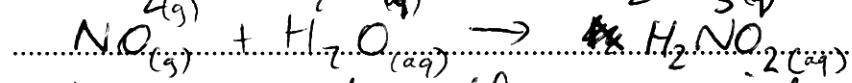
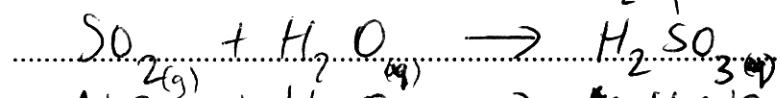


## Question 21 (7 marks)

Evaluate the impact of industrial sources of sulfur dioxide and nitrogen oxides on the environment, making use of appropriate chemical equations.

$\text{SO}_2$  is produced industrially when extracting metals from ores. Nitrogen oxides are produced from industrial emissions also.

These oxides in the atmosphere dissolve in water molecules and are subsequently rinsed out of the sky. This is a natural process to deal with natural emissions <sup>for example</sup> of  $\text{SO}_2$  from volcanoes and  $\text{NO}_2$  from lightning.



Nitrous and sulfurous acids in water molecules increase pH of rain, creating acid rain. Acid rain alters the pH of natural water bodies such as lakes and kills many species living there.

Acid rain also affects forests and corrodes limestone and marble infrastructure in the human environment.

Too much  $\text{SO}_2$  & Nitrogen oxides are bad for the environment.