

HIGHLY RECOMMENDED
RAPID REVISION MOCK PAPERS



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INDORE | UJJAIN | BHOPAL | GWALIOR



Founded on 18 April 1988



191000+

Students Studying
Online & Classroom Courses
(2021-2022)



BOARD MOCK TEST PAPER

Class-XII

(ACADEMIC SESSION 2021-2022)

TARGET

MP BOARD EXAMINATION

SUBJECTS
Chemistry



125+

Total Classroom
Campus



2200000+

Trusted & Chosen
by Students across all Modes
(since 1988)



40

Total Study
Centers



600000 +

DLP STUDENTS HAVE TRUSTED ALLEN
(Since 1997)



148+

Total Test
Centers

CLASS - XII

Test Type : FULL TEST

CHEMISTRY

Test Pattern : BOARD

Time Allowed : 2.00 Hours

Maximum Marks : 35

GENERAL INSTRUCTIONS:

Read the following instructions carefully.

- There are 12 questions in this question paper with internal choice.
- SECTION A - Q. No. 1 to 3** are very short answer questions carrying **2 marks each**.
- SECTION B - Q. No. 4 to 11** are short answer questions carrying **3 marks each**.
- SECTION C- Q. No. 12** is case based question carrying **5 marks**.
- All questions are compulsory.
- Use of log tables and calculators is not allowed

SECTION - A

- Solve any two from the following** [1×2=2]
 - Arrange the following compounds in increasing order of their boiling points -
 CH_3CHO , $\text{CH}_3\text{CH}_2\text{OH}$, CH_3OCH_3 , $\text{CH}_3\text{CH}_2\text{CH}_3$
 - Arrange the following compounds in increasing order of their reactivity in nucleophilic addition reactions
Ethanal, propanal, propanone, butanone
 - Name the reducing agent in Clemensen Reduction.
- Give the standard electrode potentials [2]
 $\text{K}^+ / \text{K} = -2.93 \text{ V}$, $\text{Ag}^+ / \text{Ag} = 0.80 \text{ V}$, $\text{Hg}^{2+} / \text{Hg} = 0.79 \text{ V}$, $\text{Mg}^{2+} / \text{Mg} = -2.37 \text{ V}$
 $\text{Cr}^{3+} / \text{Cr} = -0.74 \text{ V}$
Arrange these metals in their increasing order of reducing power.
- Name the reaction in which aldehydes do not have an α -hydrogen atom, undergo self oxidation and reduction on heating with concentrated alkali. Also write one example of the reaction. [2]

SECTION - B

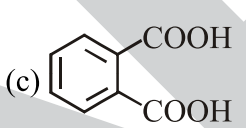
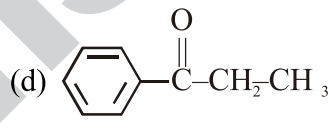
- What type of isomerism is exhibited by different pairs of amines? [1+2=3]
 - Write the order of basic strength in case of methyl substituted amines. Also give reason for it.

OR

Convert the following [1×3=3]

- Acetamide to methyl amine
 - Benzene into aniline
 - Aniline into Benzenediazonium chloride
- How many ions are produced from the complex, $\text{Co}(\text{NH}_3)_6\text{Cl}_2$ in solution? [1]
 - What is meant by the chelate effect? Give one example. [2]

OR

- (a) Using IUPAC norms write the systematic names of the following - [2+1=3]
 (i) $[\text{Co}(\text{NH}_3)_6]\text{Cl}_3$ (ii) $[\text{Pt}(\text{NH}_3)_2\text{Cl}(\text{NH}_2\text{CH}_3)]\text{Cl}$
 (b) Explain why $[\text{NiCl}_4]^-$ is paramagnetic while $[\text{Ni}(\text{Co})_4]$ is diamagnetic though both are tetrahedral.
6. Give reason for the following [1×3=3]
 (a) Why are Mn^{2+} compounds are stable than Fe^{2+} towards oxidation to their +3 state ?
 (b) Which is a strong reducing agent, Fe^{2+} or Cr^{2+} and why ?
 (c) Calculate the number of unpaired electrons in Mn^{3+} and Cr^{3+} and also which one is most stable in aqueous solution and among them.
7. An organic compound A ($\text{C}_3\text{H}_6\text{O}$) is resistant to oxidation but forms compound B ($\text{C}_3\text{H}_8\text{O}$) on reduction. B react with HBr to form the compound C. C with Mg forms Grignard reagent D which reacts with A to form a product which on hydrolysis gives E. Identify 'A' to 'E'. [3]
8. Answer the following - [2+1=3]
 (a) Describe some features of catalysis by zeolites ?
 (b) What is electrophoresis ?
9. Write the IUPAC name of the following organic compounds - (Any three) [1×3=3]
 (a) $\text{NH}_2 - \text{CH}_2 - \text{CH} = \text{CH}_2$ (b) $\text{HOOC} - (\text{CH}_2)_4 - \text{COOH}$
 (c)  (d) 
 (e) $\text{CH}_3 - \underset{\text{OCH}_3}{\text{CH}} - \text{CHO}$ (f) $\text{CH}_2 = \text{CHCHO}$
10. The conductivity of a 0.20 M KCl solution at 298 K is 0.0248 S cm^{-1} . Calculate its molar conductivity? [3]
11. Answer the following - [2+1=3]
 (a) Which of the 3d series of the transition metals exhibits the largest number of oxidation states and why?
 (b) What are the interstitial compounds ?
- OR**
- Give reason for the following - [1×3=3]
 (a) The atomic radii of the third series of transition elements are virtually the same as those of the corresponding members of the second series.
 (b) The E^0 value for the $\text{Mn}^{3+}/\text{Mn}^{2+}$ couple is much more positive than that for $\text{Cr}^{3+}/\text{Cr}^{2+}$ couple or $\text{Fe}^{3+}/\text{Fe}^{2+}$ couple.
 (c) The highest oxidation state of a metal is exhibited in its oxide or fluoride.

SECTION - C

12. Fluorine, chlorine, bromine, iodine and astatine belong to group - 17 and are collectively known as halogens. All the elements of this group have seven electrons in their outermost shell (ns^2np^5). Atomic and ionic radii of halogens are the smallest in their respective periods due to maximum effective nuclear charge and on moving down the group, atomic and ionic radii increase. Halogens have high ionisation enthalpy next to inert gas.

Halogens have highest negative electron gain enthalpy in their respective periods and also have high electronegativity. All the halogens show -1 oxidation state. All halogens react with hydrogen to give hydrogen halides.

- (a) Write two examples to show the anomalous behaviour of fluorine. [1]
- (b) Why are halogens strong oxidizing agents? [1]
- (c) Why are halogens coloured? [1]
- (d) Why does fluorine form only one oxy-acid, HOF. **OR** What are the products obtained when Cl_2 reacts with H_2O ? Write chemical equation also. [2]
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