

GIRLS' HIGH SCHOOL AND COLLEGE

2020-2021

Class XII

CHEMISTRY

WORKSHEET NO. – 2

Note: - Parents please ensure that your ward refers to the given reference books and website at least for two days.

Reference Books – Nootan ISC Chemistry- Vol II Class XII- H.C. Srivastava

Website – www.wikipedia.org

www.studiestoday.com

www.khanacademy.org

Chapter- p-block Elements

Topic- Group 15 elements

Following questions are on physical and chemical properties of group 15, Ammonia and Nitric Acid

Q1. a) How does metallic character vary in group 15?

b) Among N_2O_3 , P_4O_6 and As_4O_6 which one is most acidic. Why?

c) What is the basicity of phosphorus acid (H_3PO_3)?

Q2. Give reasons for the following: -

a) Ionization energy of group 15 elements is much higher than that of corresponding elements of group 14.

b) Stability of +5 oxidation state decreases on moving down group 15.

c) PCl_5 exists but NCl_5 does not.

d) Basic strength of hydrides of group 15 elements decreases on moving down the group.

e) PH_3 possess a smaller bond angle than that for NH_3 .

Q3. a) What is inert pair effect? How does it affect the properties of group 15 elements?

b) In what ways does Nitrogen differ from other elements of group 15. What is the cause for this anomalous behavior?

c) What are the conditions for obtaining maximum yield of Ammonia.

d) Among NH_3 , PH_3 , AsH_3 , SbH_3 and BiH_3 which possesses the highest reducing power and why?

Q4. Give balanced equation for the following reactions: -

i). Copper Oxide and Ammonia.

ii). Ammonia and excess of Chlorine.

iii). Copper and concentrated Nitric Acid.

iv). Sulphur and concentrated Nitric Acid.
