S.S. Divine School

Pre – Primary , Primary, Secondary & Higher Secondary
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STD:-12 (SCIENCE STREAM) **DATE :- 25/08/2022**
SUB:-CHEMISTRY (052) **Max. Marks:-25**
MEDIUM :- ENGLISH **Time:-1.00 hour**

PART- A

(1)

When 0.1 mol of MnO_4^{2-} is oxidized, the quantity of electricity required to completely oxidize MnO_4^{2-} to MnO_4^- is

(a)96500 C (b)9650 C (c)2 x 96500 C (d)96.5 C

(2)

Which of the following is used as anode in lead storage cell?

(a)PbO_2 coated plate (b)Pb plate (c)PbS plate (d) None of these

(3)

$\Lambda_m^0(CH_3COOH)$ is equal to _____

(a) $\Lambda^0_{m(CH_3COOH)} + \Lambda^0_{m(CH_3COOK)} + \Lambda^0_{m(CH_3COONa)}$

(b) $\Lambda^0_{m(HCl)} + \Lambda^0_{m(CH_3COONa)} - \Lambda^0_{m(NaCl)}$

(c) $\Lambda^0_{m(KCl)} + \Lambda^0_{m(CH_3COOK)} - \Lambda^0_{m(HCl)}$

(d) $\Lambda^0_{m(KCl)} + \Lambda^0_{m(CH_3COONa)} - \Lambda^0_{m(NaCl)}$

(4)

The quantity of charge required to obtain one mol of aluminium from Al_2O_3 is

(a)1 F (b)2 F (c)3 F (d)6 F

(5)

For the reaction, A + B → Product, rate = K $[A]^3[B]^0$. If concentration of A is doubled and the concentration of B is halved, then the rate of reaction will increase by

(a)4 times (b)8 times (c)2 times (d)10 times

(6)

What is the unit of rate constant for pseudo first order reaction?

(a)L mol^{-1} s^{-1} (b)s^{-1} (c)mol L^{-1} s^{-1} (d)L^2 mol^{-2} s^{-1}

(7)

Which of the following statements is incorrect about Arrhenius equation?

(a)It gives relation between K and T

(b)T increases as K increases and A decreases

(c)Ea increases as K increases

(d)If Ea = 0, then K =A

(8)

A first order reaction takes 60 minutes for 60% completion. What time will it take for 50% completion?

(a)40 min (b)45 min (c)50 min (d)60 min

(9)

Copper matte is a mixture of _____.

(a)$Cu_2S + FeO$ (b)$Cu_2O + Cu_2S$

(c)$Cu_2S + CuS$ (d)$Cu_2S + FeS$

PART – B

Section – A

(1)

Write the anodic and cathodic discharging reactions of lead storage cell.

(2)

What is pseudo first order reaction? Give an example.

(3)

Explain zone refining with diagram.

Section – B

(1)

Explain standard hydrogen electrode (S.H.E.) with labeled diagram.

(2)

Derive the equation of rate constant and half life time for zero order reaction.

Section -C

(1)

The half-life for radioactive decay of ^{14}C is 5730 years. An archaeological artifact containing wood had only 80% of the ^{14}C found in a living tree. Estimate the age of the sample.

Best of Luck