

ALTERNATIVE B

UNIVERSITIES OF MANCHESTER LIVERPOOL
LEEDS SHEFFIELD AND BIRMINGHAM

Joint Matriculation Board

General Certificate of Education

CHEMISTRY. PAPER III ALTERNATIVE B
ADVANCED

TUESDAY 25 JUNE 1957, 2-5

The use of books and laboratory notebooks is permitted.

All rough work must be done in the answer-book. No extra paper may be used for this purpose.

When answering Question 1:

Limit your description to features peculiar to the experiment carried out. Routine procedure, e.g. washing of burette and pipette or manipulation of the balance, should be omitted.

*Calculations should be confined to essential steps and these set out clearly. Atomic weights are **not** required and lengthy calculations resulting from their use may be penalized.*

When answering Question 2:

*Give a full account, arranged in an orderly manner, of the **experimental** evidence for your findings.*

*At the end of your answer summarize the radicals and state the number of the substance **E** with which you have been supplied.*

1. You are supplied with
a solid bicarbonate (**B**), and
exactly decinormal hydrochloric acid.

Find the equivalent weight of the bicarbonate.

Procedure:

(a) Weigh out to the nearest 1 or 2 mg. about 2.7 gm. of **B**, dissolve in *cold* distilled water and make up to 250 c.c. Mix thoroughly.

(b) Pipette 25 c.c. of solution **B** into a conical flask and titrate with the hydrochloric acid, using methyl orange as indicator. Screened methyl orange, methyl yellow, or bromophenol blue may be used as alternatives.

2. Analyse qualitatively the substance **E** which contains four radicals.

*At the end of your answer summarize the radicals and state the number of the substance **E** with which you have been supplied.*