

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Give an account on eye safety and other personal protection equipments.
(or)
- 11.b. Discuss the working of a chemical balance.
- 12.a. Illustrate the formation of ionic and covalent bonds with an example each.
(or)
- 12.b. Highlight the structure, polarity and hydrogen bonding in water.
- 13.a. Briefly explain the trends in the periodic properties – ionization potential and electronegativity.
(or)
- 13.b. Describe Werner's theory of co-ordination compounds.
- 14.a. Name the following compounds according to IUPAC nomenclature. (6x1=6)
- i. MeCOMe ii. MeCHO iii. EtOH iv. BrCH=CH-Cl v. MeOMe vi. CH₃CHCl₂
(or)
- 14.b. Discuss the phenomenon of optical activity with example.
- 15.a. Bring out the differences between physisorption and chemisorption.
(or)
- 15.b. State and explain Kohlrausch's law. Give its applications.

Part C

5 x 12=60

Answer the following

Answer should not exceed 800 words or four pages

- 16.a. Enumerate the precautionary measures to be taken while handling flammable, volatile, hazardous and corrosive chemicals.
(or)
- 16.b. i. Describe the principles of acid-base titrations.
ii. Explain the terms normality and molarity.
- 17.a. Discuss hybridization and geometry of methane, ethylene and acetylene.
(or)
- 17.b. i. Explain the formation of carbocation, carbanion and free radicals and their stability.
ii. What are buffer solutions? How are they prepared? [8+4]
- 18.a. Discuss the general characteristics of s and p block elements.
(or)
- 18.b. i. Define: Ligand, Complex, Chelates and co-ordination number.
ii. Explain the preliminary concept of CFT.
- 19.a. Explain how do you experimentally measure the optical rotation and specific rotation?
(or)
- 19.b. Explain symmetry elements- axis, plane and centre of symmetry with suitable example.
- 20.a. Explain electrophoresis and electro osmosis.
(or)
- 20.b. i. Define: rate, rate constants, order and molecularity of reactions.
ii. Discuss the factors influencing rate of reaction.
