THE ENHANCEMENT OF EXPERIMENTAL ASPECTS IN SPECIFIED PRACTICALS IN G.C.E (A/L) CHEMISTRY

A PROJECT REPORT PRESENTED BY

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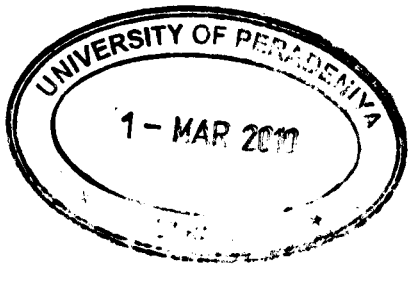

ABSTRACT

THE ENHANCEMENT OF EXPERIMENTAL ASPECTS IN SPECIFIED PRACTICALS IN G.C.E (A/L) CHEMISTRY

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To understand the concepts in chemistry, experiments play a major role. Some students still argue that there are no practical examinations in chemistry for G.C.E (A/L) examination so that they need not have much concentration in experimental applications. Actually, for the fruitful performance, well organized laboratory and duly planned experimental methodology are needed. Most of the questions in the final G.C.E (A/L) chemistry exam paper are associated with chemistry experiments.

In this project, It was emphasized to reveal the importance between theory and practicals through which students can achieve good performance in chemistry.

Most of the G.C.E (A/L) students face problems when carrying out experiments such as handling of apparatus, preparing solutions, fear of apparatus, lack of manipulating skills, making serial dilution of solution.

Problems were identified and suggested modifications were recommended to solve these problems in this research report.

Questionnaires for chemistry teachers and chemistry students were prepared and issued to twenty chemistry teachers and two hundred chemistry students respectively. The data obtained from the questionnaires were analyzed. From the analysis, problems were identified and suggested modifications were recommended for each and every experiment.

The pH of the medium is very important for the formation of the colored complex of iron salicylate for determination of the formula of the iron(111) salicylate complex by the continuous variation method.

Heating should be done for a long time to expel ammonia completely in determination of the percentage of nitrogen in urea fertilizer. Preparation of standard solution of hydrochloric acid is difficult as concentrated hydrochloric acid is highly evaporated. Preparation of standard solution of sodium hydroxide is also difficult as it is deliquescent.

To determine the oxygen content in water, the tip of a pipette should be dipped into the solution in order to prevent the reagent getting overflow.

In the solvent extraction experiment, the reagent bottle should be shaken until equilibrium is achieved.

Many students have insufficient knowledge in organizing an electro-chemical cell. Calibration of galvanometer and accurate measurement of voltage are compulsory.

In esterification reactions, few drops of sulphuric acid and particular temperature during the experiment should be maintained.