BRAIN INTERNATIONAL SCHOOL

CHEMISTRY Assignment **Class XI** **OCT'18**

CH: Hydrogen

Q1. Why is dihydrogen gas not preferred in balloons?

Q2. Name one compound each in which hydrogen exists in (i) positive oxidation state, and (ii) Negative oxidation state.

Q3. What type of elements form interstitial hydrides?

Q4. What happens when heavy water is added to calcium carbonate?

Q5. Complete the following reactions?

(i) $C_3H_8\,(g) + 3H_2O(g) \xrightarrow[\text{catalyst}]{\text{heat}}$

(ii) $Zn(s) + NaOH(aq) \xrightarrow{heat}$

Q6. Write the chemical reactions to show the amphoteric nature of water.

Q7. Why is hydrogen peroxide stored in wax-lined plastic coloured bottles?

Q8. What causes the temporary and permanent hardness of water?

Q9. What do you understand by (i) electron-deficient, (ii) electron-precise, and (iii) electron-rich compounds of hydrogen? Provide justification with suitable examples.

Q10. Concentrated sulphuric acid cannot be used for drying H_2. Why?

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CH: P- BLOCK ELEMENTS

1. Boron forms no compound in unipositive state while thallium in unipostive state is quite stable. Explain?

2.Which element of group-13 forms the most stable +1 oxidation state?

3. Boron has insufficient electrons to fill the valence shell even after forming bonds. How does boron try to solve this problem?

4.how does BF3 act as a catalyst in industrial process.

5.why does BF3 form an adduct with ammonia?

6.PbCl4 is less satble than SnCl4 but PbCl2 is more stable than SnCl2.

Justify?

7.describe the shapes of BF3 and BH-4. What type of hybridization

can we assign to boron in each of these compounds?

8. First ionization enthalpy of Ga is slightly higher than that of Al.

Explain?

9.Carbon dioxide turns limewater milky. However is passed for a long time , the solution becomes clear again. Explain?

10.How many 3 centered,2 electron bonds are present in diborane?

11.B2H6 exist but not B2Cl6 explain your answer

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CH: S- BLOCK ELEMENTS

PRACTICE PROBLEM

1.What are group -1 elements known as ? Name the group -1 elements?

2. which is the most reactive alkali metal and why?

3.what happens when potassium superoxide is dissolved in water?

4.why are alkali metals highly electropositive in nature?

5.When an alkali metal dissolves in liquid ammonia , the solution acquires different colours. Give reason?

6. Give the reason for the followings:

7.Why Be and Mg donot show flame colour? .Give reason for the following.Give reason for the following:

a) Alkaline metals do not occur free in nature.

b) Magnesium does not impart colour to the flame while calcium does.

C) Alkaline earth metals always from divalent cations even though the second ionization enthalpies of these metals are almost double their first ionization enthalpies.

8.Why is $BeCO_3$ stored in carbon dioxide atmosphere?

9..Explain the trend of solubility of carbonates , sulpphates and hydroxides of alkaline earth metals down the group.

10..Beryllium exhibits some similarities with aluminium. Point out three such properties?

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