

21 (d) NH_3

Explanation (Simple & Clear):

A **Lewis acid** is an **electron pair acceptor**.

22. (b) $\text{Ba}(\text{NO}_3)_2$ does not undergo hydrolysis.

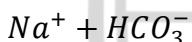
23. (b) H_2SO_4 is a mineral acid.

24. (c) Because it is an electron pair acceptor its central atom has a vacant *d*-orbital.

25. (d) HClO_4 is a strong acid and their conjugate base is ClO_4^- .

26. (c) It is completely ionised because their ionization is very high.

27. (c) NaHCO_3 in water is alkaline in nature due to hydrolysis of HCO_3^- ion. $\text{NaCO}_3 \rightleftharpoons$



28. (d) In this reaction H_2O acts as an acid.

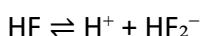
29. (b) The basic character of hydride decreases down the group.

30. (b) Its ionization is very less.

31. (b) As a base

Explanation (Simple & Clear):

In liquid hydrogen fluoride (HF), the solvent system is:



So:

A substance that gives H^+ behaves as an acid.

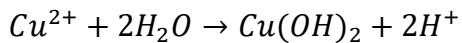
A substance that accepts H^+ behaves as a base.

Now, HNO_3 is normally an acid in water.

But in liquid HF, it accepts a proton (H^+) \rightarrow therefore it acts as a BASE.



32. (c) Hydrolysis of Cu^{2+} produces H^+ ions in solution.

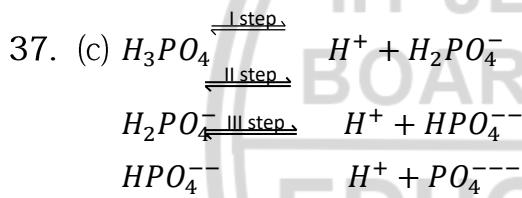


33. (d) Both possess the tendency to accept proton.

34. (a) HF does not give proton easily.

35. (a) In weak electrolyte the degree of dissociation is very small. So it increases with increasing dilution.

36. (a) Because it is an electron pair acceptor.



38. (c) Na_2HPO_4 on hydrolysis of HPO_4^{2-} -ion produces free OH^- ion in solution.

