

SA TYPE

Q11. Draw the structure of white phosphorus and red phosphorus. Which one of these two

Two types of phosphorus is more reactive and why?

Q12. Fluorine exhibits only -1 oxidation state whereas other halogens exhibit +1, +3, +5 and

+7 oxidation states also, why?

Q13. Nitric oxide becomes brown when released in air, why?

Q14. All the P- Cl bonds in PCl_5 molecule are not equivalent, explain.

Q15. Draw the structure and predict the shape of

(i) XeO_3 and (ii) BrF_3

LA TYPE

Q16(a). Describe the conditions for getting maximum yield of ammonia.

(b) (i) Why is H_2S more acidic than H_2O ?

(ii) Why NH_3 is more basic than PH_3 ?

(iii) Why does sulphur show catenation to maximum extent?

Q17. Account for the following:

(i) Iron on reaction with HCl forms FeCl_2 and not FeCl_3 .

(ii) HClO_4 is stronger acid than HClO .

(iii) BiH_3 is the strongest reducing agent amongst all the hydrides of group 15.

Q18. Explain why;

(i) Sulphur in vapour state exhibits paramagnetism.

(ii) Unlike xenon, no distinct chemical compound of helium is known.

(iii) H_3PO_2 is a stronger reducing agent than H_3PO_3 .

Q19. (i) Which allotrope of phosphorus is more reactive and why?

(ii) How the supersonic jet aeroplanes are responsible for the depletion of ozone layers?

(iii) F_2 has lower bond dissociation enthalpy than Cl_2 , why?

Q20. Account for the following :

- (i) Bond angles in NH_4^+ is higher than NH_3 .
- (ii) H_2S has lower boiling point than H_2O .
- (III) Reducing character decreases from SO_2 to TeO_2 .