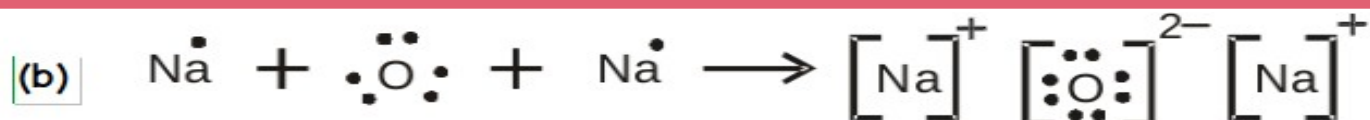




reactants increases which causes to increase the number of their collisions and results in the increase in the rate of chemical reaction .

14.

(a) The outermost shell of Oxygen contains 6 electrons . So it requires 2 electrons to complete octet electron configuration in the valence shell and to attain stability . Therefore Oxygen usually shows the valency 2 .



15.

(a) The gases like SO<sub>2</sub> , NO<sub>2</sub> emitted from factories , motor vehicles and thermoelectric power stations into air dissolve in rain water and causes acid rain

- (b)
- Plants lose their ability to produce carbohydrates through photosynthesis as their leaves are destroyed.
  - Severe acid rain destroys the greenery of a region.
  - The acidic nature of water causes the death and destruction of fish and corals.

**Any 4 From 16 to 20 (4 mark for each)**

16. (a) Basic nature

(b) Acidic HCl reacts with basic NaOH to form neutral salt and water . As the concentration of base decreases the pink colour fades and finally disappears due to neutralisation reaction .



17. (a) As we move down in a group ionisation energy decreases .Because as the size of atom increases down in a group ,the attraction of the nucleus on valence electrons decreases .

(b)  $_{17}\text{Cl}$  . As we move from left to right along a period the size of atom decreases and hence the ionisation energy increases .  $_{11}\text{Na}$  ,  $_{15}\text{P}$  and  $_{17}\text{Cl}$  belong to the groups 1 , 15 and 17 respectively .

18. (a) In the heated test tube (b) Sulphur  
(c) When temperature increases the number of molecules acquired the threshold energy increases which causes to increase the number of effective collisions .
19. (a) C - 14 (b) Neutron  
(c) Iodine - 131 :- Used in medical field for diagnosis and treatment of ailments like cancer and tumour .  
Uranium - 235 :- Used as fuel in atomic reactors .
- 20  
(a) Dobereiner (b) Moseley  
(c) Lavoisier (d) Newlands

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