

## P- BLOCK ELEMENTS

1. Which of the following statement is correct?

[M-2012]

- i) Boron reacts with conc. HNO<sub>3</sub> to form Nitric oxide and boric acid  
 ii) Boron reacts with fused NaOH to form H<sub>2</sub>O<sub>2</sub> and boric acid  
 iii) Boron reacts with SiO<sub>2</sub> to form Si and B<sub>2</sub>O<sub>3</sub>  
 1) I, ii and iii    2) i and iii    3) ii and iii    4) i and ii

2. The reaction that give CO<sub>2</sub> as one of the product is

[M2012]

- 1)  $3C + 4HNO_3 \rightarrow$   
 2)  $6NaOH + 2C \rightarrow$   
 3)  $SnO_2 + 2C \rightarrow$   
 4)  $Fe_2O_3 + 3C \xrightarrow{250^\circ-400^\circ C}$

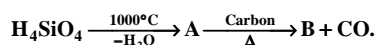
3. Which one of the following is the mineral for tin?

(E-2010)

- 1) galena    2) cerussite    3) cassiterite    4) anglesite

4. Identify B in the following reaction

(E-08)



- 1) Carborundum    2) Quartz    3) Silica    4) Carbon

5. Aluminium becomes passive with

(M-2010)

- 1) conc. HNO<sub>3</sub>    2) dil. H<sub>2</sub>SO<sub>4</sub>    3) very dil. HNO<sub>3</sub>    4) conc. H<sub>2</sub>SO<sub>4</sub>

6. A mixture of boron trichloride and hydrogen is subjected to silent electric discharge to form 'A' and HCl. 'A' is mixed with NH<sub>3</sub> and heated to 200°C to form B. The formula of B is (M - 2008)

- 1) H<sub>3</sub>BO<sub>3</sub>    2) B<sub>2</sub>O<sub>3</sub>    3) B<sub>3</sub>N<sub>3</sub>H<sub>6</sub>    4) B<sub>2</sub>H<sub>6</sub>

7. Duralumin is an alloy of

(AFMC2003)

- 1) Al and Mg    2) Al, Mg and Ni    3) Al, Mg, Mn and Cu    4) Al and Ni

8. Diborane react with ammonia under different conditions to give a variety of products. Which one among the following is not formed in these reactions

(E-2010)

- 1) B<sub>2</sub>H<sub>6</sub>. 2 NH<sub>3</sub>    2) B<sub>12</sub> H<sub>12</sub>    3) B<sub>3</sub> N<sub>3</sub> H<sub>6</sub>    4) (BN)<sub>n</sub>

9. A mixture of boron trichloride and hydrogen is subjected to silent electric discharge to form A and HCl. A is mixed with NH<sub>3</sub> and heated to 200°C to form B. The formula of B is [E-2008]

- 1) H<sub>3</sub>BO<sub>3</sub>    2) B<sub>2</sub>O<sub>3</sub>    3) B<sub>2</sub>H<sub>6</sub>    4) B<sub>3</sub>N<sub>3</sub>H<sub>6</sub>

10. Which among the following is not a borane?

[AMU2009]

- 1) B<sub>2</sub>H<sub>6</sub>    2) B<sub>3</sub>H<sub>6</sub>    3) B<sub>4</sub>H<sub>10</sub>    4) none of these

11. The hardest substance is [PMT2009]  
1) Iron                      2) Steel                      3) graphite                      4) diamond
12. SiO<sub>2</sub> is reacted with Na<sub>2</sub>CO<sub>3</sub>, What is the gas liberated? [AMU2009]  
1) CO                      2)CO<sub>2</sub>                      3)O<sub>2</sub>                      4)O<sub>3</sub>
13. White lead is [CPMT2007]  
1) Pb<sub>3</sub>O<sub>4</sub>                      2) PbO                      3) 2PbCO<sub>3</sub>.Pb(OH)<sub>2</sub>                      4)Pb(CH<sub>3</sub>COO)<sub>2</sub>.Pb(OH)<sub>2</sub>
14. The stability of +1 oxidation state increases in the sequence [AIPMT2009]  
1)Al<Ga<In<Tl                      2)Tl<In<Ga<Al                      3)In<Tl<Ga<Al                      4)Ga<In<Al<Tl
15. The tendency of BF<sub>3</sub>, BCl<sub>3</sub> and BBr<sub>3</sub> to behave as lewis acid decreasing in the sequence [AIPMT2010]  
1) BF<sub>3</sub>>BCl<sub>3</sub> > BBr<sub>3</sub>                      2) BCl<sub>3</sub>>BF<sub>3</sub> > BBr<sub>3</sub>  
3) BBr<sub>3</sub>>BCl<sub>3</sub>>BF<sub>3</sub>                      4) BBr<sub>3</sub>> BF<sub>3</sub>>BCl<sub>3</sub>
- 16.Which one of the following anion is present in the Chain structure of silicates? [AIPMT2007]  
1)Si<sub>2</sub>O<sub>7</sub><sup>-6</sup>                      2)(Si<sub>2</sub>O<sub>5</sub><sup>2-</sup>)<sub>x</sub>                      3) (SiO<sub>3</sub><sup>2-</sup>)<sub>x</sub>                      4)SiO<sub>4</sub><sup>-4</sup>
17. Borax is used as a cleaning agent because on dissolving in water it gives [AIIMS2006]  
1) alkaline solution                      2) acidic solution                      3)bleaching solution                      4) colloidal solution
18. The hybridization of carbon in Fullerene is [AFMC 2002]  
1) SP<sup>3</sup>                      2) SP<sup>2</sup>                      3) SP                      4) SP<sup>3</sup>d
19. The silicates which does not contain discrete anions are [JIPMER2006]  
1) sheet silicates                      2) cyclic silicates                      3) ortho silicates                      4) pyro silicates
20. which of the following oxidation states are the most characteristic for Lead and Tin Respectively [AIPMT2007]  
1)+4, +2                      2) +2, +4                      3) +4, +4                      4) +2, +2
21. Inorganic graphite is [AFMC 2006]  
1)B<sub>3</sub>N<sub>3</sub>H<sub>6</sub>                      2) (BN)<sub>x</sub>                      3)SiC                      4)Fe(CO)<sub>5</sub>
22. Diamond is harder than graphite because [AMU2006]  
1) graphite is planar                      2) diamond has free electron  
3) graphite is SP<sup>3</sup> hybrid                      4) none of these
23. Boron shows single oxidation state due to absence of [AMU2006]  
1) inert pair effect                      2) screening effect                      3) isotope effect                      4)none of these

24. Which of the following is acidic in nature [AIIMS 2004]

- 1)  $B(OH)_3$       2)  $Al(OH)_3$       3)  $Be(OH)_2$       4)  $Mg(OH)_2$

25. The liquefied metal expanding on solidification is [AFMC 2007]

- 1) Al      2) Cu      3) Ga      4) Zn

26. A and B are the compounds of carbon. A on passing over red hot coke is converted to B. A and B respectively are

(M-2010)

- 1) CO and  $CO_2$       2)  $CH_4$  and  $C_2H_6$       3)  $CO_2$  and CO      4)  $CCl_4$  and  $CHCl_3$

27. Hydrolysis of  $SiCl_4$  gives compound X and HCl. On heating to  $1000^\circ C$  X loses water and forms Y. Identify X and Y respectively (M - 2008)

- 1)  $H_4SiO_4$  and  $SiO_2$       2)  $SiO_2$  and Si      3)  $SiO_2$  and SiC      4)  $H_4SiO_4$  and SiC.

28. The chemical formula of Felspar is [E2007]

- 1)  $KAlSi_3O_8$       2)  $Na_3AlF_6$       3)  $NaAlO_2$       4)  $K_2SO_4Al_2(SO_4)_3 \cdot 4Al(OH)_3$

29. In Diborane, the H-B-H angles are nearly

[AIIMS2005]

- 1)  $60^\circ$  ,  $120^\circ$       2)  $95^\circ$  ,  $150^\circ$       3)  $95^\circ$  ,  $120^\circ$       4)  $120^\circ$  ,  $180^\circ$

30. Quartz is a/an

[JIPMER2003]

- 1) sheet silicates      2) ortho silicates  
3) pyro silicates      4) three dimensional silicates

## KEY

1) 2      2) 1      3) 3      4) 4      5) 1      6) 3      7) 3      8) 2      9) 4      10) 2

11) 4      12) 2      13) 3      14) 1      15) 3      16) 3      17) 1      18) 2      19) 1      20) 2

21) 2      22) 1      23) 1      24) 1      25) 3      26) 3      27) 1      28) 1      29) 3      30) 4