



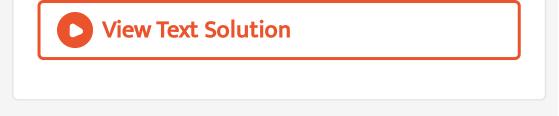
## CHEMISTRY

# BOOKS - KALYANI CHEMISTRY (ENGLISH)

# **SELF ASSESSMENT PAPER -9**

### Questions

**1.** A first order reaction takes 40 min for 30% decomposition. Calculate  $t_{1/2}$ 



**2.** The conversion of molecules X to y follows second order kinetics. If concentration of X is increased to three times how will it affect the rate of formation of Y?



**3.** Benzene and toluene form ideal solution over the entire range of composition. The

vapour pressure of pure benzene and naphthalene at 300 K are 50.71 mm Hg and 32.06 mm Hg respectively. Calculate the mole fraction of benzene in vapour phase if 80 g of benzene is mixed with 100 g of naphthalene.

4. Determine the osmotic pressure of a solution prepared by dissolving 25 mg of  $K_2SO_4$  in 2 litre of water at 25° C, assuming that it is completely dissociated.



5. How much electricity in terms of Faraday is

required to produce

20.0 g of Ca from molten  $CaCl_2$ 

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6. How much electricity in terms of Faraday is

required to produce

40.0 g of Al from molten  $Al_2O_3$ 

**View Text Solution** 

**7.** How much charge is required for the following reduction :

1 mol of  $Al^{3+}$  to Al.

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**8.** How much charge is required for the following reduction :

1 mol of  $Cu^{2+}$  to Cu.

**View Text Solution** 

**9.** How much charge is required for the following reduction :

1 mol of  $MnO_4^-$  to  $Mn^{2+}$  ?

