Daily Tutorial Sheet 1	Level – 1

1.(A) Reducing abilities of hydrides increases on moving downward.

2.(B) Acidic strength increases with increase in oxidation state.

$$\underbrace{NO\ ;\ N_2O}_{\text{Neutral}}\ ;\ \underbrace{N_2O_3 < NO_2 < N_2O_5}_{\text{acidic}}$$

3.(D) $(NH_4)_2Cr_2O_7 \xrightarrow{\Delta} N_2 + Cr_2O_3 + 4H_2O$

$Ba(N_3)_2 \xrightarrow{\Delta} Ba + 3N_2$

$NH_4NO_3 \xrightarrow{\Delta} N_2O + 2H_2O$

4.(A) Refer solution of Q. 3

5.(A) Stability of hydride decreases on moving downward, due to decrease in bond dissociation enthalpy.

6.(B) Phosphorus produces large number of oxoacids.

7.(C) Enthalpy of vapourisation increases with increases in boiling point. Also refer solution of
Boiling point of NH_3 is high because of H-bonding $PH_3 < AsH_3 < NH_3 < SbH_3 < BiH_3$.

8.(A) Stability of hydride decreases on moving downward, due to decrease in bond dissociation enthalpy.

9.(A) Reducing property increases from NH_3 to BiH_3

Lewis basic strength decreases from NH_3 to BiH_3

Thermal stability of hydrides decreases from NH_3 to BiH_3

Bond angle of hydrides decreases from NH_3 to BiH_3.

10.(B) Boiling point of NH_3 is high because of H-bonding $PH_3 < AsH_3 < NH_3 < SbH_3 < BiH_3$.

11.(A) Learn it as fact.

12.(A) $2NH_3(g) + 3CuO \xrightarrow{\Delta} N_2 + 3H_2O + 3Cu$.

13.(A) Due to absence of vacant d-orbital in nitrogen.

14.(A) N_3H is hydrazoic acid

15.(D) Stability of hydride decreases from N to Bi.