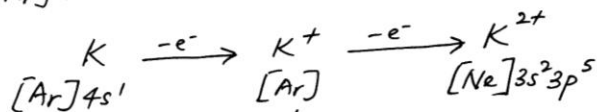
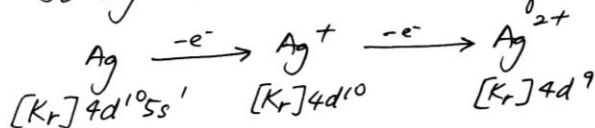


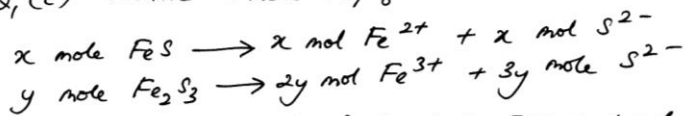
Ag has d-orbitals i.e.  $4d^{10}$  which are so close in energy with the  $5s^1$  orbital. So Ag (transition element) can use all or most of these electrons in bonding.

So Ag can have oxidation state of +1 or +2



pseudo-noble gas (stable) ← Requires very high energy to destroy this stable ion  $K^+$ .  
 Moreover K does not have d orbitals.

Q<sub>1</sub>(c) Assume 1 mole  $Fe_7S_8$  contains x mol  $FeS$  and y mol  $Fe_2S_3$



$x + 2y = 7$  --- (i)  
 $x + 3y = 8$  --- (ii)

∴  $y = 1$  ;  $x = 5$

} 5 mole of  $FeS$  & 1 mole of  $Fe_2S_3$   
 ie 5 mole of  $Fe^{2+}$  and 2 mole of  $Fe^{3+}$   
 ∴  $n_{Fe^{2+}} : n_{Fe^{3+}} = 5 : 2$  (Ans)