

<b>Chemistry</b>	<b>Ninth, 2024 Lahore Board</b>	<b>Group – II</b>
<b>Time: 1.45 hrs.</b>	<b>Essay Type</b>	<b>Marks : 48</b>

### 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