



17103

21314

2 Hours/50 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions:**
- (1) **All** questions are **compulsory**.
 - (2) Answer **each** next main question on a **new page**.
 - (3) Illustrate your answers with **neat sketches wherever necessary**.
 - (4) Figures to the **right** indicate **full** marks.
 - (5) **Assume** suitable data, if **necessary**.

MARKS

1. Attempt **any nine** of the following :

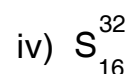
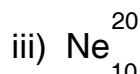
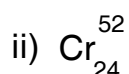
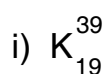
18

- a) Define atom. Name the sub atomic particles.
- b) State the number of subshells in K, L, M, N shells.
- c) Why chlorine is electronegative ? What type of valency it will show with hydrogen ?
- d) Differentiate between strong and weak electrolyte.
- e) What is the affect of temperature on degree of dissociation ?
- f) Define electrochemical equivalent. Give its unit.
- g) A solution has pH = 6.45. Calculate the hydrogen ion concentration.
- h) Differentiate between calcination and roasting.
- i) Define Alloy. Name two methods of preparing alloy.
- j) Why Duralumin sheets are used in making aeroplanes body ?
- k) Name four synthetic rubber.
- l) Write two properties of glass wool and its uses related to the property.

2. Attempt **any four** of the following :

16

- a) Write four postulates of Bohr's atomic theory.
- b) Name the type of bonding in water molecule and explain its formation.
- c) Write the orbital electronic configuration of the following elements :



P.T.O.



- d) Explain the process of electroplating of an iron spoon with silver.
- e) Define electrolytic dissociation. State Arrhenius theory of electrolytic dissociation.
- f) A current of 2.5 amperes is passed through a solution of Silver Nitrate for half an hour. What is the mass of silver deposited on the cathode ? (Given equivalent weight of Ag = 108.)

3. Attempt **any four** of the following :

16

- a) Define the term :
 - i) Tensile strength
 - ii) Hardness
 - iii) Ductility
 - iv) Soldering.
 - b) Explain with diagram electromagnetic separation method.
 - c) Give the composition, properties and uses of babbitt metal.
 - d) Give four properties and its related application of Rubber.
 - e) Differentiate between thermosoftening and thermosetting plastics.
 - f) How is thermacole prepared ? Write the two uses and two properties of thermacole.
-