

## Exemplar Problems

**Q6. Metals form basic hydroxides. Which of the following metal hydroxides is the least basic?**

(a)  $\text{Mg}(\text{OH})_2$  (b)  $\text{Ca}(\text{OH})_2$  (c)  $\text{Sr}(\text{OH})_2$  (d)  $\text{Ba}(\text{OH})_2$

**Sol:** (a) As the ionization enthalpy increases from  $\text{Mg} \rightarrow \text{Ba}$ , the M – O bond becomes weaker and weaker down the group and hence basicity increases down the group. Thus,  $\text{Mg}(\text{OH})_2$  is least basic.

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