



TECHNICAL UNIVERSITY OF MOMBASA
FACULTY OF APPLIED AND HEALTH SCIENCES
DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:
DIPLOMA IN ANALYTICAL CHEMISTRY
DAC 15S

ACH 2105: LABORATORY SAFETY AND ETHICS
END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- (a) State four ways in which explosions differ from normal chemical reactions. 4 Marks
- (b) List five safety devices that safety officers in an institution may issue from time to time 5 Marks
- (c) State four precautions that should be taken against corrosive liquids 4 Marks
- (d) State the four objectives of First Aid 4 Marks
- (e) List six hazardous operations involving glass 6 Marks
- (f) (i) State four causes of fire in a laboratory 4 Marks
- (ii) List three properties of carbon dioxide that make it an effective agent for fire fighting. 3 Marks

Question TWO

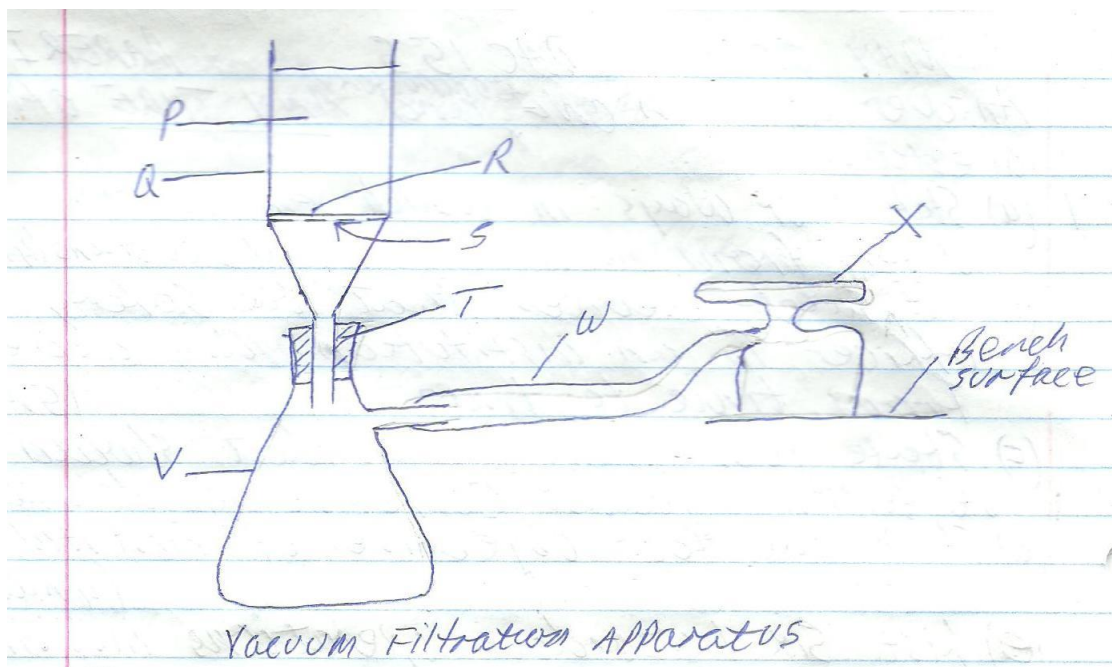
- (a) List six advantages and four disadvantages of glass as construction material for scientific apparatus 10 Marks
- (b) List five ways of promoting recovery in First Aid 5 Marks

Question THREE

- (a) List eight factors that influence selection of materials for floors of buildings 8 Marks
- (b) State seven general precautions against chemical hazards 7 Marks

Question FOUR

- (a) The following figure represents apparatus used in vacuum filtration



- (i) Name what the letters P,Q,R,S,T,V,W and X represent 4 Marks
- (ii) State the functions of Q R,S V, J and X in this experiment 6 Marks
- (iii) State two components of this apparatus that are not shown in this figure 2 Marks
- (iv) State the most important safety characteristic of this apparatus 1 Mark
- (b) State two other uses of vacuum 2 marks

Question FIVE

- (a) A student is carrying out normal distillation of a liquid mixture in the laboratory
- (i) Name eight items of equipment in the apparatus being used 4 Marks
 - (ii) State four possible consequences of an accident occurring during this experiment. 4Marks
- (b) You are a First Aider at the scene of serious motor accident n a busy urban highway.
State four ways you can get bystanders (onlookers) to help you. 4 Marks
- (c) List three reasons why asbestors blanket is unsuitable for use 3 Marks