



BK BIRLA CENTRE FOR EDUCATION
SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL



PERIODIC-TEST-1 2025-26

CHEMISTRY (043) set-2

Class : XII
Date : 12/06/2026
Admission No.:

Duration: 1 Hr
Max. Marks: 25
Roll No.:

General Instructions:

- (1) There are 13 questions in all. All questions are compulsory.
- (2) This question paper has three sections: Section A, Section B, and Section C.
- (3) All the sections are compulsory.
- (4) Section A contains five questions of 1 mark each, Section B contains four questions of two marks each, Section C contains four questions of three marks each.
- (5) There is no overall choice. Use of calculators is not allowed.

SECTION-A

1. Four Faraday of electricity are passed through a solution of $ZnSO_4$. The mass of zinc deposited at the cathode is (atomic mass of Zn = 65 amu)
(a) 22 gram (b) 130 gram (c) 6.5 gram (d) 65 gram. 1
2. In lead storage battery, the electrolyte H_2SO_4 is 1
(a) 38% (b) 48% (c) 32% (d) 80%
3. The unit of rate of reaction 1
(a) sec^{-1} (b) $mol\ lit^{-1}\ sec^{-1}$ (c) $lit\ mol^{-1}\ sec^{-1}$ (d) $mol^2\ lit\ sec$.
4. If the concentration of reactants is doubled and the rate of reaction is doubled, the reaction is of: 1
(a) Zero order (b) First order (c) Second order (d) Third order
5. The role of a catalyst is to change _____. 1
(a) Gibbs energy of reaction. (b) enthalpy of reaction.
(c) activation energy of the reaction. (d) equilibrium constant.

SECTION - B

6. Define the following : 2
(a) Order of a reaction (b) molecularity of a reaction
7. How much charge is required for the following reductions: 2
(a) 1 mol of Al^{3+} to Al? (b) 1 mol of Cu^{2+} to Cu ?
8. Given that the standard electrode potentials (E°) of metals are :
 $\text{K}^+/\text{K} = -2.93 \text{ V}$, $\text{Ag}^+/\text{Ag} = 0.80 \text{ V}$, $\text{Cu}^{2+}/\text{Cu} = 0.34 \text{ V}$, $\text{Mg}^{2+}/\text{Mg} = -2.37 \text{ V}$, $\text{Cr}^{3+}/\text{Cr} = -0.74 \text{ V}$,
 $\text{Fe}^{2+}/\text{Fe} = -0.44 \text{ V}$. Arrange these metals in increasing order of their oxidising power. 2
9. Explain Rate law with an example. 2

SECTION C

10. Write all the reactions (charging and discharging) involved in the Lead storage battery 3
11. (a) For a reaction $\text{A} + \text{B} \rightarrow \text{P}$, the rate law is given by $\text{Rate} = k[\text{A}][\text{B}]^2$ 3
a. How is the rate of reaction affected if the concentration of B is tripled ?
(b) A first-order reaction takes 20 minutes for 50% completion. Calculate the time required for 99% completion of this reaction. $\log 2 = 0.301$
12. (a) Draw the graph between Concentration and time for a zero-order reaction. 3
(b) Explain collision theory with equation.
13. Calculate the emf of the cell $\text{Zn}/\text{Zn}^{2+}(0.1\text{M}) \parallel \text{Cd}^{2+}(0.01\text{M})/\text{Cd}$ at 298K 3
 $E^\circ_{\text{Zn}^{2+}/\text{Zn}} = -0.76 \text{ V}$, $E^\circ_{\text{Cd}^{2+}/\text{Cd}} = -0.40 \text{ V}$

-----ALL THE BEST-----