

Q.2 Attempt any 8 questions of the following:

- i. Why do atoms form chemical bonds?
- ii. Define element and substance. Write the symbol of four different elements.
- iii. Place the following element in order of increasing ionization energy. Na, S, Mg and Ar.
- iv. Why does the vapour pressure of a liquid increase with increase in temperature? Give reason.
- v. Define electrolytes. What is the difference between strong and weak electrolytes?
- vi. What volume of water must be added to  $85\text{cm}^3$  of  $3.5\text{M Na}_2\text{CO}_3$  to dilute it to  $0.41\text{M}$ ?
- vii. Differentiate between atom and ion. Give example.
- viii. Identify at least two groups which contain metallic elements.
- ix. Write the electronic configuration of  ${}_7\text{N}$  and  ${}_9\text{F}$ .
- x. What is molarity? Write its formula.
- xi. How does the first ionization energy of representative elements vary across a period and down a group?

## SECTION - C

Marks: 24

Note: Attempt any 3 questions: Each carry 8 marks.

- Q.3 (a) Explain covalent bond on the basis of one example.  
 (b) Make a general sketch of the periodic table showing s, p, d and f block elements (without showing the symbol of elements).
- Q.4 (a) Why does ethyl alcohol have a higher vapour pressure than water? Give reason.  
 (b) Summarize the fundamental particles of an atom.
- Q.5 (a) What were the principal goals of Muslim chemists? Why is the Muslim period generally called "Al-Chemist" in the history of chemistry?  
 (b) Differentiate between saturated and unsaturated solutions. Give examples.
- Q.6 (a) Sketch the "Daniell Cell". Label the cathode, anode and the direction of flow of electrons.  
 (b) Compare the properties of metals and non-metals.