

Section – B

(Short Answers)

Note: Answer any Eight of the following questions. Each question carries 05 marks.

- Q.2 Enlist the name of branches of Chemistry and define any two of them.
- Q.3 C-14 and N-14 both have same mass number yet they are different elements. Explain.
- Q.4 What are lanthanides and actinides?
- Q.5 What are the valence electrons of an atom? How many valence does a nitrogen atom possess?
- Q.6 What is Brownian movement? Describe with example.
- Q.7 What is the difference between a primary and secondary cell?
- Q.8 What is potable water? Write four main characteristics of potable water.
- Q.9 How ethane is prepared from ethyl alcohol?
- Q.10 Calculate the pH and pOH of a solution whose (H⁺) ion concentration is 3.0×10^{-2} moles / litre.
- Q.11 Define any five chemical differences between Metals and Non-metals.
- Q.12 Nitric acid is an important chemical compound. Give any five uses of nitric acid.
- Q.13 Balance the following chemical equations.
- | | | | |
|-------|----------------------------------|-------------------|---|
| (i) | $\text{Ca} + \text{H}_2\text{O}$ | \longrightarrow | $\text{Ca}(\text{OH})_2 + \text{H}_2$ |
| (ii) | $\text{CH}_4 + \text{O}_2$ | \longrightarrow | $\text{CO}_2 + \text{H}_2\text{O}$ |
| (iii) | NaHCO_3 | \longrightarrow | $\text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$ |
| (iv) | $\text{CO} + \text{O}_2$ | \longrightarrow | CO_2 |
| (v) | $\text{Fe} + \text{H}_2\text{O}$ | \longrightarrow | $\text{Fe}_3\text{O}_4 + \text{H}_2$ |

Section – C

(Descriptive Answers)

Note: Answer any TWO of the following questions. Each question carries 14 (7 + 7) marks.

- Q.14 (a) What is chemical reaction? How many types of chemical reaction? Explain any two reactions with equations.
- (b) What common properties are shown by ionic compound?
- Q.15 (a) State and explain Faraday's First Law of Electrolysis.
- (b) State Exothermic and Endothermic reaction. Give any two examples.
- Q.16 (a) Differentiate between any one of the following.
- | | |
|----------------------|------------------------|
| Diamond and Graphite | Wrought iron and Steel |
|----------------------|------------------------|
- (b) How methane is prepared? Give its properties.