

Name of the Student: _____

Max. Marks : 19 Marks

Time : 19 Minutes

Mark Schemes

Q1.

(a) A Silver bromide / AgBr

1

B Iron(II) carbonate / FeCO₃

1

C Iron(II) sulphate / FeSO₄

1

D Carbon dioxide / CO₂

1

Y Iron(II) bromide / FeBr₂

1

(b) $\text{Ag}^+ + \text{Br}^- \rightarrow \text{AgBr}$

Allow equation if state symbols missing but penalise if state symbols are incorrect

1

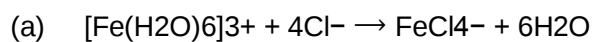
(c) $2\text{H}^+ + \text{CO}_3^{2-} \rightarrow \text{H}_2\text{O} + \text{CO}_2$

Allow $\text{FeCO}_3 + 2\text{H}^+ \rightarrow \text{Fe}^{2+} + \text{CO}_2 + \text{H}_2\text{O}$

1

[7]

Q2.



1

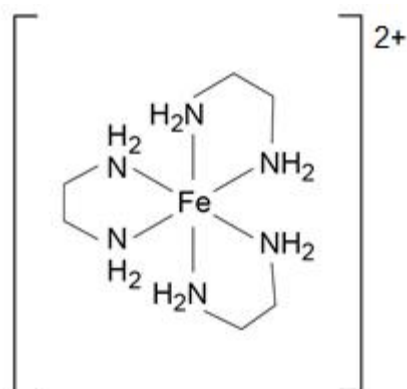
(b) Cl^- is a bigger ligand

1

So only 4Cl^- can fit around the metal

Allow fewer Cl^- can fit around the metal

1



(c)

M1 for structure of complex

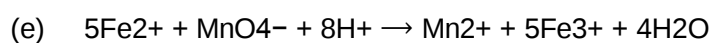
M2 for correct charge

1

1

(d) Change in entropy is positive

1



1

(f) Amount of manganate (VII) = 6.50×10^{-4} mol

1

Amount of iron(II) = 3.25×10^{-3} mol

ie M1 $\times 5$

1

Mass of iron = 0.181 g = 181 mg

Allow M2 $\times 55.8$

1

Percentage Fe = $181/1980 \times 100 = \underline{9.14}(\%)$ 3 sf

1

(g) Colourless to pale pink

1

[12]