## Marking Scheme

Chemistry
Delhi- SET (56/1/3)

| 1 | In which the alignment of domains (moments) is in a compensatory way to give zero net moment. | 1 |
| :---: | :---: | :---: |
| 2 | $\Lambda_{\mathrm{m}}=\frac{\kappa}{\mathrm{c}} \quad \begin{aligned} & \text { where } \Lambda_{\mathrm{m}} \text { is molar conductivity }, \kappa \text { is conductivity } \\ & \mathrm{c} \text { is concentration in mol L }{ }^{-1} \end{aligned}$ | 1 |
| 3 | Chemisorption | 1 |
| 4 | Q. 5 Set 1 | 1 |
| 5 | Q. 4 Set 1 | 1 |
| 6 | Q. 8 Set 1 | 1 |
| 7 | Q. 6 Set 1 | 1 |
| 8 | Q. 7 Set 1 | 1 |
| 9 | Q. 11 Set 2 | 2 |
| 10 | $\mathrm{R}=\rho(1 / \mathrm{A})$ $\text { Cell constant, } \begin{aligned} 1 / \mathrm{A}=\mathrm{R} / \rho & =\mathrm{R} \kappa=\text { Resistance } \times \text { Conductivity } \\ & =(1500 \Omega) \times\left(0.146 \times 10^{-3} \mathrm{~S} \mathrm{~cm}^{-1}\right) \\ & =0.219 \mathrm{~cm}^{-1} \end{aligned}$ | 1 |
| 11 | Q. 9 Set 2 | 2 |
| 12 | Q. 16 Set 1 | 2 |
| 13 | Q. 17 Set 1 | 2 |
| 14 | Q. 9 Set 1 | 2 |
| 15 | Q. 10 Set 1 | 2 |
| 16 | Q. 18 Set 1 | 2 |
| 17 | Q. 14 Set 1 | 2 |
| 18 | Q. 15 Set 1 | 2 |


| 19 | (i) Due to larger size of alkali metal ions. <br> (ii) Due to the presence of holes or vacancies. <br> (iii) Due to the presence of extra electrons or holes in impurity doped silicon. <br> (i) Ferromagnetism: The substance which are attracted very strongly by a magnetic field and show magnetism even when the magnetic field is removed. <br> ex . iron, cobalt,nickel, $\mathrm{CrO}_{2}$ (any one example) <br> (ii) Paramagnetism: The substances which are weakly attracted by magnetic field and lopse their magnetism in the absence of magntic field. <br> (iii) Ferrimagnetism: When the magnetic moments of the domains in the substance are aligned in parallel and antiparailel directions in unequal_numbers then substance shows ferrimagnetism. <br> ex. $\mathrm{Fe}_{3} \mathrm{O}_{4}$ (magnetite), $\mathrm{MgFe}_{2} \mathrm{O}_{4}, \mathrm{ZnFe}_{2} \mathrm{O}_{4}$ <br> (any one example) | $1 \times 3=3$ $6 x^{1 / 2}=3$ |
| :---: | :---: | :---: |
| 20 | Q. 20 Set 1 | 3 |
| 21 | (i) Zone refining: This method is based on the principle that the impurities are more soluble in the melt than in the solid state of metal. <br> (ii) Vapour phase refining: In this method, the metal is converted into its volatile compound and collected elsewhere. It is then decomposed to give pure metal. <br> (iii) Electrolytic refining: In this method, the impure metal is made to act as anode. A strip of the same metal in pure form is used as cathode. They are put in a suitable electrolytic bath containing soluble salt of the same metal. The more basic metal remains in the solution and the less basic ones go to the anode mud | $1 \times 3=3$ |
| 22 | (i) Ferric hydroxide sol is positively charged. By adding potassium chloride, the excess chloride ions neutralize its positive charge and cause it to coagulate. <br> (ii) The dispersed phase and dispersion medium migrate towards oppositely charged electrodes (electrophoresis). <br> (iii) The beam of light is scattered by colloidal particles(Tyndall effect). | $1 \times 3=3$ |
| 23 | Q. 27 Set 1 | 3 |
| 24 | Q. 26 Set 1 | 3 |
| 25 | Q. 24 Set 1 | 3 |
| 26 | Q. 25 Set 1 | 3 |


| 27 | Q.23 Set 1 | 3 |
| :--- | :--- | :--- |
| 28 | Q.29 Set 1 | 5 |
| 29 | Q.28 Set 2 | 5 |
| 30 | Q.30 Set 1 | 5 |

