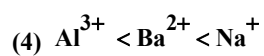
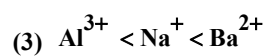
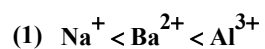


8. The coagulating power of electrolytes having ions Na^+ , Al^{3+} and Ba^{2+} for arsenic sulphide sol increases in the order:



9. How many litres of water must be added to 1 litre of an aqueous solution of HCl with a pH of 1 to create an

aqueous solution with pH of 2?

(1) 0.9 L

(2) 2.0 L

(3) 9.0 L

(4) 0.1 L



10. Which one of the following molecules is expected to exhibit diamagnetic behaviour?





11. Which of the following arrangements does not represent the correct order of the property stated against it ?
- (1) $\text{Ni}^{2+} < \text{Co}^{2+} < \text{Fe}^{2+} < \text{Mn}^{2+}$: ionic size
(2) $\text{Co}^{3+} < \text{Fe}^{3+} < \text{Cr}^{3+} < \text{Sc}^{3+}$: stability in aqueous solution
(3) $\text{Sc} < \text{Ti} < \text{Cr} < \text{Mn}$: number of oxidation states
(4) $\text{V}^{2+} < \text{Cr}^{2+} < \text{Mn}^{2+} < \text{Fe}^{2+}$: paramagnetic behaviour
12. Experimentally it was found that a metal oxide has formula $\text{M}_{0.98}\text{O}$. Metal M, is present as M^{2+} and M^{3+} in its oxide. Fraction of the metal which exists as M^{3+} would be:
- (1) 4.08% (2) 6.05%
(3) 5.08% (4) 7.01%
- 0.98 _____
13. A compound with molecular mass 180 is acylated with CH_3COCl to get a compound with molecular mass 390. The number of amino groups present per molecule of the former compound is:
- (1) 5 (2) 4
(3) 6 (4) 2



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14. Given

$$E^0_{\text{Cr}^{3+}/\text{Cr}} = -0.74 \text{ V}; E^0_{\text{MnO}_4^-/\text{Mn}^{2+}} = 1.51 \text{ V}$$

$$E^0_{\text{Cr}_2\text{O}_7^{2-}/\text{Cr}^{3+}} = 1.33 \text{ V}; E^0_{\text{MnO}_4^-/\text{MnO}_2} = 1.36 \text{ V}$$

Based on the data given above, strongest oxidising agent will be:

- (1) Cr^{3+} (2) Mn^{2+}
(3) MnO_2 (4) Cl^-



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