

Sahaj Adhyayan (सहज अध्ययन)

जर हे **Practice Question Papers** तुम्हाला खरंच फायदेशीर वाटत असतील तर तुमच्या सर्व मित्र मैत्रिणींना पाठवा.

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तर ते आम्हाला WhatsApp वर पाठवा,

इतर विद्यार्थी मित्रांना त्या सर्वांचा उपयोग होईल.

First Term Examination - 2021-22

Std. 11th (Sci.)
Date - 7/1/2022

Sub : Chemistry

Marks - 50
Time - 12.00 To 2.30

General Instructions :

- 1) The question paper is divided into four sections.
 - 1) **Section A :** Q.No. 1 contains seven multiple choice type of questions carrying one mark each. (MCQ)
Q.No. 2 contains seven very short answer type of questions carrying one mark each. (VSA)
 - 2) **Section B :** Q.No. 3 to Q.No. 13 contains eleven short answer type of questions carrying two marks each. (SA-I) Attempt any eight questions.
 - 3) **Section C :** Q.No. 14 to Q.No. 19 contains six short answer type of questions carrying three marks each. (SA-II) Attempt any Four questions.
 - 4) **Section D :** Q.No. 20 to Q.No. 23 contains four long answer type questions carrying four marks each. Attempt any two questions.
- 2) Use of logarithm table is allowed.
Use of calculator is not allowed.
- 3) Figures to the right indicate full marks.
- 4) For each MCQ the correct answer must be written along with its alphabet.
e.g. a) b) c) d)

Physical constants :-

- 1) $N_A = 6.022 \times 10^{23}$
- 2) $h = 6.6262 \times 10^{-34}$ J.S.

Section - A

Q.1 Select and write the correct answer. (MCQ)

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- i) At STP 2 gram of helium gas (molar mass = 4) occupies a volume of
a) 22.4 dm^3 b) 11.2 dm^3 c) 5.6 dm^3 d) 2 dm^3
- ii) In $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ the percentage of water is
(At mass, Cu = 63.5, S = 32, O = 16, H = 1)
a) 10% b) 60% c) 36% d) 72%
- iii) A mixture of acetone & benzene can be separated by the following method.
a) Simple distillation b) Fractional distillation
c) Sublimation d) Distillation under reduced pressure
- iv) If $l = 0$, electron is present in
a) s - orbital b) p - orbital c) d - orbital d) f - orbital

(P.T.O.)

vi) The number of electrons in the outermost orbital of alkaline earth metals is

a) 1 b) 2 c) 4 d) 5

vii) Intermolecular forces in liquids are

a) greater than gases	b) less than solids
c) both a & b	d) greater than solids

Q.2 Answer the following (VSA)

- i) State modern periodic law.
- ii) State Avogadro's law.
- iii) Define molality.
- iv) Which method is used to purify impure solid substances?
- v) What are p-block elements?
- vi) Define hydrogen bond.
- vii) If an element 'X' has mass number 11 & it has 6 neutrons, then write its representation.

7

Attempt any Eight. (SA - I)

16

Q.3 Define the terms

- Atomic radius
- Electronegativity

Q.4 Write the electronic configuration of following elements.

a) Al ($z = 13$)

b) Ca ($z = 20$)

Q.5 Calculate the number of moles & molecules present in 3.2×10^{-5} g of methane.
(At mass : C = 12, H = 1)

Q.6 What is qualitative analysis & quantitative analysis.

Q.7 What is simple distillation & fractional distillation.

Q.8 Explain the trends in atomic size of group 1 & group 2 elements.

Q.9 Why the atomic radius of Ga is less than of Al.

Q.10 Define the term

- Critical Volume
- Critical Pressure

(P.T.O.)

Q.11 Calculate the molarity of NaOH in the solution prepared by dissolving its 4 g in enough water to form 250 ml of the solution.
(At mass : Na = 23 , O = 16, H = 1)

Q.12 Explain the principal quantum number.

Q.13 Predict the periods & groups to which following elements belong.
a) Na ($z = 11$)
b) F ($z = 9$)

Section - C

Attempt any Four. (SA - II)

Q.14 Explain the term isotopes with two examples.

12

Q.15 Define the terms
a) Molecular formula
b) Atomic number
c) Mother liquor

Q.16 A hot air balloon has a volume of 2800m^3 at 99°C .
What is the volume if the air cools to 80°C ?

Q.17 What is meant by inert pair effect.
Define the term catenation.

Q.18 What are S-block elements? Explain the position of S-block elements in the periodic table. Define Formula mass.

Q.19 State & explain Gay Lussac's law of gaseous volume with two example.

Section - D

Attempt any Two. (LA)

8

Q.20 Explain Pauli's exclusion principle.
Write the two limitations of Bohr model.

Q.21 Find the temperature in $^\circ\text{C}$ at which volume and pressure of 1 mol of nitrogen gas becomes 10 dm^3 and 2.46 atm respectively.
What is the trends in electronegativity of the group 15 elements.

Q.22 Explain the trends in ionisation enthalpy for periods.
Explain diagonal relationship of lithium & magnesium.

Q.23 Define the following terms.
a) Compound
b) Analytical chemistry
c) Fractional crystallization
d) Electron gain enthalpy

II