| Chemistry | Ninth, 2024 Lahore Board | Group – II |
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| Time: 1.45 hrs. | Essay Type | Marks : 48 |



## PART – I

**Q.2** **Write short answers to any FIVE (5) questions:** 10

i. What is a scope of industrial chemistry?
ii. Which two elements exist in liquid state? Write names.
iii. How isotopes can be used for the treatment of cancer?
iv. Define a shell and a sub-shell.
v. Write any two salient features of long form of periodic table.
vi. What is meant by law of octaves? Who put forward it?
vii. Write two objectives of Alchemy.
viii. Define ionization energy with an example.

**Q.3** **Write short answers to any FIVE (5) questions:** 10

i. Why do atoms react?
ii. Write two properties of ionic compounds.
iii. Differentiate lone pair and bond pair of electron.
iv. Why are gases compressible?
v. Evaporation cause cooling. Give reason.
vi. What is the difference between unsaturated and saturated solution?
vii. What do you mean by v/v % concentration unit?
viii. Why suspensions and solutions do not show tyndall effect?

**Q.4** **Write short answers to any FIVE (5) questions:** 10

i. Define alloy with example.
ii. Write two methods for prevention of corrosion.
iii. How electroplating of tin takes place?
iv. Define oxidation number.
v. Name four least reactive metals.
vi. How non-metals are essential for existence of life?
vii. Write any two uses of sodium.
viii. What is the difference between alkali and alkaline earth metals?

## PART - II

**Note: Attempt any TWO questions.**

**Q.5(a)** How to write a chemical formula? Explain with suitable examples. 5

**(b)** Write note on dative covalent bond with one example. 4

**Q.6(a)** Give five differences between Rutherford's atomic theory and Bohr's atomic theory. 5

**(b)** State Charles law. Explain it along with mathematical expression. 4

**Q.7(a)** Discuss the rules for assigning oxidation numbers. 5

**(b)** What is a super saturated solution? How it is prepared? 4