



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF **PURE AND APPLIED SCIENCES**

DIPLOMA IN ANALYTICAL CHEMISTRY

(DAC 10J)

ACH 2316 : LABORATORY PRACTICE & MANAGEMENT

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.

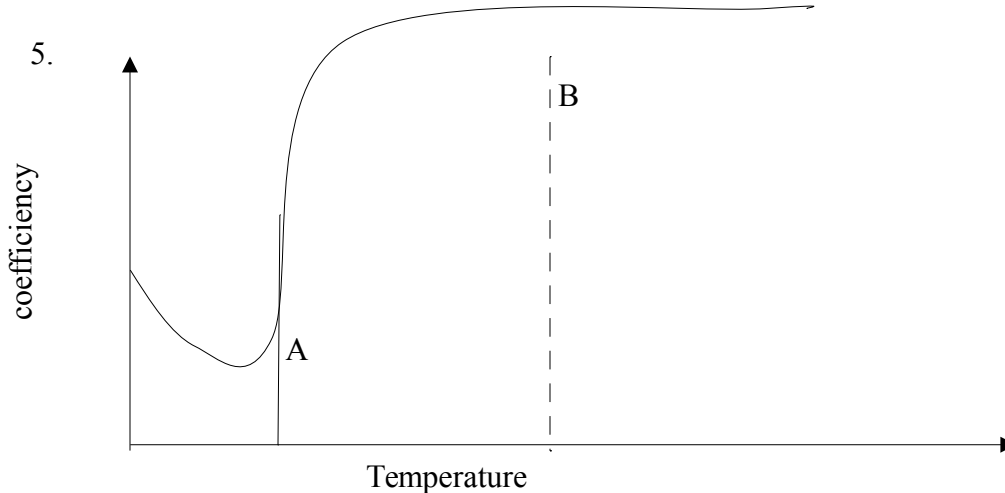
Answer ALL Question in Section A and any THREE in section B.

This paper consists of 3 PRINTED pages

SECTION A

Answer all questions in this section

1. (i) Define the term trade union (1mark)
(ii) Give THREE principles of trade unions (3marks)
2. (i) Give the meaning of the following abbreviations C.O.T.U. (1mark)
(ii) Give THREE roles of COTU (3marks)
3. Explain atleast FOUR limitations of employer association (4marks)
4. Explain the factories Act CAP 514 (Health and Safety) (4marks)



The above graph described the characteristics of curve co efficiency of extrusion of glass with rise of temperature. Describe the process at A and B. (4marks)

6. (a) Explain why one should not wear bangles, rubber when working with cryogenic substances. (2marks)
(b) Draw and labelled of diagram dewar for storing Helium gas. (3marks)
7. (a) Briefly discuss biological application of cryogenics (3marks)
(b) Explain reason why dewar neck is long (1mark)
8. State FOUR causes of vibrations (4marks)
9. List FOUR scouring agents that are used in cleaning glassware (4marks)
10. State TWO forms of heat used to sterilize glassware and for each give one example of the equipment used in sterilization (4marks)

SECTION B

11. (a) State the meaning of the following
- (i) Descaling in a still (1mark)
 - (ii) Ashing in a muffle furnace (1mark)
 - (iii) Refractory in a furnace (1mark)
 - (iv) Regeneration of a deionizer (1mark)
 - (v) Taring analytical balance (1mark)
- (b) State SIX advantages and four disadvantages of glass as construction material for scientific equipment (10marks)
- (c) State
- (i) Three uses of distilled water in a laboratory (3marks)
 - (ii) Two uses of vacuum in a laboratory (2marks)
12. (a) Differentiate between seniority based promotion and merit based promotion (4marks)
- (b) List and explain FOUR types of leaves that an employee may get (8marks)
- (c) Explain the benefits of seniority based promotion (8marks)
13. (a) Explain the term redundancy (2marks)
- (b) Explain measures an employer can take to minimize redundancy (4marks)
- (c) In case redundancy occurs explain what measures an employer can take to make redundancy less painful. (14marks)
14. (a) Describe glass workshop (10marks)
- (b) Describe annealing (10marks)
15. (a) Cryogenic substances are hazardous. Explain (10marks)
- (b) Briefly describe cold finishing of a glass (10marks)