

## Nitric Acid: Answers

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1. (a) Four-fifths of the air is nitrogen, which takes no part in the reactions. [1]  
Oxygen is required in three of the reactions taking place. [1]
- (b) (i) A larger surface area [1]  
(ii) Catalyst poisoned/gauze broken up at high temperatures. [1]  
(iii) The reaction is exothermic. [1]
- (c) Ammonia Decreases [1]  
Nitrogen Stays the same [1]  
Oxygen Decreases [1]  
Steam Increases [1]
- (d) (i) Fumes are brown in colour and easily seen. [1]  
(ii) Reduces the yield of nitric acid/reduces the profits. [1]  
(iii) Advantage – increases levels of nitrogen in the soil [1]  
Disadvantage – makes soil more acidic [1]
2. Any three suitable points including
- A good supply of water  
Oil, natural gas terminal nearby  
Close to customers  
Good transport facilities for products  
Labour force available [3]