Q1 - 2024 (01 Feb Shift 1)

Among the following oxide of p - block elements, number of oxides having amphoteric nature is

$Cl_2O_7, CO, PbO_2, N_2O, NO, Al_2O_3, SiO_2, N_2O_5, SnO_2$

Q2 - 2024 (27 Jan Shift 1)

Element not showing variable oxidation state is :

(1) Bromine

(2) Iodine

(3) Chlorine

(4) Fluorine

Q3 - 2024 (27 Jan Shift 2)

Given below are two statements:

Statement (I) : Oxygen being the first member of group 16 exhibits only -2 oxidation state.

Statement (II) : Down the group 16 stability of +4 oxidation state decreases and +6 oxidation state increases.

In the light of the above statements, choose the most appropriate answer from the options given below:

(1) Statement I is correct but Statement II is incorrect

(2) Both Statement I and Statement II are correct

(3) Both Statement I and Statement II are incorrect

(4) Statement I is incorrect but Statement II is correct

Q4 - 2024 (30 Jan Shift 2)

Choose the correct statements about the hydrides of group 15 elements.

A. The stability of the hydrides decreases in the order $NH_3 > PH_3 > AsH_3 > SbH_3 > BiH_3$

B. The reducing ability of the hydrides increases in the order $NH_3 < PH_3 < AsH_3 < SbH_3 < BiH_3$

C. Among the hydrides, NH_3 is strong reducing agent while BiH_3 is mild reducing agent.

D. The basicity of the hydrides increases in the order $NH_3 < PH_3 < AsH_3 < SbH_3 < BiH_3$

Choose the most appropriate from the option given below:

(1) B and C only

(2) C and D only

(3) A and B only

(4) A and D only

Q5 - 2024 (31 Jan Shift 1)

Give below are two statements:

Statement-I : Noble gases have very high boiling points.

Statement-II: Noble gases are monoatomic gases. They are held together by strong dispersion forces. Because of this they are liquefied at very low temperature. Hence, they have very high boiling points. In the light of the above statements. choose the correct answer from the options given below:

(1) Statement I is false but Statement II is true.

(2) Both Statement I and Statement II are true.

(3) Statement I is true but Statement II is false.

(4) Both Statement I and Statement II are false.

Q6 - 2024 (31 Jan Shift 2)

Choose the correct statements from the following

A. All group 16 elements form oxides of general formula EO_2 and EO_3 where $E = S, Se, Te$ and Po. Both the types of oxides are acidic in nature.

B. TeO_2 is an oxidising agent while SO_2 is reducing in nature.

C. The reducing property decreases from H_2S to H_2Te down the group.

D. The ozone molecule contains five lone pairs of electrons.

Choose the correct answer from the options given below:

(1) A and D only

(2) B and C only

(3) C and D only

(4) A and B only

Answer Key

Q1 (3) **Q2** (4) **Q3** (3) **Q4** (3)

Q5 (4) **Q6** (4)

Q1

Acidic oxide: Cl_2O_7, SiO_2, N_2O_5

Neutral oxide: CO, NO, N_2O

Amphoteric oxide: Al_2O_3, SnO_2, PbO_2

Q2

Fluorine does not show variable oxidation state.

Q3

Statement-I: Oxygen can have oxidation state from

-2 to +2 , so statement I is incorrect

Statement- II: On moving down the group stability of +4 oxidation state increases whereas stability of +6 oxidation state decreases down the group, according to inert pair effect.

So both statements are wrong.

Q4

On moving down the group, bond strength of $M-H$ bond decreases, which reduces the thermal stability but increases reducing nature of hydrides, hence A and B are correct statements.

Q5

Statement I and II are False

Noble gases have low boiling points

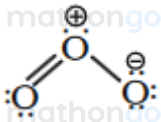
Noble gases are held together by weak dispersion forces.

Q6

(A) All group 16 elements form oxides of the EO_2 and EO_3 type where $E = S, Se, Te$ or Po.

(B) SO_2 is reducing while TeO_2 is an oxidising agent.

(C) The reducing property increases from H_2 S to H_2 Tedown the group.

(D) 

have six lone pairs