

HP BOARD OF SCHOOL EDUCATION DHARAMSHAL

Syllabus for 2nd term examination March / April 2022

Class	11 th
Subject	Chemistry

1. Total Chapters = Chapter 06 to 14 = 09 Chapters
2. Maximum Marks = 50
3. Duration = 03 Hr
4. Total No of Question:
 - a. Q.1 to Q. 20 Objective type Questions (1 Mark each)
 - b. Q.21 to Q. 29 Subjective type Questions (2 Marks each)
 - c. Q. 30 to Q. 33 Subjective type Questions (3 Marks each)

5. Chapter wise distribution of Marks

Sr. No.	Chapter No.	Name of Chapter	No of 1 Mark Questions	No of 2 Marks Questions	No of 3 Marks Questions	Total Questions	Total Weightage
1.	Chapter – 6	Thermodynamics	2	2	-	4	6
2.	Chapter – 7	Equilibrium	2	2	-	4	6
3.	Chapter – 8	Redox Reaction	2	-	1	3	5
4.	Chapter – 9	Hydrogen	1	-	1	2	4
5.	Chapter – 10	The s- block elements	2	-	1	3	5
6.	Chapter – 11	The p – block elements	3	-	1	4	6
7.	Chapter – 12	Organic Chemistry - Some Basic Principles & Techniques	4	2	-	6	8
8.	Chapter – 13	Hydrocarbons	4	2	-	6	8
9.	Chapter – 14	Environmental Chemistry	-	1	-	1	2
Total						33	50

HIMACHAL PRADESH BOARD OF SCHOOL EDUCATION, DHARAMSHALA

Model Question Paper

Second Term Examination, March / April 2022


Class – 11

Duration – 03:00 Hr

Chemistry

M.M.: 50

- Instructions:
- All questions are compulsory.
 - While answering your Questions, you must indicate on your Answer-book the same Question No. as appearing in your Question Paper.
 - Internal choices are given in some questions.
 - Question No. 1 to 20 carry 1mark each, Question No. 21 to 29 carry 2 marks each and Question No. 30 to 33 carry 3 marks each.
 - Make neat and clean diagrams where required.

- Q.1 When system does not exchange heat with surrounding the process is called
- Isothermal
 - adiabatic
 - thermal
 - Isochoric
- Q.2 Which of the following is not Lewis acid
- BF_3
 - AlCl_3
 - FeCl_3
 - PH_3
- Q.3 Which of the following can act as an oxidising as well as reducing agent
- H_2O_2
 - SO_3
 - H_2SO_4
 - HNO_3
- Q.4 How many hydrogen bonded water molecules are associated with $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
- Five
 - One
 - One
 - Three
- Q.5 When Sodium reacts with excess of oxygen the oxidation number of oxygen changes from
- 0 to -1
 - 0 to -2
 - -1 to -2
 - Does not change
- Q.6 Group 13 elements shows
- only $+1$ oxidation state
 - only $+3$ oxidation state
 - $+1$ and $+3$ oxidation state
 - $+1$, $+2$ and $+3$ Oxidation States
- Q.7 Inductive effect involves
- displacement of σ electrons resulting polarisation
 - displacement of π electrons resulting polarisation
 - delocalisation of σ electrons
 - delocalisation of π electrons
- Q.8 The IUPAC name of given structure is
- 
- Hexane
 - Isopentane
 - 3 - Ethylbutane
 - 3 - Methylpentane

- Q.9 Wurtz fitting reaction is used to unite
- | | |
|----------------------------------|---------------------|
| a) Two alkylhalides | b) Two aryl halides |
| c) One alkyl and One aryl halide | d) None of these |
- Q.10 The ease of dehydrohalogenation for different halogen is in the order
- | | |
|--------------------------------|--------------------------------|
| a) Iodide > Bromide > Chloride | b) Bromide > Iodide > Chloride |
| c) Chloride > Bromide > Iodide | d) Iodide > Chloride > Bromide |
- Q.11 All carbon atom in benzene are..... hybridized.
- Q.12 If ΔG is – ive ($\Delta G < 0$) then the process is
- Q.13 In the relation $K_p = K_c (RT)^{\Delta n}$, Δn represents
- Q.14 Loss of electrons by any species is called as
- Q.15 is the only alkali metal which when burnt in air forms a mixture of oxides as well nitride.
- Q.16 Thermodynamically the most stable form of carbon is
- Q.17 The general electronic configuration of Group – 13 elements is
- Q.18 If a covalent bond breaks in such a fashion that the shared pair of electrons remains with one of the fragments the cleavage is called
- Q.19 Two successive members of a homologous series differ from each other in their molecular formula by
- Q.20 The process of elimination of Carbon dioxide from a Carboxylic acid is known as
- Q.21 Calculate the heat of combustion of ethylene (gas) to form CO_2 (gas) and H_2O (gas) at 298k and 1 atmospheric pressure. The heats of formation of CO_2 , H_2O and C_2H_4 are $- 393.7$, $- 241.8$, $+ 52.3$ kJ per mole respectively
- OR
- Derive relation between C_p and C_v for an ideal gas.
- Q.22 Differentiate between classical and photochemical smog.
- Q.23 Explain the term electrophile and nucleophile with example.
- Q.24 Explain the relative stability of conformations of n-butane.
- Q.25
- | |
|--|
| a) State Le chatelier's principle. |
| b) State the Law of Chemical equilibrium |
- Q.26
- | |
|---|
| a) Define Specific Heat. |
| b) State the first Law of Thermodynamics. |
- Q.27 Explain why tertiary carbocation is more stable than secondary and primary carbocations?

OR

State and explain electromeric effect with example.

- Q. 28 a) What is peroxide effect?
b) State Huckel's rule of aromaticity.

OR

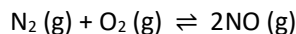
Write short note on the following:

- a) Wurtz Reaction
b) Friedel Craft Reaction

- Q.29 Calculate the p^{OH} value of the solution if its p^H is 7.

OR

At equilibrium the concentration of $N_2 = 3.0 \times 10^{-3}M$, $O_2 = 4.2 \times 10^{-3}M$ and $NO = 2.8 \times 10^{-3}M$ in a sealed vessel at 800K. What will be K_c for the reaction



- Q.30 a) What is the cause of hardness of water?
b) Why ice floats over water?
- Q.31 a) Define oxidation and reduction in terms of electrons transfer.
b) Can we store copper sulphate in an iron vessel?
c) Define electrode potential.

OR

- a) What do you mean by Electrochemical Series?
b) Define disproportionation reaction.
c) Write the functions of Salt bridge in electrochemical cell.
- Q.32 a) Why Be and Mg do not impart colour to the flame?
b) Why do the alkali metals give blue solution, when treated with liquid NH_3 ?
c) Why is the oxidation state of Na and K always + 1?

OR

- a) Why is Na metal always kept in Kerosine Oil or Paraffine wax?
b) Why Li is strongest reducing agent?
c) Why Alkaline earth metals are harder than alkali metals?
- Q.33 a) Define inert pair effect.
b) Give reactions to justify amphoteric nature of Aluminium.

OR

- a) Define catenation.
b) Explain why there is phenomenal decrease in ionisation enthalpy from Carbon to Silicon?