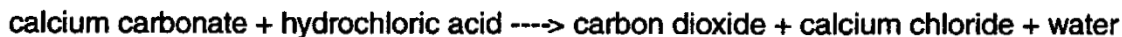


Alternative to practical 1

Indigestion tablets contain calcium carbonate. The tablets work by neutralising the excess of acid in the stomach.



You are provided with 2 different brands of indigestion tablet, **F** and **G**, dilute hydrochloric acid and common laboratory apparatus.

Plan an investigation to find which brand of indigestion tablet is best at neutralising acid. Your answer should include details of the apparatus to be used and the main practical steps in the investigation.

apparatus

.....

plan of investigation

.....

.....

.....

.....[5]

Extension 1

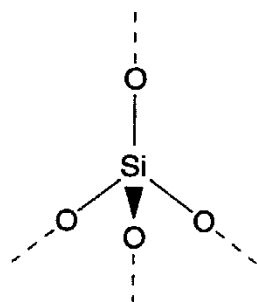
(iii) Complete the table that shows the reaction, if any, of the oxides with acid and alkali. Indicate a reaction with "R" and no reaction with "NR".

oxide	type of oxide	reaction with acid	reaction with alkali
magnesium oxide	basic		
aluminium oxide	amphoteric		
silicon(IV) oxide	acidic		

[3]

Extension 2

(c) Two of the chemicals used to make concrete are limestone and sand. Limestone is an ionic compound, containing the ions Ca^{2+} and CO_3^{2-} . Sand is mainly an oxide of silicon which is macromolecular.



(i) What is the valency of
 calcium in calcium carbonate,

silicon in this oxide?

(ii) What is the electron distribution in one atom of
 calcium,

silicon?

(iii) Explain why the metal calcium forms ionic bonds but the non-metal silicon forms covalent bonds.

.....

.....

[6]

Alternative to Practical 1

Plan to include five of the following points.

- Measured equal amounts of tablets
- Added specified volume of acid to tablet e.g. drop by drop until stops fizzing / indicator is neutral
- Repeated
- Compared with other tablet
- Concluded the most effective tablet requires the most acid

Extension 1

R	NR
R	R
NR	R