

Question 21 (7 marks)

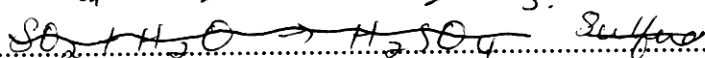
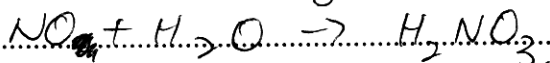
Evaluate the impact of industrial sources of sulfur dioxide and nitrogen oxides on the environment, making use of appropriate chemical equations.

7

Industrial sources of ~~so~~ SO_2 & including
the mining, and smelting of
sulfide ores, and factories. $\text{S} + \text{O}_2 \rightarrow \text{SO}_2$
sources of NO_x include the
high temperature combustion

of coal with insufficient oxygen produces NO_x . Incomplete combustion
These products, then combine with

water in rain to make it very
acidic, producing acid rain.



Sulfur dioxide also reacts with rain to
produce H_2SO_4 acid.

This acidic rain then causes

great damage to the environment,
such as damaging forests, and
destroying the protective wax coating
on leaves. It also affects the
environmental habitat for aquatic
life because it raises the pH of
water bodies.

It also dissolves and destroys ~~stone~~
calcium carbonate and stone buildings
and statues. ~~$\text{CaCO}_3 + \text{H}_2\text{SO}_4 \rightarrow \text{H}_2\text{CO}_3$~~