(c) H_3PO_2 has one ionizable P–OH bond while H_2PO_3 has two ionizable P–OH bonds & H_3PO_4 has 3 ionizable P–OH bonds so H_3PO_2 is monobasic, H_2PO_3 is dibasic and H_3PO_4 is tribasic

(d) In H_3PO_2, two H atoms are bonded directly to P atom which imparts reducing character to the acid while H_3PO_3 has one H atom directly bonded to P atom making it comparitively weaker reducing agent

(e) Both are sp^3 hybridized, In PH_4^+, all the 4 orbitals are bonded whereas in PH_3, there is a lone pair of e⁻s on P, which is responsible for lone pair – bond pair repulsion in PH_3 reducing the bond angle to less than 109° 28'

Other types of questions:

Any 1. High pressure, low temperature, use of a catalyst such as iron oxide with small amounts of K_2O and Al_2O_3.

Any 2. $Cu^{2+}(aq) + 4NH_3(aq) \rightleftharpoons [Cu(NH_3)_4]^{2+}(aq)$ deep blue

Any 3. Covalence of nitrogen in N_2O_5 is 4

Any 4. Brown ring test ⇒ Aqueous solution of nitrate + freshly prepared ferrous sulphate solution & then carefully conc H_2SO_4 is added along the sides of the test. A brown ring is formed at the junction of 2 liquids.

Reason :– It is due to formation of $[Fe(H_2O)_5(NO)]^{2+}$

Any 5.

White phosphorus	Red phosphorus
1. White phosphorus is translucent white waxy solid.	1. It possesses iron grey lustre.
2. It is poisonous	2. It is non poisonous
3. It is insoluble in H_2O but soluble in CS_2	3. It is insoluble both in H_2O & CS_2.