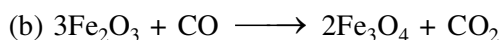
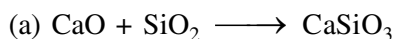




**SOLUTION****1. NTA Ans. (2)****Sol.** Wrought iron is purest form of commercial iron.**2. NTA Ans. (2)****Sol.** Liquation method is used when the melting point of metal is less compare to the melting point of the associated impurity.**3. NTA Ans. (1)****Sol.** In blast furnace (metallurgy of iron) involved reactions are**4. NTA Ans. (2)****Sol.** A reduces  $\text{BO}_2$  when temperature is above  $1400^\circ\text{C}$  because above  $1400^\circ\text{C}$  A has more –ve  $\Delta G^\circ$  for  $\text{AO}_2$  formation than B to  $\text{BO}_2$  formation.**5. Official Ans. by NTA (2)****Sol.** Impure zinc is refined by distillation method.**6. Official Ans. by NTA (4)****Sol.** "Boron" and "Silicon" of very high purity can be obtained through :- zone refining method only.

While other methods are used for other metals/elements i.e.

(i) Vapour phase refining

(ii) electrolytic refining

(iii) liquation etc.

**7. Official Ans. by NTA (3)****Sol.** Ellingham diagram provides information about temperature dependence of the standard gibbs energies of formation of some metal oxides.**8. Official Ans. by NTA (1)****Sol.** Due to industrial process  $\text{SO}_2$  gas is released which is responsible for acid rain & global warming.**9. Official Ans. by NTA (4)****Sol.** (a)  $\text{CaCO}_3 \xrightarrow{\Delta} \text{CaO} + \text{CO}_2$  {In Blast furnace} lime stone(b) Ag form cyanide complex  $[\text{Ag}(\text{CN})_2]^-$  during cyanide process

(c) Ni is purified by mond's process

(d) Zr and Ti are purified by van arkel method

All (a), (b), (c), (d) are correct statements

Thus correct option is (4)

**10. Official Ans. by NTA (2)****Sol.** Cast iron is used for manufacturing of wrought iron and steel.