Assignment 3_Chemistry of main group elements

The due date for submitting this assignment has passed. Due on 2018-02-14, 23:59 IST.

Submitted assignment

1) The number of electrons present in p* orbitals and the bond order of NO, respectively, are

- 1 and 2.5
- 3 and 2.5
- 1 and 2
- 2 and 2

No, the answer is incorrect.
Score: 0
Accepted Answers:
1 and 2.5

2) The correct order of MO energy levels after s-p mixing is

- s_s > s*_s > p_p > s_p > p*_p
- s_s > s*_s > s_p > p_p > s*_p > p*_p
- s_s > s*_s > s_p > s*_p > p_p
- s_s < s*_s < p_p < s*_p < p*_p

No, the answer is incorrect.
Score: 0
Accepted Answers:
s_s < s*_s < s_p < p_p < s*_p < p*_p

3) The number of lone pairs of electrons predicted from the MO diagram of BF_3 molecule is

- 8 pairs
4) Among the following, the “Water-gas shift” reaction is

- C(g) + 2H_2O(g) → CH_4(g) + O_2 (g)
- C (s) + H_2O(g) → CO (g) + H_2 (g)
- CO(g) + H_2O(g) → CO_2(g) + H_2 (g)
- CO_2(g) + H_2 (g) → CO (g) + H_2O (g)

No, the answer is incorrect.
Score: 0

5) Lithium nitride (Li_3N) reacts with D_2O to give

- 2Li + ND_3 + LiOD
- 3LiOD + ND_3
- Li_2O + ND_3
- 2LiOD + ND_3 + Li

No, the answer is incorrect.
Score: 0

6) Silicon tetrachloride reacts with LiAlH_4 (1:1 ratio) to give

- SiH_2Cl_2 + LiAlCl_4
- SiH_4 + LiH + AlCl_3
- SiHCl_3 + LiH + AlCl_3
- SiH_4 + LiAlCl_4

No, the answer is incorrect.
Score: 0

7) Calcium phosphide (Ca_3P_2) reacts with water to give

- H_2PO_3 + 3Ca(OH)_2
- H_3PO_4 + 3Ca(OH)_2
- 2PH_3 + 3Ca(OH)_2
- H_3PO_4 + 3Ca(OH)_2

No, the answer is incorrect.
Score: 0

8) B_2H_6 on heating to 180-220 °C, gives

- 2B_4H_10 + 3H_2
- 2B_5H_9 + 6H_2
9) Aluminium carbide ($\text{Al}_4\text{C}_3$) reacts with $\text{D}_2\text{O}$ to yield

- $\text{Al(OD)}_3 + \text{CD}_3$
- $\text{Al(OD)}_2 + \text{C}_2\text{D}_2$
- $\text{Al(OD)}_3 + \text{CD}_4$
- $\text{Al(OD)}_3 + \text{C}_2\text{D}_2$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$\text{Al(OD)}_3 + \text{CD}_3$

10) Reduction of phosphorus pentoxide by atomic hydrogen gives

- $\text{H}_3\text{PO}_2 + 3\text{H}_2\text{O}$
- $\text{PH}_3 + 5\text{H}_2\text{O}$
- $\text{H}_3\text{PO}_4 + 2\text{H}_2\text{O}$
- $\text{HPO}_3 + 5\text{H}_2\text{O}$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$\text{PH}_3 + 5\text{H}_2\text{O}$