

KAY LFF 711

UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI
FACULTY OF SCIENCE

B.Sc. (Chemistry) First Semester Examination, 1998
First Year

C 169 : PRACTICAL CHEMISTRY

JANUARY, 1998

THREE HOURS

Attempt ALL questions.

1. (a) Distinguish between

- (i) Precision and accuracy
- (ii) End point and equivalence point.
- (iii) Molarity and Molality.

(b) List THREE errors that may be encountered in the weighing of analytical reagents in the laboratory.

(c) Describe the proper procedure for preparing 250 ml of 0.15M K_2SO_4 in the laboratory.

(d) The percent of an additive in gasoline was measured six times with the following results:

0.13, 0.12, 0.16, 0.17, 0.20, 0.11%

Find the

- (i) mean
- (ii) median
- (iii) standard deviation and
- (iv) the 90% and 99% confidence intervals for the percent of the additive and briefly comment on your result.

2. (a) What is the basis for the classification of ions in analytical chemistry?

(b) Explain why

- (i) too much sample should not be taken for qualitative analysis.
- (ii) substances are powdered before use in qualitative analysis.
- (iii) dilute HCl is preferred to dilute H_2SO_4 in preliminary tests for anions.