

Part B

5 X 6=30

Answer the following

Answer should not exceed 400 words or two pages

- 11.a. What steps are to be taken in the storage and handling of chemicals in the chemistry laboratory?
(or)
11. b. How are calibration and graduation done for pipettes, burettes and standard flasks?
12. a. Explain the various types of chemical bonding with suitable examples.
(or)
12. b. State and explain Hund's rule, Aufbau principle and Pauli's exclusion principle.
- 13.a. What are organic compounds? How are they Classified? Give any two examples for each type.
(or)
13. b. Detail on the electronic configuration, size, density flame colour and electronegativity of S - block elements.
- 14.a. What are conducting polymers? Give examples and their applications.
(or)
14. b. Define Coordination number. What are ligands? How are they categorized? Give suitable examples for each type.
- 15.a. Derive Kirchoff's equation.
(or)
15. b. Define p^H and Buffer solution. How is a buffer solution prepared? Explain the mechanism of buffer action.

Part C

5 x 12=60

Answer the following

Answer should not exceed 800 words or four pages

- 16.a. What is meant by normality, molality, molarity and mole fraction of a solution?
(or)
16. b. i. Explain the process of weighing of a solid in a chemical balance. 4
ii. Write a brief note on the principle of acid – base and redox titrations. 8
- 17.a. Explain sp, sp^2 and sp^3 hybridization with examples.
(or)
17. b. (i) What are reaction intermediates? Explain with suitable examples. 6
(ii) Write a short note on the chemistry of water. 6
- 18.a. Write down the general characteristics of d and f – block elements.
(or)
18. b. Write a brief note on chemistry of carbon and the long form of periodic table.
- 19.a. Write the postulates of Werner's coordination theory and Sidgwick's theory.
(or)
19. b. What is isomerism? Illustrate geometrical and optical isomerism exhibited in 4 and 6 coordination compounds .
- 20.a. i. State and explain Hess's law and detail on its applications. 8
ii. What is electrode potential and bond energy? 4
(or)
20. b. State and explain Kohlrausch's law. Explain its applications.
