TIME : 3 Hours MAX. MARKS : 70

JKBOSE PATTERN
TEST PAPER
CLASS - XII
SUBJECT CHEMISTRY

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General Instructions
1. There are total of four sections in the question paper. All questions are compulsory.
2. Section- A contains 10 Very Very Short Answer Type Question of 1 Mark each 1x10 = 10 marks
3. Section-B contains 9 Very Short Answer Type Question of 2 Marks each to be answered in 20 to 30 words. 2x9 = 18 marks
4. Section-C contains 9 Short Answer Type Questions of 3 Marks each to be answered in 50 to 70 words 3x9 = 27 marks
5. Section-D contains 3 Long Answer Type Questions of 5 Marks each to be

SECTION -A

1. In a dry cell, which of the following is an electrolyte?
(1) KOH (2) H_2S0_4 (3) NH_4cl (4) $Mn0_2$

2. The units of rate constant for second order reaction are
(1) L $Mol^{-1}sec^{-1}$ (2) L^2 $Mol^{-2}sec^{-1}$ (3) L $Mol^{-2}sec^{-1}$ (4) sec^{-1}

3. The common oxidation state of all Lanthanoids is
(1) +3 (2) +2 (3) +4 (4) +5

4. Ethyl alcohol gives ethyl chloride on reaction with
(1) Cl_2 (2) NaCl (3) $SOCl_2$ (4) KCl

5. The alcohol manufactured from water gas is
(1) Ethanol (2) Butanol (3) Methanol (4) Isobutanol

6. Haloalkanes, in presence of alcoholic KOH, undergo
(1) Polymerisation (2) Substitution (3) Elimination (4) Dimerisation

7. Which of the following undergoes aldol condensation?
(1) CH_2=CH-CHO (2) $(CH_3)_3$C-CHO (3) C_6H_5-CHO (4) CH_3-CH_2-CHO

8. Which is least basic
(1) NH_3 (2) C_6H_5-NH_2 (3) $(C_6H_5)_2NH$ (4) $(C_6H_5)_3NH$

9. Vitamin C is
(1) Citric acid (2) Ascorbic acid (3) Lactic acid (4) Fumaric acid

10. Which is absent in RNA.
(1) Adenine (2) Guanine (3) Cytosine (4) Thiamine

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SECTION B

1. What do you mean by a 0.5 molal solution.
2. Define
   (i) Ligand (ii) Co-ordination sphere in complexes
3. Write down IUPAC name of
   (i) $H_2[PtCl_6]$ (ii) $K_3[Fe(CN)_6]$
4. State Markownikov's rule.
5. How does ethanoic acid react with Soda-lime?
6. How does glucose react with
   (i) $HI/\triangle$ (ii) Br_2/H_2O
7. How are amines prepared from
   (i) nitro compounds (ii) Nitriles
8. How are ethers prepared in Williamson's Ether synthesis
9. How does Phenol react with concentrated Nitric acid

SECTION C

1. What are fuel cells.?
2. Show that the half life of I^{st} order reaction is independent of the intial concentration of reactant.
3. Difference between order and Molecularity of a reaction
4. What is Lanthanoid contraction?
5. Explain the magnetic property of d-block elements?
6. Determine the hybridisation & Geometry of central metal ion in
   (i) $K_4[Fe(CN)_6]$
7. Difference between SN^1 and SN^2 mechanism.
8. Discuss 1^o, 2^o & 3^o structure of protiens.
9. How is Hinsberg test used to differentiate bwetween 1^o, 2^o & 3^o amines

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SECTION D

1. Write down five methods of prepration of aldehydes

OR

Write a note on

(i) Aldol condensation

(ii) HVZ reaction

(iii) Rosenmund's reduction

2. State Kohlrausch's Law. What are its applications.

OR

Write down Nernst equation for calculating cell potential of the Galvanic cell.

3. Define boiling point. How is elevation in boiling point used to calculate molar mass of a non-volatile solute present in the solution

OR

Explain Raoult's Law for a solution containing volatile solute