SCIENCES**

DIPLOMA IN ANALYTICAL CHEMISTRY

(DAC 11M)

ACH 2213 : PHOTOGRAPHY, CRYOGENIC, GLASS BLOWING VACUUM

SPECIAL/SUPPLEMENTARY: EXAMINATIONS

SERIES: February 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) (i) Classify vacua and show their pressure ranges (5marks)
- (ii) Write in full MFP. Explain its concept. (5marks)
- b) (i) Define a gauge (2marks)
- (ii) Draw and explain diaphragm gauge. (8marks)
- c) Explain errors encountered when using capacitance gauge. (10marks)

Question TWO

- a) Discuss working principle of rotary value pump (12marks)
- b) Explain significance of gas ballasting valve (3marks)

Question THREE

- a) Outline limitations of McLeod gauge (9marks)
- b) Brief describe how to care and clean McLeod gauge. (6marks)

Question FOUR

- a) Describe viscosity gauges (8marks)
- b) Discuss non-fractionation diffusion gauge. (7marks)

Question FIVE

- a) Name the parts indicated in incorporating diffusion pump. (8marks)
- b) Explain how pirani gauge works. (7marks)